

ACKNOWLEDGMENT OF COUNTRY

Fulton Hogan acknowledges the Awabakal People as the Traditional Owners of the land we are working on, and pay our respect to their Elders past, present and emerging.

We recognise their deep connection to Country and value the contribution to caring for, and managing the land and water.

We are committed to pursuing genuine and lasting partnerships with Traditional Owners to understand their culture and connections to Country in the way we plan for and carry out the delivery of the Works.



*Artwork by Luke Penrith, from Fulton Hogan's Reconciliation Action Plan.
Luke Penrith is a modern contemporary Aboriginal Artist living in Brungle
NSW, Wiradjuri Country. His ancestry is connected through the Wiradjuri,
Wotjobaluk, the Yuin and the Gumbaynggirr Nation.*

Document control

This is an e-copy of the Plan and it interfaces with the other associated plans, which together describe the proposed overall project management system for the project.

The latest revision of this plan is available on the Fulton Hogan server. If any unsigned hard copies of this document are printed, they are valid only on the day of printing.

The revision number is included at the bottom of each page. When revisions occur, the entire document will be issued with the revision number updated accordingly for each owner of a controlled copy.

Attachments/Appendices to this plan are revised independently of this plan.

Revision History

REV	DATE	AUTHOR / REVISED BY	ENDORSED BY	BRIEF DESCRIPTION OF CHANGE
A	22/08/2022	█ ████	█ ████	Initial issue for internal review.
B	01/09/2022	█ ████ █ ████	█ ████	Internal review.
0	01/09/2022	█ ████	█ ████	Initial issue for internal use.
1	30/09/2022	█ ████	█ ████	Revised in response to comments from TfNSW & the ER
2	06/10/2022	█ ████	█ ████	Revised in response to comments from TfNSW Rev1
3	04/11/2022	█ ████	█ ████	Updated after agency consultation
4	13/12/2022	█ ████	█ ████	Revised in response to comments from DPE

Ancillary Facilities Establishment Management Plan

Contents

1.	Introduction.....	6
1.1.	Purpose	6
1.2.	Scope	6
1.3.	Consultation for preparation of the AFEMP	6
1.4.	Definitions.....	7
2.	Project details	10
2.1.	Project description.....	10
2.2.	Interface with other management plans.....	11
3.	Objectives, targets and environmental performance outcomes	12
3.1.	Objectives.....	12
3.2.	Targets	12
4.	Legal and other requirements	12
4.1.	Legislation	12
4.2.	Guidelines and standards.....	12
4.3.	Conditions of approval.....	13
4.4.	Revised environmental management measures.....	18
5.	Ancillary Facility Details	19
5.1.	Ancillary Facilities identified in the EIS.....	20
5.2.	Ancillary Facilities identified in the SPIR	20
5.3.	Ancillary Facilities identified in Modification 1 Report	21
5.4.	Minor Construction ancillary Facilities.....	21
5.5.	Summary of Ancillary Facilities	22
5.6.	Construction Compound C - Scope and Activities	24
5.7.	Construction Compound F	26
5.8.	Lookout Road	28
5.9.	Timing and Duration	29
5.10.	Decommissioning and rehabilitation	29
5.11.	Ancillary Facilities not assessed in the EIS.....	29
5.12.	Performance Criteria for establishment works	31

6. Environmental Assessment	32
6.1. EIS assessment of ancillary facilities against CoA criteria.....	32
6.2. Environmental aspects and impacts	34
7. Environmental mitigation measures	35
8. Compliance management	41
8.1. Roles and responsibilities.....	41
8.2. Training.....	41
8.3. Complaints	41
8.4. Inspections and monitoring	41
8.5. Auditing.....	41
8.6. Reporting.....	41
8.7. Non-conformances.....	42
9. Review and improvement of AFEMP	42
Appendix A – Consultation.....	43
Appendix B – Environmental aspects and impact risk assessment register for Ancillary Facilities	44

Tables

▶ Table 1: Terms, abbreviations and definitions used in this plan (sample terms)	7
▶ Table 2: Conditions of Approval relevant to AFEMP	13
▶ Table 3: Revised environmental management measures relevant to AFEMP	18
▶ Table 4: Ancillary Facilities use and durations	22
▶ Table 5: Safe Working distances for standard dwellings (DIN 4150-3).....	31
▶ Table 6: Assessment of proposed ancillary facilities against EIS criteria	32
▶ Table 7: Proposed mitigation measures for criteria not met.....	33
▶ Table 8: Environmental aspect and potential impacts.....	34
▶ Table 9: Environmental Mitigation Measures (Ancillary Facilities).....	36
▶ Table 10: Inspections and monitoring	41

Figures

• Figure 1: Locality sketch.....	10
• Figure 2: Structure of project management plans	11
• Figure 3: Potential ancillary facility sites identified in the EIS as amended by the docs listed in CoA A1	19
• Figure 4: Construction compound C – Proposed Layout	24
• Figure 5: Boundary Screening Designs.....	25

- Figure 6: Construction compound F – Proposed Layout.....26
- Figure 7: Lookout Road – Proposed Layout.....28
- Figure 8: Process for assessment and approval of additional ancillary facility sites not identified in the EIS as amended by the documents listed in CoA A1.....30

1. Introduction

1.1. Purpose

This Ancillary Facilities Establishment Management Plan (AFEMP) describes how Fulton Hogan will manage the establishment, use, decommissioning and rehabilitation (as required) of Ancillary Facilities on the Newcastle Inner City Bypass Rankin Park to Jesmond (RP2J) Project (the project) to ensure that environmental impacts are managed.

This AFEMP has been prepared to detail how Fulton Hogan will comply with the project approval, implement and achieve relevant performance outcomes, commitments and mitigation measures specified in the Environmental Impact Statement (EIS) as amended by the Submissions and Preferred Infrastructure Report (SPIR) and subsequent Modification 1 Submissions Report (also known as 'Revised Environmental Management Measures' (REMMs)) during construction of the project. Additionally, this AFEMP has been prepared to address the requirements of the Scope of Works and Technical Criteria (SWTC), Environmental Requirements and SWTC Appendix 21 Project Plan Requirements and SWTC Appendix 27 JHH Interface.

1.2. Scope

The EIS (2016) identified three potential locations for ancillary facilities (referred to as construction compounds A, B and C). Following exhibition of the EIS and further review of constructability issues for the project, three additional ancillary facility were proposed within the SPIR (2018) (referred to as construction compounds D, E and F).

In May 2021, TfNSW requested modification to the project in 'Newcastle Inner City Bypass - Rankin Park to Jesmond Modification report: additional construction compounds' (TfNSW, May 2021) (**Modification 1 Report**). TfNSW requested additional construction compounds and changes to the compliance monitoring and reporting program conditions of approval. TfNSW prepared the 'Newcastle Inner City Bypass - Rankin Park to Jesmond Modification report: additional construction compounds Submissions report' (TfNSW, September 2021) (**Modification 1 Submissions Report**) to assess the potential environmental impacts and to respond to submissions. The modification application was approved on 7 February 2022. An additional three potential ancillary facilities were approved as part of the Modification 1 Submissions Report (referred to as Lookout Road site, Cardiff Road site and Peatties Road site).

The construction of the Project will be undertaken in two stages as described in 'Staging Report' (TfNSW, July 2022). A summary of the stages and status is as per below:

- **Stage 2** - Shared Path Bridge (stage completed)
- **Stage 4** – Main Works

1.3. Consultation for preparation of the AFEMP

In accordance with CoA A15, consultation with City of Newcastle and relevant public authorities will be undertaken during the preparation of this AFEMP. Given the Cardiff Road compound is no longer proposed for use, consultation with Lake Macquarie City Council is no longer required.

A summary of consultation undertaken is provided below.

Newcastle City Police District

Newcastle City Police District confirmed no comments or objections with the documentation provided to-date.

City of Newcastle

City of Newcastle confirmed after internal review of the AFEMP that there were no formal comments/objection against the plan.

It is noted that at the date of Revision 3 of the AFEMP, City of Newcastle and Newcastle City Police District had provided no further comments.

Ongoing consultation will be undertaken during detailed design and construction of the project as required by the environmental documents. This will be subject to a separate consultation process to that required for preparation of this AFEMP.

1.4. Definitions

The following terms, abbreviations and definitions are used in this plan.

► Table 1: Terms, abbreviations and definitions used in this plan (sample terms)

TERM	EXPLANATION
Ancillary Facility	<p>Has the same meaning as the definition of the term in the Project Approval:</p> <p>A temporary facility for construction of the SSI including an office and amenities compound, construction compound, material crushing and screening plant, batch plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area.</p> <p>Note: where an approved CEMP contains a stockpile management protocol, a material stockpile area located within the construction boundary is not considered to be an ancillary facility</p>
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
Construction Boundary	<p>Has the same meaning as the definition of the term in the Project Approval:</p> <p>The area physically affected by works described in documents listed in Condition A1.</p>
DPE	NSW Department of Planning and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
ER	Environmental Representative for the SSI
ESCP	Primary Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statement
HP	Hold Point: a point in the construction or verification process beyond which work may not proceed without receiving authorisation from the appropriate party.

Incident	<p>Has the same meaning as the definition of the term in the Project Approval:</p> <p>An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance</p> <p><i>Note: “material harm” is defined below.</i></p>
Material harm	<p>Has the same meaning as the definition of the term in the Project Approval:</p> <p>Is harm that:</p> <p>(a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or</p> <p>(b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)</p>
Minister, the	NSW Minister for Planning
NA	Not applicable
Non-compliance	<p>Has the same meaning as the definition of the term in the Project Approval:</p> <p>An occurrence, set of circumstances or development that is a breach of the Project Approval.</p>
Non-conformance	Failure to conform to the requirements of project system documentation including this CEMP or supporting documentation.
OEMP	Operational Environmental Management Plan
Planning Secretary, the	Planning Secretary of the DPE (or nominee, whether nominated before or after the date on which the Project Approval was granted.
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
Project, the	Newcastle Inner City Bypass Rankin Park to Jesmond
Project Approval, the	The Minister’s approval for the SSI.
Relevant Council	City of Newcastle,
REMM	Revised Environmental Management Measure
RMS	Roads and Maritime Services (now TfNSW)
SSI	State Significant Infrastructure, as generally described in Schedule 1 of the Project Approval, the carrying out of which is approved under the terms of the Project Approval.
SWTC	TfNSW Scope of Works and Technical Criteria
TfNSW	Transport for NSW
TTMP	Traffic and Transport Management Sub-Plan

UDLP	Urban Design and Landscape Plan
Work(s)	Has the same meaning as the definition of the term in the Project Approval: All physical activities to construct or facilitate the construction of the SSI, including environmental management measures and utility works. however, does not include work that informs or enables the detailed design of the SSI and generates noise that is no more than 5 dB(A) above the rating background level (RBL) at any residence

2. Project details

2.1. Project description

The Rankin Park to Jesmond (RP2J) Project comprises the design and construction of approximately 3.4 kilometres of new four lane divided road as part of the Newcastle Inner City Bypass (NICB) between Lookout Road at New Lambton Heights and Newcastle Road at Jesmond.

It includes three interchanges, including the:

- **Northern Interchange**, providing access to Newcastle Rd and existing Jesmond to Shortland section of the NICB
- **Hospital Interchange**, providing access between John Hunter Hospital precinct and the new section of the NICB;
- **Southern Interchange**, providing access to Lookout Rd and existing Kotara to Rankin Park section of the NICB.

The Project also includes tie-ins and upgrades to connecting roads, including Lookout Road, McCaffrey Drive and Newcastle Road.

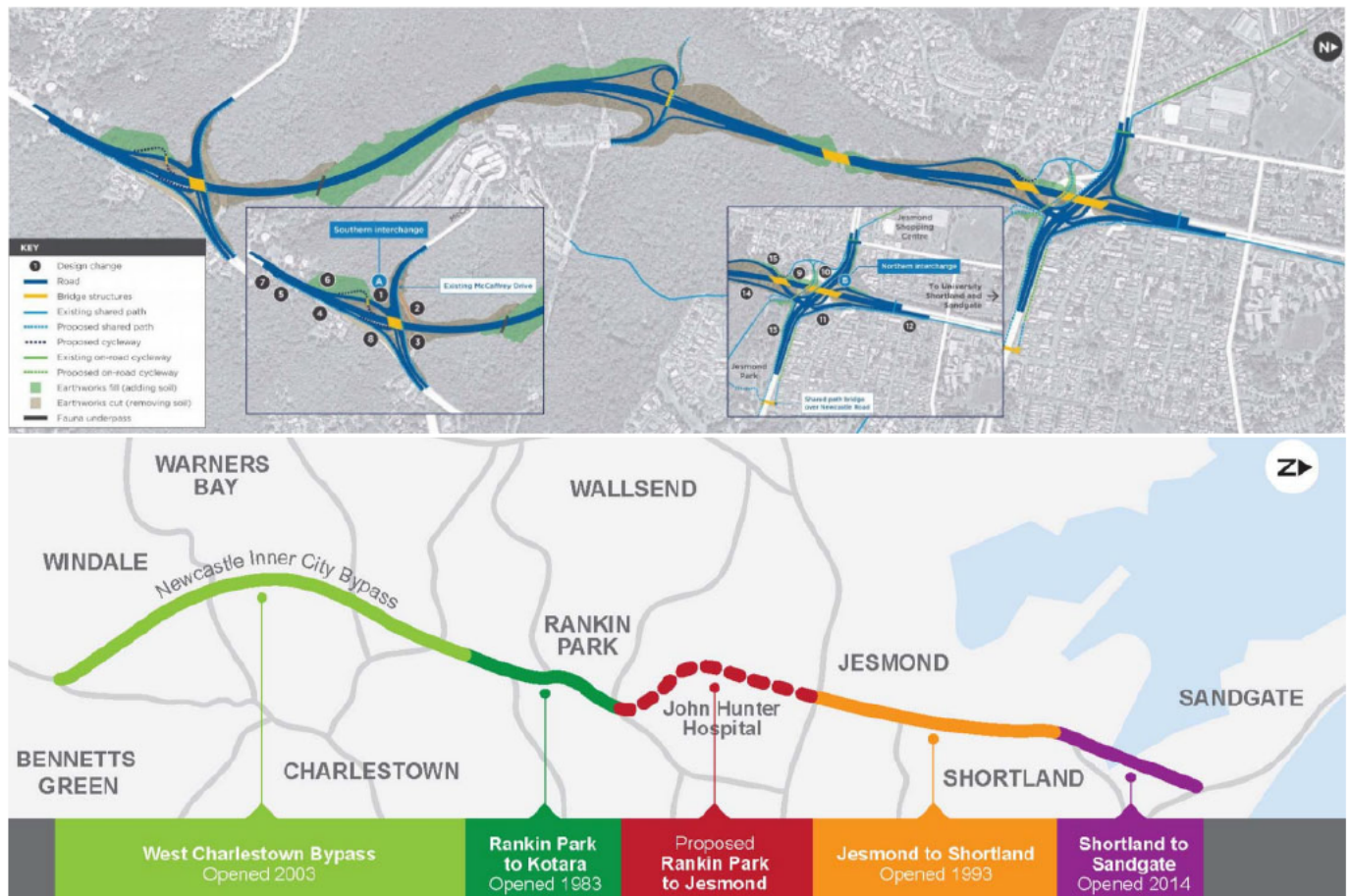


Figure 1: Locality sketch

2.2. Interface with other management plans

This AFEMP interfaces and forms part of the rest of documented management plans for RP2J, as summarised in Figure 2 and hence it should be read in conjunction with these other management plans for coordination and implementation purposes, which together describe the proposed overall project management system for the construction of RP2J.

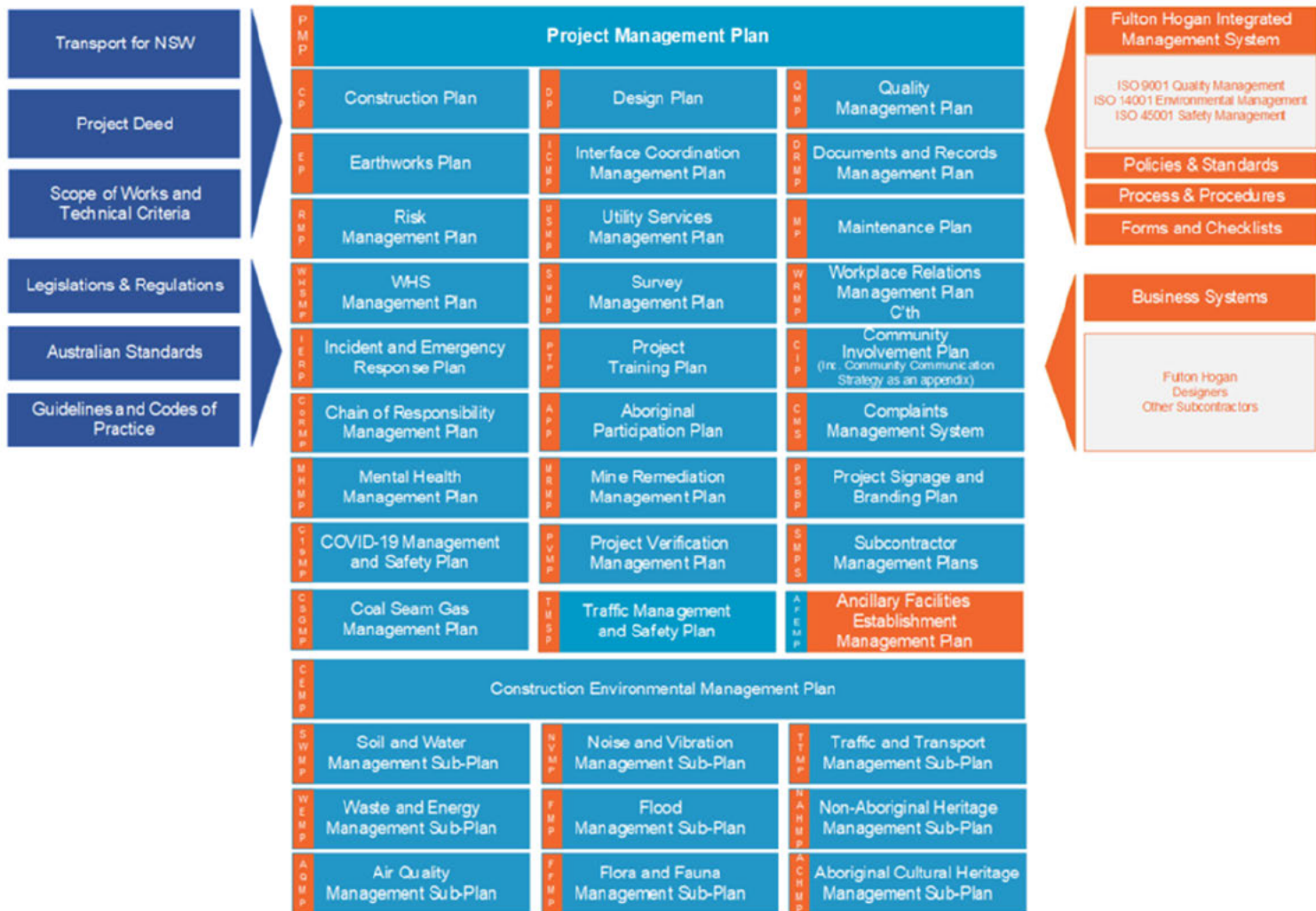


Figure 2: Structure of project management plans

3. Objectives, targets and environmental performance outcomes

3.1. Objectives

The key objective of the AFEMP is to ensure that environmental, social and economic impacts of construction ancillary facilities are minimised and within the scope permitted by the project approval. To achieve this objective, Fulton Hogan will undertake the following:

- Ensure appropriate controls and procedures are implemented during establishment, use, decommissioning and rehabilitation of ancillary facilities to avoid or minimise potential adverse impacts along the Project corridor
- Ensure appropriate measures are implemented to address the relevant CoA and REMM outlined in Section 6 and Section 7 respectively.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Chapter 3 of this AFEMP

3.2. Targets

The following targets have been established for the management of Ancillary Facilities impacts during the project:

- Ensure full compliance with the relevant legislative requirements, CoA and REMM outlined in Section 6 and Section 7 respectively.
- Minimise or avoid impacts during the establishment, use and decommissioning of ancillary facilities

4. Legal and other requirements

4.1. Legislation

Legislation relevant to Ancillary Facilities includes:

- Environmental Planning and Assessment Act 1979 (EP&A Act)
- National Parks and Wildlife Act 1974 (NPW Act)
- Fisheries Management Act 1994 (FM Act)
- Pesticides Act 1999
- Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)
- Protection of the Environment Operations Act 1997 (POEO Act)
- Protection of the Environment Operations (General) Regulation 2009
- Work Health and Safety Act 2011
- Environmentally Hazardous Chemicals Act 1985
- Contaminated Land Management Act 1997 (CLM Act)
- Waste Management Waste Avoidance and Resource Recovery Act 2001 (WARR Act)
- Biodiversity Conservation Act 2016 (BC Act).
- State Environmental Planning Policy (Resilience and Hazards) 2021

Relevant provisions of the above legislation are explained in the Register of Legal and Other Requirements included in Appendix A1 of the CEMP.

4.2. Guidelines and standards

The main guidelines, standards and policy documents relevant to this AFEMP include:

- TfNSW Specification G36 – Environmental Protection
- TfNSW Specification G38 – Soil and Water Management
- TfNSW Specification G40 – Clearing and Grubbing
- Roads and Maritime Stockpile Site Management Guideline (Roads and Maritime 2015)

- Managing Urban Stormwater: Soils and Construction. Landcom, 4th Edition) March 2004 (reprinted 2006) (the “Blue Book”). Volume 1 and Volume 2
- Road Noise Policy (DECCW 2011).
- Construction Noise and Vibration Guideline (Roads and Maritime Services 2016).
- Noise Policy for Industry (EPA 2017).
- Interim Construction Noise Guideline (DECC 2009).
- Assessing Vibration: A Technical Guideline (DEC 2006).
- Road Noise Criteria Guideline (TfNSW 2022)
- German Standard DIN 4150 (2016) Part 3: Structural Vibration in Buildings: Effects on Structures.
- British Standard BS 6472 (1992) Guide to Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80Hz).
- British Standard BS 5228-1:2009 Code of practice for noise and vibration on construction and open sites – Part 1: Noise.
- British Standard BS 5228-2:2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration.
- British Standard BS 7385-2:1993 Evaluation and measurement for vibration in buildings.
- Australian Standard AS 2436 – 2010 Guide to noise and vibration control on construction, demolition and maintenance sites.
- Australian Standard AS 1055-2018 Acoustics – Description and measurement of environmental noise

4.3. Conditions of approval

The CoA relevant to this AFEMP are listed in Table 2. A cross reference is also included to indicate where the condition is addressed in this AFEMP or other project management documents.

► Table 2: Conditions of Approval relevant to AFEMP

PART A – ADMINISTRATIVE CONDITIONS		
ANCILLARY FACILITIES ESTABLISHMENT WORKS		
A14	<p>Ancillary facilities that are not identified in the documents listed in Condition A1 can only be established and used in each case if:</p> <p>(a) they are located within or immediately adjacent to the construction boundary; and</p> <p>(b) they are not located next to a sensitive receiver (including where an access road is between the facility and the receiver), unless the landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; and</p> <p>(c) they have no impacts on heritage items (including areas of archaeological sensitivity), and threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and</p> <p>(d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.</p>	Section 5 & Section 6
A15	<p>Before the establishment of any construction ancillary facilities (excluding minor construction ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A19), the Proponent must prepare an Ancillary Facility Establishment Management Plan which outlines</p>	This Plan

	<p>the environmental management practices and procedures to be implemented for the establishment of construction ancillary facilities. The Ancillary Facility Establishment Management Plan must be prepared in consultation with the relevant councils and relevant public authorities. The Ancillary Facility Establishment Management Plan must be submitted to the Planning Secretary for approval one (1) month before the establishment of any construction ancillary facilities. The Ancillary Facility Establishment Management Plan must detail the management of construction ancillary facilities and include:</p> <ul style="list-style-type: none"> a. A description of activities to be undertaken during the establishment of the construction ancillary facility (including scheduling and duration of works to be undertaken at the site) and its decommissioning and rehabilitation; b. figures illustrating the proposed operational site layout, including access roads and parking; c. a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment works; d. details of how the site establishment activities described in subsection (a) of this condition will be carried out to: <ul style="list-style-type: none"> i meet the performance outcomes stated in the documents listed in Condition A1, and ii manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and e. a program for monitoring the performance outcomes, including a program for construction noise monitoring consistent with the requirements of Condition C10 <p>Nothing in this condition prevents the Proponent from preparing individual Ancillary Facility Establishment Management Plans for each construction ancillary facility.</p>	<p>Section 5</p> <p>Section 5</p> <p>Section 8.4</p> <p>Section 5</p> <p>Section 5.5 / CEMP</p> <p>Section 7</p> <p>Section 8.4 and the NVMP (9.4)</p>
A16	<p>The requirements of Condition A15 in relation to Bridge 7 may be addressed by the documents required under Condition A9.</p>	<p>Not addressed – Bridge 7 completed under Stage 2 works.</p>
USE OF ANCILLARY FACILITIES		
A17	<p>The use of a construction ancillary facility must not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C9 have been approved by the Planning Secretary.</p> <p>This condition does not apply to a construction ancillary facility determined by the ER to have minimal environmental impact and those established under Condition A19.</p>	<p>Section 5.5</p>
A18	<p>The requirements of Condition A17 in relation to Bridge 7 may be addressed by the documents required under Condition A9.</p>	<p>Not addressed – Bridge 7 completed under Stage 2 Works.</p>

A18A	The Peatties Road ancillary facility must not be used to store/stockpile earthworks material, including dirt, topsoil, rock, rubble, quarry materials, waste concrete or asphalt, bricks, and excavated material	SWTC Exhibit B – Site Access Schedule does not provide access to this facility for FH. Facility not to be used.
A19	<p>Minor Construction Ancillary Facilities</p> <p>Lunch sheds, office sheds, portable toilet facilities, material storage, parking and the like, that are not identified as a construction ancillary facility in the documents listed in Condition A1, can be established where they satisfy the following criteria:</p> <p>(a) are located within the construction boundary; and</p> <p>(b) have been assessed by the ER to have -</p> <p>(i) minimal amenity impact to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and</p> <p>(ii) minimal environmental impact with respect to waste management and flooding, and</p> <p>(iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.</p>	Section 5.4
BOUNDARY SCREENING		
A20	Boundary screening must be erected around ancillary facilities that are adjacent to sensitive receivers, for the duration of works associated with the SSI, unless otherwise agreed with affected residents, business operators or landowners (including the relevant councils where they are the landowner).	Section 5.6 and 7
A21	Boundary screening required under Condition A20 of this approval must reduce visual, noise and air quality impacts on adjacent sensitive receivers.	Section 5.6 and 7
A21A	The Peatties Road ancillary facility must be located within the boundary line marked in blue in Figure 1 of Appendix A of this approval.	SWTC Exhibit B – Site Access Schedule does not provide access to this facility for FH. Facility not to be used.
PART E – KEY ISSUE CONDITONS		
PRE CLEARING SURVEYS		
E11	The SSI must be designed to retain as many trees as possible in Jesmond Park. Where trees are to be removed, and those trees are not required to be offset under Condition E4, the Proponent must provide a net increase in the number of replacement trees. Replacement trees must be planted within and on public land	Detailed Design

	<p>within 500 metres of the SSI boundary. Replacement tree plantings may be undertaken beyond 500 metres on public land within the relevant council area if planting within 500 metres of the SSI boundary is not practicable. The location of the replacement tree plantings must be determined in consultation with the relevant council and undertaken prior to the commencement of operation.</p>	
E11A	<p>The SSI must not impact street trees in the Peatties Road reservation between Charlestown Road and 5 metres past the Peatties Road ancillary facility entry/exit point, unless the work is required for:</p> <ul style="list-style-type: none"> (a) the construction of the footpath required under Condition E71A; (b) vehicular access to the Peatties Road ancillary facility; (c) bushfire requirements; and (d) traffic safety requirements. <p>Where trees are to be removed and those trees are not required to be offset under Condition E4, the Proponent must provide a net increase in the number of replacement trees. The replacement trees must be planted along or adjoining Peatties Road in consultation with City of Newcastle.</p>	<p>SWTC Exhibit B – Site Access Schedule does not provide access to this facility for FH. Facility not to be used.</p>
TRAFFIC & TRANSPORT		
E62	<p>All road roads within one (1) kilometre of the SSI (including construction ancillary facilities) proposed to be used by heavy vehicles for the SSI must be identified in the Construction Traffic and Transport Management Sub-plan.</p>	<p>TTMP – Section 5.2</p>
E68	<p>Before any local road is used by a heavy vehicle for the purposes of construction of the SSI (including the establishment of ancillary facilities), a Road Dilapidation Report must be prepared for the road, unless otherwise agreed by the Planning Secretary. The Road Dilapidation Report must be prepared by a suitably qualified person before the commencement of works that have the potential to damage local roads (and associated infrastructure). A copy of the Road Dilapidation Report must be provided to the landowner and relevant roads authority within three weeks of completion of the surveys and no later than one (1) month before the use of local roads by heavy vehicles for the construction of the SSI.</p>	<p>TTMP – Section 5.10</p>
E70	<p>During the carrying out of work for the SSI, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with the affected businesses and properties and implemented before the disruption occurs. Signage and directions to businesses must be provided before, and for the duration of, any disruption.</p>	<p>TTMP – Section 5.9</p>
E71	<p>Safe pedestrian and cyclist access must be maintained around work sites for the duration of construction. In circumstances where pedestrian and cyclist access are restricted or removed due to construction activities, an alternate route (temporary or permanent) which complies with the relevant standards must be provided and signposted.</p>	<p>TTMP – Section 5.6</p>

URBAN DESIGN AND VISUAL AMENITY

E75	Construction Ancillary Facilities must minimise visual impacts to adjoining properties, including, providing temporary landscaping and vegetative screening of the construction sites and minimising light spill.	Section 7
-----	---	-----------

TICKHOLE CREEK

E87	The Peatties Road ancillary facility must be designed and operated to ensure that no direct flow from within the site flows into Tickhole Creek.	SWTC Exhibit B – Site Access Schedule does not provide access to this facility for FH. Facility not to be used.
E88	A minimum 3 metre buffer must be provided between the top bank of Tickhole Creek and the Peatties Road ancillary facility.	
E89	The design of the Peatties Road vehicular access must not impact the existing culvert to the west of the proposed access and the downstream drainage line protection area shown in light blue hatching in Figure 3 of Appendix A of this approval.	

4.4. Revised environmental management measures

Relevant construction-related REMMs from the Modification 1 Submissions Report are listed in Table 3. A cross reference is also included to indicate where the measure is addressed in this AFEMP or other project management documents.

► Table 3: Revised environmental management measures relevant to AFEMP

ID No	REVISED ENVIRONMENTAL MANAGEMENT MEASURE	DOCUMENT REFERENCE
BIODIVERSITY		
Impacts to Native Vegetation		
BD09	Roads and Maritime will investigate opportunities to retain trees in construction compound A to provide an arboreal crossing for Squirrel Gliders and other arboreal fauna between vegetation to the east and west of the alignment.	Detailed Design
BD24	Roads and Maritime will carry out further consultation with Newcastle Council during detailed design regarding construction compounds D and E which are located in Jesmond Park to consider management measures required to minimize potential impacts to the area.	Detailed Design
Noise and Vibration		
NV14	<p>Where reasonable and feasible, measures will be taken to shield sensitive receivers from noise such as:</p> <p>The layout of the construction compound so that primary noise sources are at a maximum distance from residences, with solid structures (sheds, containers, etc.) placed between residences and noise sources (and as close to the noise sources as is practical).</p> <p>Enclosures to shield fixed noise sources such as pumps, compressors, fans, screens (where practicable).</p>	Section 5

5. Ancillary Facility Details

This Chapter provides a brief summary of the Ancillary Facilities identified in the Environmental documents and Section 2.5 of the CEMP. The proposed construction compound locations were generally based on the following conditions and are shown in Figure 3 below:

- Topography and accessibility to construction areas
- Minimising impacts on native vegetation and residential areas where possible
- Clearance above the 20-year ARI event flood level where possible

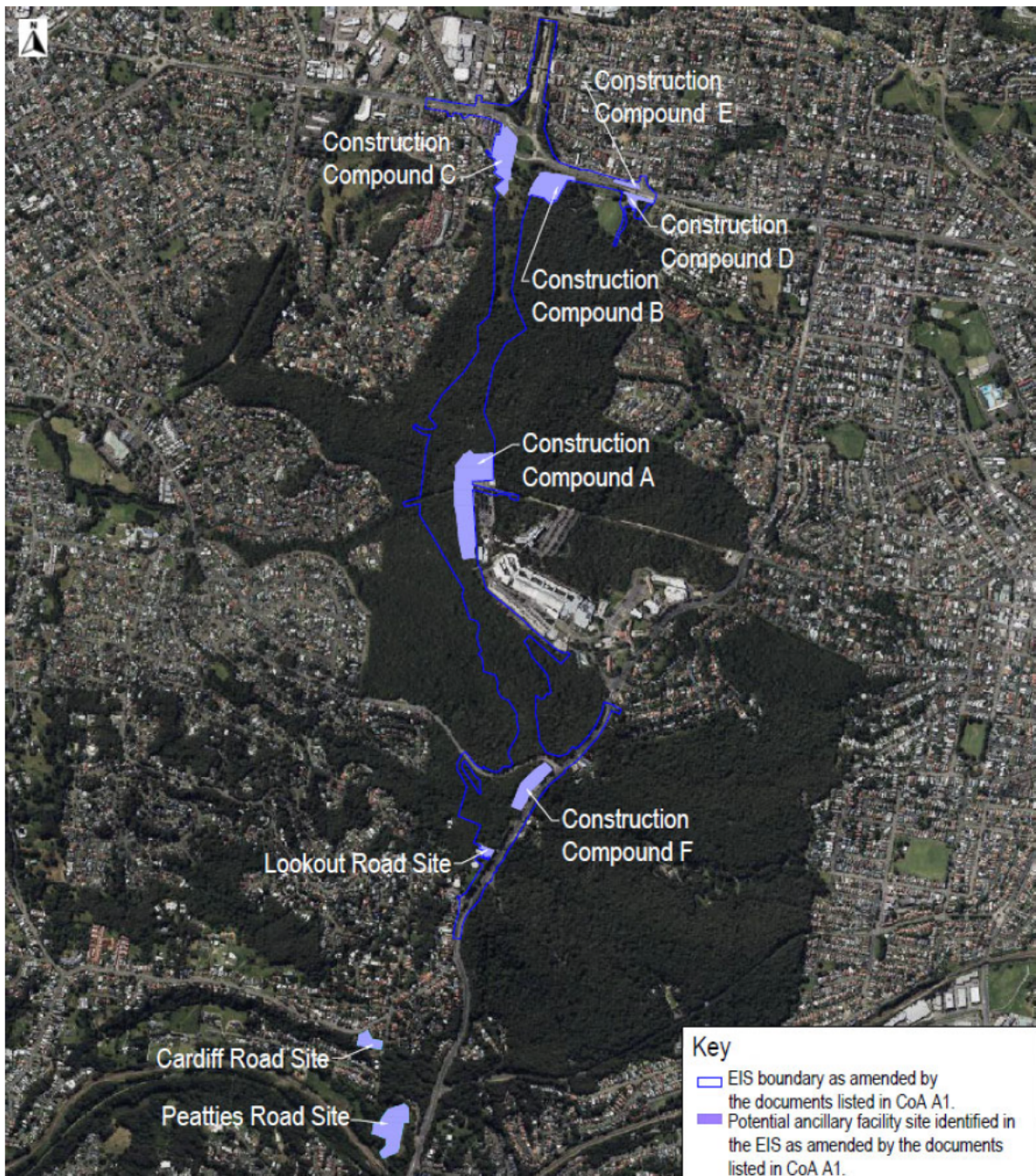


Figure 3: Potential ancillary facility sites identified in the EIS as amended by the docs listed in CoA A1

5.1. Ancillary Facilities identified in the EIS

The EIS identified three locations for ancillary facilities for use by the project.

Construction Compound A

Construction Compound A is a 3.5 hectare previously disturbed site proposed in the EIS (2016) and SPIR (2018) for use as a main site compound area for construction of the Project. The compound is located as shown in Figure 3 at the northern end of the John Hunter Hospital precinct, with main access (excluding establishment) proposed through Construction Access Road 1.

As detailed within Modification 1 Report, the construction of the Project will coincide with upgrade works to the John Hunter Health and Innovation Precinct which would significantly reduce the useable area available and not provide sufficient area for the compound to be utilised as the main site compound area.

In accordance with SWTC Exhibit B (Site Access Schedule) and SWTC Appendix 28 – JHH Interface access to this site location is pending works being completed by Hunter New England Health and the John Hunter Hospital Innovation Project. Access to Construction Compound A location is currently scheduled for 31 July 2023. Establishment of this area as a site compound will be dependent on date of handover, progress at other work fronts and interface works and coordination with JHH.

Construction Compound B

Construction Compound B is a 1.3 hectare site proposed in the EIS (2016) and is located adjacent to Newcastle Road and at the western extent of Jesmond Park. As detailed in the SPIR (2018) Construction Compound B would require leasing from City of Newcastle with minimal clearing permitted to be undertaken in Jesmond Park.

As per the identified clearing limits, Construction Compound B is **not** currently planned on being used as an ancillary facility by Fulton Hogan and **will not** be further addressed in this report.

Construction Compound C

Construction Compound C is a 1.6 hectare site proposed in the EIS (2016) and is located adjacent to Newcastle Road next to the northern interchange. As detailed in the SPIR (2018) Compound C is located on previously disturbed land and had minor boundary adjustments from the EIS to the SPIR. Given the residential properties next to this construction compound it not proposed to carry out any material stockpiling or handling operations that would adversely impact the residents.

5.2. Ancillary Facilities identified in the SPIR

The SPIR identified an additional three locations for ancillary facilities.

Construction Compound D

Construction Compound D is a 0.2 hectare site proposed in the SPIR (2018) and is located near the eastern end of Jesmond Park on the southern side of Newcastle Road. Construction Compound D was proposed to be used for Stage 2 works of construction of Bridge 7.

Construction Compound D is not being used as an ancillary facility by Fulton Hogan and will not be further addressed in this report.

Construction Compound E

Construction Compound E is a 0.1 hectare site proposed in the SPIR (2018) and is located near the intersection of Coles street and Steel Street. Construction Compound E was proposed to be used only for Stage 2 works of construction of Bridge 7.

Construction Compound E is not being used as an ancillary facility by Fulton Hogan and will not be further addressed in this report.

Construction Compound F

Construction Compound F is a 0.9 hectare site proposed in the SPIR (2018) and is located near the southern interchange on the western side of Lookout Road. Construction Compound F is located within the project footprint and will be utilised during main construction phases.

5.3. Ancillary Facilities identified in Modification 1 Report

The Modification 1 Report identified an additional four locations for ancillary facilities for use by the project due to 'Construction Compound A' being unavailable as detailed in Section 5.1

Astra Street

The Astra street compound is an 8.1 hectare site proposed in Modification 1 Report (2021) and is located within the former Astra street landfill site. The area is subject to an approved Voluntary Management Proposal issued under Section 17 of the Contaminated Land Management Act 1997. As part of the Modification 1 Submissions Report, proposal to utilise the Astra Street site was withdrawn by TfNSW.

The Astra Street compound cannot be used an ancillary facility by Fulton Hogan and will not be further addressed in this report.

Lookout Road

Lookout Road is a 0.1 hectare site proposed in the Modification 1 Report and is located near the southern interchange at 136 Lookout Road. The Lookout Road site (also referred to as Frazer Property) is a residential dwelling and zoned R2 low density. In accordance with SWTC Exhibit B – Site Access Schedule access to the site will be from 90 days notification to TfNSW for intention to occupy.

Cardiff Road

Cardiff Road compound is a 0.4 hectare site proposed in the Modification 1 Report and is located south of the project and falls within the Lake Macquarie LGA. The Cardiff Road site comprises lots A-C of DP 347568. In accordance with SWTC Exhibit B – Site Access Schedule access to the Cardiff Road lots is only available for Lot B and C (with no access provided to Fulton Hogan of Lot A).

Based on the size reduction and access constraints due to not having access to Lot A, the Cardiff Road compound is not currently planned on being used as an ancillary facility by Fulton Hogan and will not be further addressed in this report.

Peatties Road

Peatties Road compound is a 1.7 hectare site proposed in the Modification 1 Report and is located south of the Project and falls within the Lake Macquarie LGA. The site is zoned E3 environmental management and SP2 railway under the Newcastle LEP and comprises of Lot 1 of DP 330006, Lots 32 and 33 of DP 734569, and Lot 1 of DP 910200. In accordance with SWTC Exhibit B – Site Access Schedule access to these lots has not been provided to Fulton Hogan.

The Peatties Road compound cannot be used an ancillary facility by Fulton Hogan and will not be further addressed in this report.

5.4. Minor Construction ancillary Facilities

In accordance with CoA A19, Lunch sheds, office sheds, portable toilet facilities, material storage, parking and the like, that are not identified as a construction ancillary facility in the documents listed in Condition A1, can be established where they satisfy the following criteria:

- (a) are located within the construction boundary; and
- (b) have been assessed by the ER to have -

- i. minimal amenity impact to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and
- ii. minimal environmental impact with respect to waste management and flooding, and
- iii. no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.

5.5. Summary of Ancillary Facilities

The Ancillary Facilities that are proposed to be utilised by Fulton Hogan are listed in Table 4 including the key features and proposed timing of use by Fulton Hogan in delivery of the project.

In accordance with CoA A17 use of a construction ancillary facility will not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C9 have been approved. Ancillary Facility establishment may occur as a part of low impact work under condition A19 minor ancillary facilities.

Ancillary Facilities will be managed in accordance with the CEMP and the relevant construction monitoring programs.

► Table 4: Ancillary Facilities use and durations

LOCATION	ACTIVITIES ASSESSED IN ENVIRONMENTAL DOCS	PROPOSED FH ACTIVITIES	PROPOSED TIMING FOR USE BY FH
Construction Compound A	<ul style="list-style-type: none"> ▪ Main site compound ▪ Materials handling and processing ▪ Crushing Plant ▪ Batching plant ▪ Stockpile Site ▪ Bridge Girder/Components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	Not currently proposed for use by FH.	As per SWTC Exhibit B (Site Access Schedule) and SWTC Appendix 28 – JHH Interface access to this site location is pending works being completed by Hunter New England Health and the John Hunter Hospital Innovation Project. Access scheduled for 31 July 2023.
Construction Compound B	<ul style="list-style-type: none"> ▪ Bridge Girder/Components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	Not currently proposed for use by FH.	N/A
Construction compound C	<ul style="list-style-type: none"> ▪ Stockpile Site ▪ Bridge Girder/Components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	<ul style="list-style-type: none"> ▪ Parking ▪ Deliveries ▪ Construction Support Activities ▪ Site Offices (small site based facilities) ▪ Bridge/Girders/components 	Construction (Stage 4)
Construction Compound D	<ul style="list-style-type: none"> ▪ Early Works Only ▪ Main site compound ▪ Materials handling and processing 	Only allowable for Stage 2 works.	N/A

LOCATION	ACTIVITIES ASSESSED IN ENVIRONMENTAL DOCS	PROPOSED FH ACTIVITIES	PROPOSED TIMING FOR USE BY FH
	<ul style="list-style-type: none"> ▪ Stockpile Site ▪ Bridge Girder/Components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 		
Construction Compound E	<ul style="list-style-type: none"> ▪ Materials handling and processing ▪ Bridge Girder/Components ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	Only allowable for Stage 2 works.	N/A
Construction Compound F	<ul style="list-style-type: none"> ▪ Main site compound (early works only) ▪ Materials handling and processing ▪ Stockpile Site ▪ Bridge / Girder components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	<ul style="list-style-type: none"> ▪ Materials handling and processing ▪ Stockpile Site ▪ Bridge / Girder components ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities 	Construction (Stage 4)
Astra Street	<ul style="list-style-type: none"> ▪ Site Offices ▪ Deliveries ▪ Construction Support Activities ▪ Materials Handling ▪ Stockpile Site ▪ Crushing Plant ▪ Batching Plant ▪ Bridge Girder laydown 	Not available for use by Fulton Hogan	N/A
Lookout Road	<ul style="list-style-type: none"> ▪ Site Offices ▪ Parking 	<ul style="list-style-type: none"> ▪ Site Offices ▪ Parking ▪ Minor deliveries 	Construction (Stage 4)
Cardiff Road	<ul style="list-style-type: none"> ▪ Materials Handling ▪ Stockpile Site ▪ Secondary Site Compound 	Not proposed for use by Fulton Hogan	N/A
Peatties Road	<ul style="list-style-type: none"> ▪ Main site Compound ▪ Site Offices ▪ Deliveries ▪ Parking ▪ Construction Support Activities ▪ Materials Handling ▪ Stockpile Site 	Not available for use by Fulton Hogan	N/A

5.6. Construction Compound C - Scope and Activities

Construction Compound C has been identified as part of the EIS and assessed for activities as per Table 4 above. Ongoing site access to Construction Compound C will be via the Site Access gate established at the northern interchange to the works and is detailed within the Traffic Staging Drawings and the Traffic Management and Safety Plan.

Construction Compound C is a site based compound and is shown in Figure 4 below. The following works are planned to be undertaken within this compound:

- Pre-start meetings/toolbox talks and site meetings
- Toilet Ablutions
- Site Containers for site storage (tools/chemicals/inert materials)
- Establishment of an Emergency Evacuation point

Light vehicles will use the site on a daily basis with the compound providing short term parking for light vehicles. Heavy vehicles will deliver construction materials to the site and will sometimes be parked at the site. Indicative plant, equipment and material to be stored at the ancillary site are listed below;

- Heavy Vehicles (for deliveries only)
- Light Vehicles

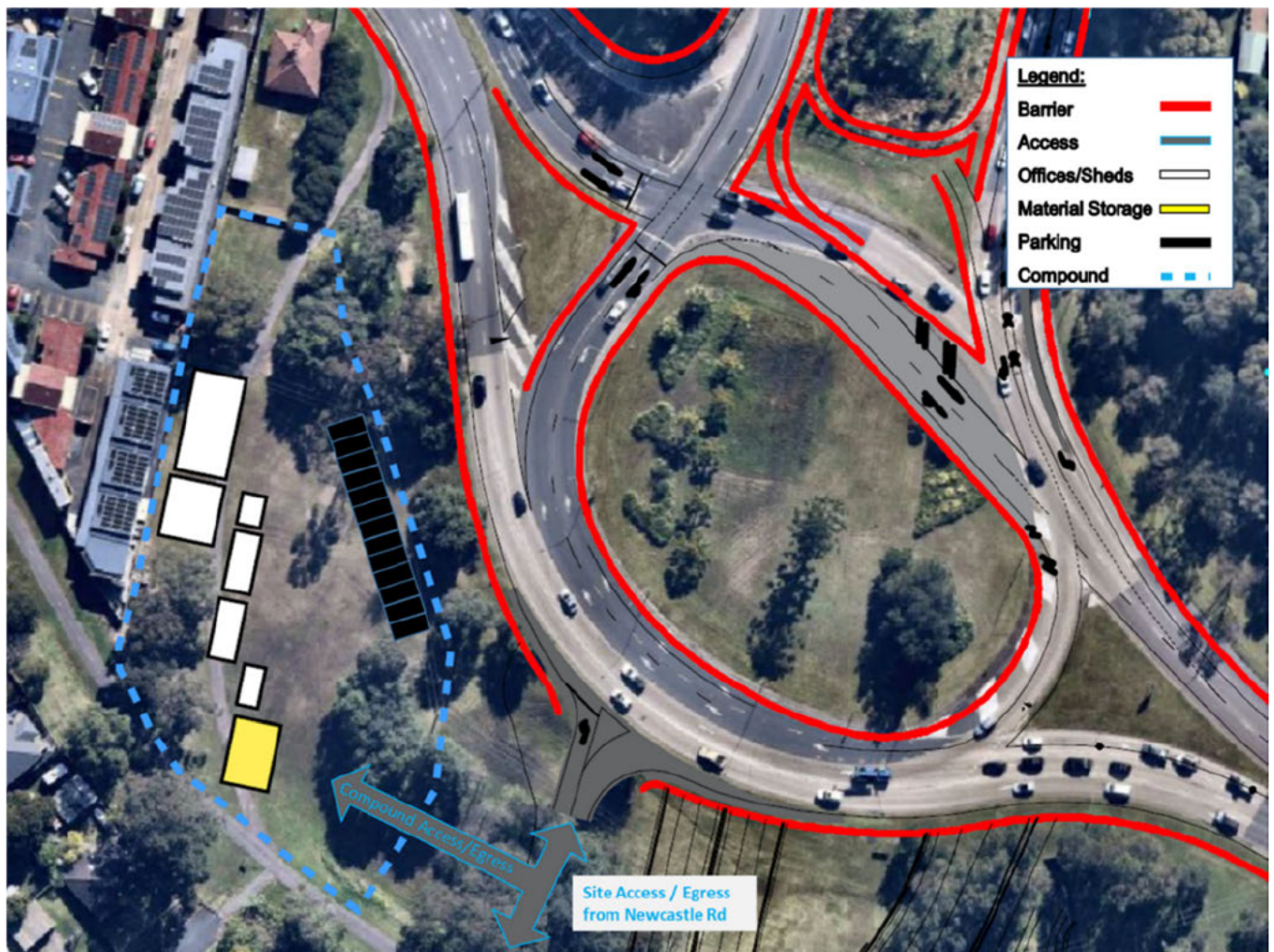


 Figure 4: Construction compound C – Proposed Layout

Ancillary Facility Establishment

Construction Compound C will initially be established as part of low impact works as a minor facility. Access for the establishment will be via Newcastle Road. It is anticipated that 20-30 heavy vehicle movements will be required for the initial establishment of Construction Compound C during the low impact works phase prior to the primary site access gates from Newcastle Road being installed.

The following scope of works will generally be undertaken to establish Construction Compound C as a facility:

- Initial site survey and inspections
- Installation of erosion protection measures
- Clearing and Grubbing (minor activities)
- Establishment of Construction site fencing, signage and lighting
- Delivery and installation of site office and ablutions
- Utility Connections

Equipment generally required for the establishment of Construction compound C includes:

- Minor earth moving equipment (bobcat and tipper)
- Water Trailer and Light Vehicles (LV)
- Generator (until main power is connected, will not be operated outside normal work hours)
- Hiab Truck
- Hand tools; plate compactors, drills, shovels etc

The duration of establishment activities are intended to be completed over a four week duration, with the following activities to only be completed after construction commencement/CEMP approval:

- Removal of TEC vegetation to facilitate haul road construction
- Extension of compound fencing
- Additional site storage and establishment of long term stockpile areas

Ancillary Facility Operations

Equipment / materials generally required for the operation of Construction Compound C include:

- Open skip bins to store construction wastes
- Materials for stockpile (from site or awaiting classification)
- Excavator (for maintenance and operation of active stockpiles)
- Trucks (for deliveries)
- Watercart (for dust suppression as required)

Boundary Screening

Boundary Screening will be placed around Construction Compounds to minimise visual amenity, noise and air quality impacts on adjacent sensitive receivers. Boundary Screening will be designed and approved as per the processes outlined in the Project Branding and Signage Plan. Figure 5 below indicates example Boundary Screening designs. The extent of Boundary screening adjacent to sensitive receivers will be agreed with the stakeholders prior to installation.

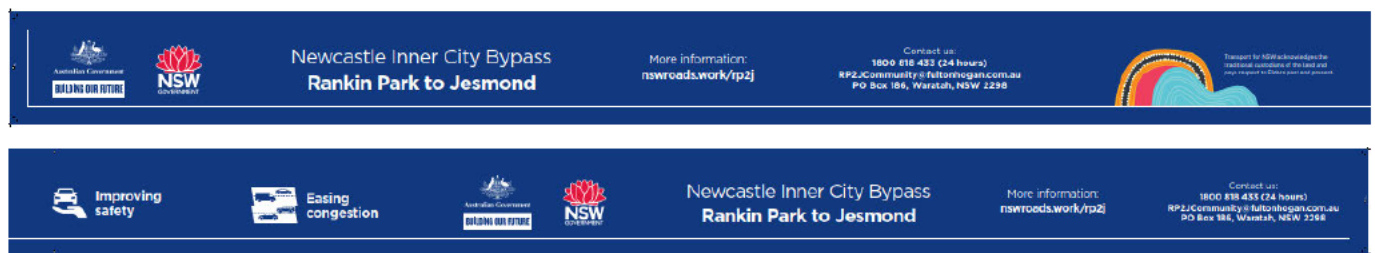


Figure 5: Boundary Screening Designs

5.7. Construction Compound F

Construction Compound F has been identified as part of the SPIR and assessed for activities as per Table 4 above. Ongoing site access to Construction Compound F will be via the Site Access gate established at the southern interchange to the works and is detailed within the Traffic Staging Drawings and the TMSP.

Construction Compound F will be a dynamic site based compound with the following works to be undertaken:

- Establishment of an Emergency evacuation point
- Short term parking area of heavy and light vehicles
- Stockpiling of procured materials (pipe, small precast products, fittings)
- Stockpiling of excavated materials and/or mulch
- Site Containers for site storage (tools/inert materials)
- Storage of pre-cast concrete units (culverts, parapets etc.)
- Storage of bedding sand and backfill materials.
- Toilet Ablutions
- Site based office

Indicative location of Construction Compound F is shown in Figure 6 below with layout to be developed with construction sequencing.

Light vehicles will use the site on a daily basis. Heavy vehicles will deliver construction materials to the site and will sometimes be parked at the site. In addition large construction plant may also be parked up on site pending construction work staging. Indicative plant, equipment and material to be stored at the ancillary site are listed below;

- Heavy Vehicles
- Light Vehicles
- Site Container



Figure 6: Construction compound F – Proposed Layout

Ancillary Facility Establishment

Construction Compound F will be established under a Low Impact Work Submission under an ER approval process as a minor facility noting that clearing and demolition of the nine residential dwellings and associated structures which were located on the site have been previously undertaken during February 2021 to July 2021. I

The following scope of works will generally be undertaken to establish Construction Compound F as a facility over an approximate four week duration:

- Initial site survey and inspections
- Installation of long term operational erosion protection measures
- Establishment of Construction site access points and traffic management measures
- Clearing and Grubbing (completed)
- Establishment of Construction site fencing, signage and lighting
- Establishment and extension of hardstand (as required)
- Delivery and installation of site office, ablutions and containers

Equipment generally required for the establishment of Construction compound F includes:

- Earth moving equipment (grader, excavator)
- Water Cart, rollers and trucks
- Light Vehicles
- Generator
- Hiab Truck
- Hand tools; plate compactors, drills, shovels etc

Ancillary Facility Operations

Equipment / materials generally required for the operation of Construction Compound F includes:

- Open skip bins to store construction wastes
- Materials for stockpile (from site or awaiting classification)
- Excavator (for maintenance and operation of active stockpiles)
- Trucks (for deliveries)
- Watercart (for dust suppression as required)

Boundary Screening

Boundary Screening will be placed around Construction Compounds to minimise visual amenity, noise and air quality impacts on adjacent sensitive receivers Boundary Screening will be designed and approved as per the processes outlined in the Project Branding and Signage Plan. Figure 5 above indicates example Boundary Screening designs. The extent of Boundary screening adjacent to sensitive receivers will be agreed with the stakeholders prior to installation.

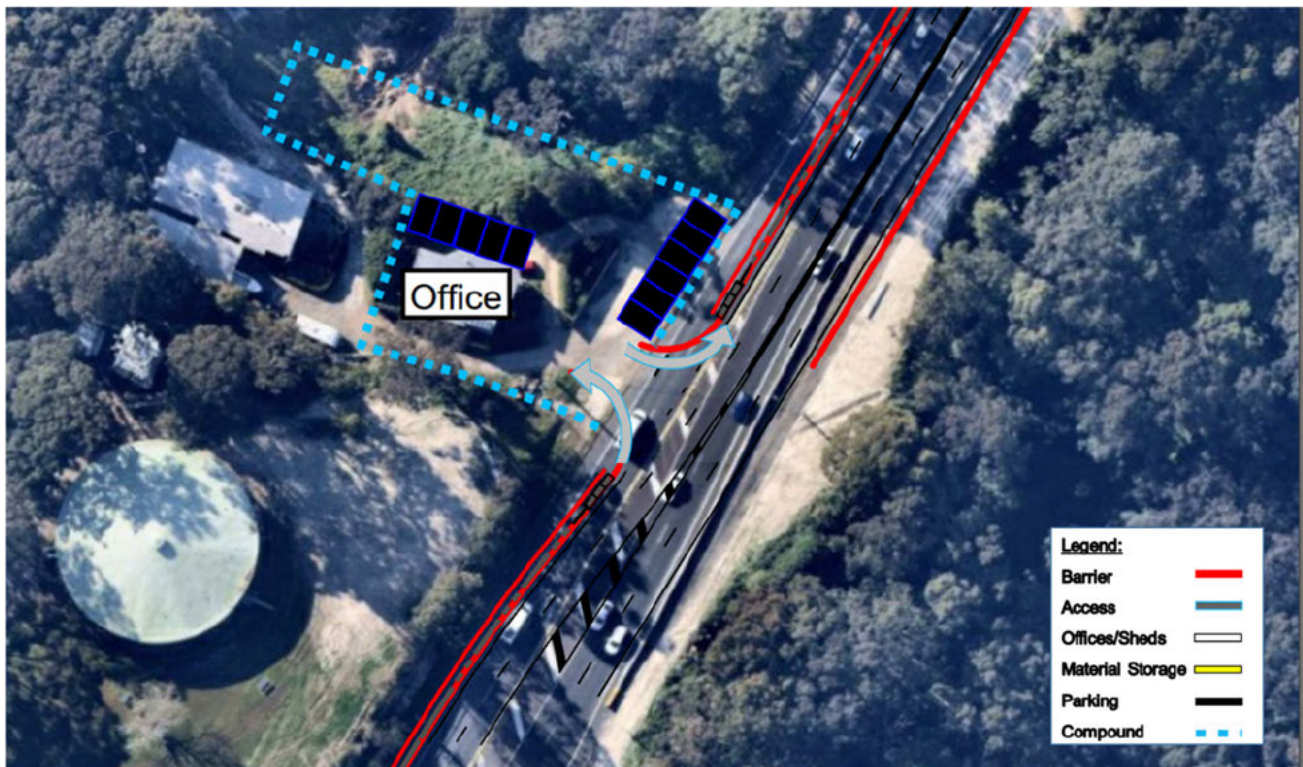
5.8. Lookout Road


Lookout Road ancillary facility has been identified as part of the Modification 1 Report and assessed for activities as per Table 4 above. Ongoing access to the Lookout Road facility will be via existing driveway at Lookout Road.

Lookout Road is a minor office facility at the Southern Interchange with general layout shown in Figure 7 with the following works to be undertaken:

- Site Offices
- Light Vehicle Parking
- Minor Deliveries (Light Vehicle deliveries only)

Light vehicles will use the site on a daily basis, however no heavy vehicle access or plant or equipment will be established at this facility.



 Figure 7: Lookout Road – Proposed Layout

Ancillary Facility Establishment

It is anticipated that minor set up activities will be required with Fulton Hogan converting the existing house into the required site offices. Minor hardstand creation may be undertaken to establish Light Vehicle parking after approval of the AFEMP (this plan)

The following scope of works will generally be undertaken to establish Lookout Road as a facility:

- Initial site survey and inspections
- Installation of erosion protection measures
- Establishment of Construction site fencing, signage and lighting
- Completion of hardstand

Equipment generally required for the establishment of Construction compound C includes the following plant and equipment and will be undertaken over a duration of 4 weeks:

- Minor earth moving equipment (bobcat and tipper)

- Water Trailer
- Light Vehicles
- Hand tools; plate compactors, drills, shovels etc

Equipment / materials generally required for the operation of Lookout Road Ancillary Facility includes:

- There are no ongoing equipment / materials required for the operation of the Lookout Road Ancillary Facility.

Boundary Screening

Boundary Screening will be placed around Construction Compounds to minimise visual amenity, noise and air quality impacts on adjacent sensitive receivers. Boundary Screening will be designed and approved as per the processes outlined in the Project Branding and Signage Plan. Figure 5 above indicates example Boundary Screening designs. The extent of Boundary screening adjacent to sensitive receivers will be agreed with the stakeholders prior to installation.

5.9. Timing and Duration

Ancillary facility areas will be established and commence operation once all approvals are granted by the Planning Secretary, TfNSW and ER. Indicative dates for occupation are detailed in Table 4.

There are pre-establishment activities that will occur inclusive of pre-clearing ecology surveys and hardstand preparation.

All the activities associated with pre-establishment and establishment of the ancillary facilities will occur during the approved construction hours (detailed below) and conditions associated with noise as per the Noise and Vibration Management Sub Plan (NVMP).

Standard Construction Hours

- 7:00am to 6:00pm Mondays to Fridays, inclusive;
- 8:00am to 5:00pm Saturdays; and
- At no time on Sundays or public holidays.

Out of Hour Works will occur as part of the project delivery, and will be managed in accordance with the Noise and Vibration Management Sub Plan (NVMP) and relevant project approvals.

5.10. Decommissioning and rehabilitation

Decommissioning and rehabilitation of the ancillary facility (main compound and all other ancillary areas) will be undertaken as part of the finishing works towards the end of the construction program and will include the following activities;

- Removal of all fencing, signage and temporary structures
- Site clean-up and disposal of all surplus materials
- Stabilisation and re-vegetation of the sites as per Urban Design and Landscape Plan.
- Reinstatement of all leased areas to the pre-existing condition unless otherwise agreed by the land holder.

After restoration of the areas to pre-existing condition or better, a post-construction land condition assessment will occur by an independent environmental consultant. This will assess the land against pre-existing contamination or waste issues identified in the pre-construction land condition assessment.

For areas that are located wholly within the project footprint, these areas will be transitioned to final design arrangements as per design.

5.11. Ancillary Facilities not assessed in the EIS

Fulton Hogan does not currently intend to establish ancillary facilities in areas that have not been assessed in the EIS, SPIR or Modification 1 Report. Any additional ancillary facilities beyond those already assessed in the EIS/SPIR/Modification 1 report would be assessed and approved in accordance with CoA A15 or A17 depending

on the nature of the ancillary facilities. For minor ancillary facilities including offices, sheds and staff amenities that are not identified in the final EIS, they shall also be assessed against and have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the CEMP (Section 2.5). In accordance with the responsibilities of the ER set out in CoA A17, the ER can assess the impacts of minor ancillary facility. The ER will use the ancillary facilities assessment criteria for facilities not assessed in the final EIS. Any future, additional ancillary facilities will be detailed in an updated AFEMP.

It is noted that CoA A14 does not apply to any ancillary facilities located outside of the project boundary that are permissible under a State Environmental Planning Policy (SEPP), such as SEPP (Transport and Infrastructure) 2021.

Refer to the process shown in Figure 8 **Error! Reference source not found..**

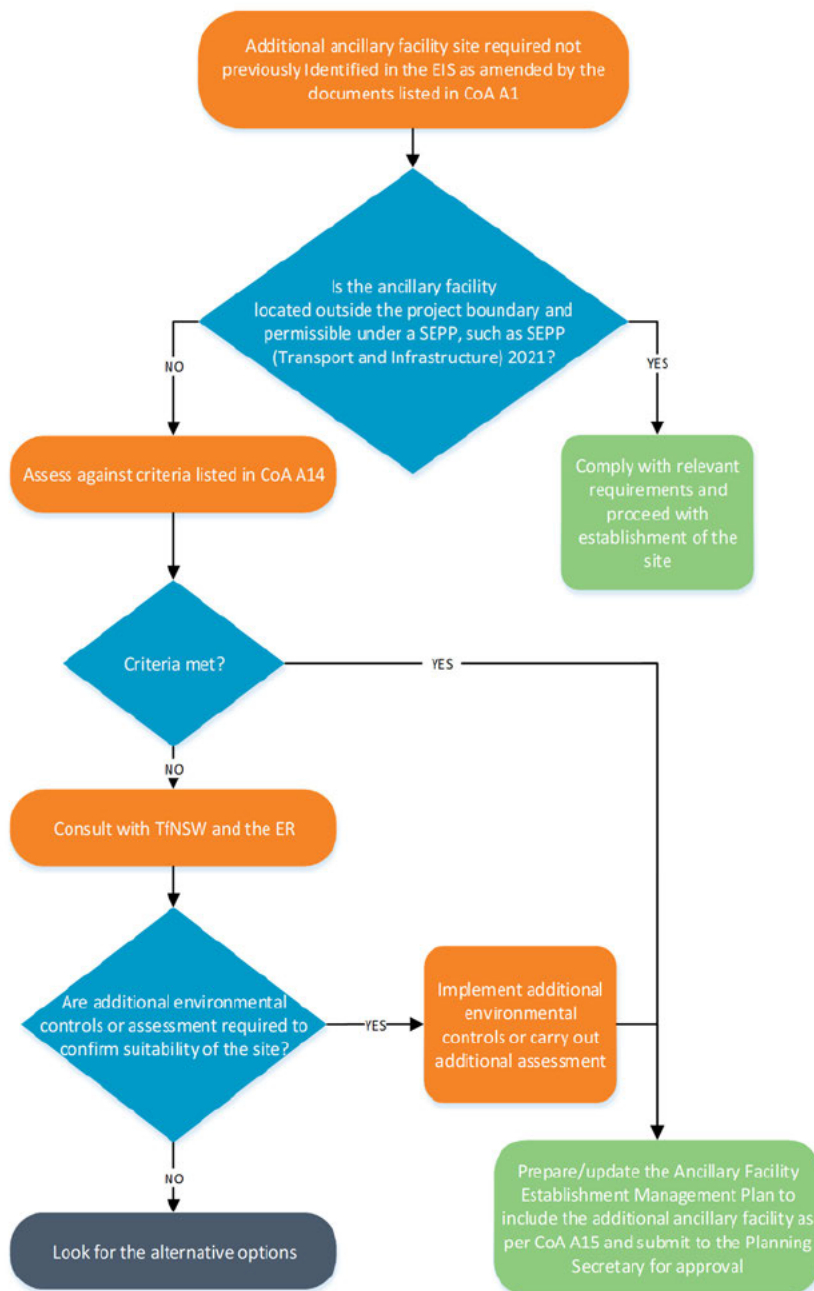


Figure 8: Process for assessment and approval of additional ancillary facility sites not identified in the EIS as amended by the documents listed in CoA A1.

5.12. Performance Criteria for establishment works

Noise criteria

The EIS (v2) page 295 defines appropriate construction noise management levels to be adhered to during establishment activities.

In accordance with the Interim Construction Noise Guideline, for standard construction hours the following terms are used in relation to establishment of construction noise management levels:

- The ‘noise affected level’ represents the point above which there may be some community reaction to noise. For standard construction hours this level is established with reference to the measured background noise levels plus 10 dB(A).
- The ‘highly noise affected level’ represents the point above which there may be strong community reaction to noise. This level is set at LAeq(15min) 75 dB(A).

It is noted that construction noise in this instance is encompassing activities required to establish Ancillary Facilities.

As referenced in Section 5.9, all activities associated with Ancillary Facility establishment will be completed during Standard construction hours, as such no Out of Hours Works criteria has been referenced.

The SPIR Appendix D – Noise and Vibration (page 112) nominates project specific construction noise criteria as follows:

- NCA 4 (applicable to Construction Compound C)
 - Noise affected level – 57 dB(A)
 - Highly noise affected level – 75 dB(A)
- NCA 13 (applicable to Lookout Road and Construction Compound F)
 - Noise affected level – 66 dB(A)
 - Highly noise affected level – 75 dB(A)

Vibration criteria

Vibration criteria for Ancillary Facilities establishment activities have been adopted from the following sources, consistent with the EIS:

- Cosmetic and structural damage to buildings: German Standard DIN 4150-3
- Cosmetic and structural damage to buildings: British Standard BS 7385-2
- Human comfort: British Standard BS 6472-11 and BS 6472-22
- Human comfort: Assessing Vibration – a technical guideline (the Guideline).

Safe working buffer distances to comply with the human comfort, cosmetic damage, standard dwelling and heritage building structural damage criteria were calculated for typical intermittent vibration values and are listed below based on advice given in BS7385: 1993. For the purposes of this assessment, given no heritage structures or sensitive equipment locations are identified in the vicinity of the Ancillary Facilities, standard dwelling criteria has been used.

► Table 5: Safe Working distances for standard dwellings (DIN 4150-3)

ACTIVITY	SAFE WORKING DISTANCE	VIBRATION CONTROLS BASED ON CRITERIA
Roller	13M	For Site Establishment Activities Minimize where possible requirement for vibration intensive plant to be used within 18M of adjacent sensitive receivers.
15 tonne vibratory roller	18M	
Loader breaking kerbs	16M	

ACTIVITY	SAFE WORKING DISTANCE	VIBRATION CONTROLS BASED ON CRITERIA
7 tonne compactor	13M	If vibration intensive plant is to be used within 18M of sensitive receivers, works are not to proceed until attended vibration measurements are undertaken.
Backhoe	2M	
Jackhammer	1M	
Excavator	4M	

It is noted that ongoing operational noise and vibration criteria for Ancillary Facilities will be addressed in the NVMP.

6. Environmental Assessment

6.1. EIS assessment of ancillary facilities against CoA criteria

The ancillary facilities identified in the EIS, SPIR and Modification 1 Report were assessed in accordance with the location criteria included in the Critical SSI Standard Conditions of Approval.

Standard conditions have been developed to help infrastructure providers understand the types of conditions likely to be applied to State significant infrastructure projects if they are approved, including conditions related to locating ancillary facilities. The criteria used for the EIS as amended by the documents listed in CoA A1 is detailed below:

- a. Be located more than 50m from a waterway
- b. Be located within or next to land where State significant infrastructure is being carried out
- c. Have ready access to the road network
- d. Be located to minimise the need for heavy vehicles to travel through residential areas
- e. Be sited on relatively level land
- f. Be separated from nearest residences by at least 200 metres (or at least 300 metres from a temporary batching plant)
- g. Not require vegetation clearing beyond that already required by the State significant infrastructure
- h. Not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the State significant infrastructure
- i. Not unreasonably affect the land use of nearby properties
- j. Be above the 20-year ARI flood level unless a contingency plan to manage flooding is prepared and implemented
- k. Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

The results of the assessment of each facility Fulton Hogan propose to utilise as an Ancillary Facility is summarised below.

► Table 6: Assessment of proposed ancillary facilities against EIS criteria

COMPOUND LOCATION	A	B	C	D	E	F	G	H	I	J	K
Construction Compound C	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Construction Compound F	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Lookout Road	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	N/A

The ancillary facilities assessed for the Project that are proposed to be used by Fulton Hogan were assessed as not meeting criteria all of the criteria, namely (a), (f) (g) and (j). As such further assessment of these sites is provided in Table 7, including proposed management measures.

► Table 7: Proposed mitigation measures for criteria not met

CRITERIA	PROPOSED MANAGEMENT MEASURES
<p>Criteria (a) Be located more than 50m from a waterway</p>	<p>Construction Compound F is located about 40 meters from an unnamed ephemeral watercourse.</p> <p>Management Measures Specified in EIS as amended by the documents listed in CoA A1</p> <ul style="list-style-type: none"> ▪ Preparation of a Soil and Water Management Sub Plan (see SWMP) <p>Key Justification and proposed mitigation measures provided in this AFEMP</p> <ul style="list-style-type: none"> ▪ Construction Compound F is located wholly within the Construction Footprint of the new road infrastructure, with existing road McCaffrey Drive providing a separation/buffer between the compound and the watercourse. ▪ Additional controls to be put in place in regards to storage of chemicals at this facility in accordance with the CEMP ▪ Ensure ERSED placed on downstream side in accordance with practices in the SWMP.
<p>Criteria (f) Be separated from nearest residences by at least 200 meters (or at least 300 meters from a temporary batching plant)</p>	<p>Construction Compound C is located approx. 10 metres from residences located on Illoura Street and Victory Parade</p> <p>Construction Compound F is located about 50 metres from residences located on Lookout Road, Rankin Park</p> <p>Lookout Road Ancillary Facility is located about 50 metres from 1 residence located on Lookout road, Rankin Park.</p> <p>Management Measures:</p> <ul style="list-style-type: none"> ▪ Preparation of a construction noise and vibration management sub plan, inclusive of measure to manage and mitigate noise and vibration impacts from use of construction compounds. ▪ Detail within the CEMP measures for the management of air emissions. <p>Key Justification and proposed mitigation measures provided in this AFEMP</p> <p>Construction Compound C</p> <ul style="list-style-type: none"> ▪ From a total of 186 receivers located in Noise Catchment Area (NCA4), the noise assessments predict that 8 commercial/industrial receivers (Executive Villas Jesmond) will be highly affected. ▪ FH do not plan to operate heavy machinery at night within the ancillary facilities.. ▪ FH propose to undertake introductory consultation with residents surrounding the ancillary facilities, to ensure community expectations and project requirements are discussed, and any concerns addressed ▪ The noise mitigation measures for these areas are further outlined in Section 6 of this Plan and the NVMP. <p>Construction Compound F</p> <ul style="list-style-type: none"> ▪ Noise assessments for Noise Catchment Area (NCA13), predict that (27) will experience noise. However the highest exceedance of the management levels at these receivers is up to 5dBA, and no residential receiver is highly affected. ▪ No non-residential receivers are expected to be above the construction noise management levels.

CRITERIA	PROPOSED MANAGEMENT MEASURES
	<ul style="list-style-type: none"> ▪ FH do not plan to operate heavy machinery at night at the ancillary facilities. ▪ FH propose to undertake introductory consultation with residents surrounding the ancillary facilities, to ensure community expectations and project requirements are discussed, and any concerns addressed ▪ The noise mitigation measures for these areas are further outlined in Section 6 of this Plan and the NVMP. <p>Lookout Road</p> <ul style="list-style-type: none"> ▪ One residential receiver adjacent to compound was identified with potential exceedances up to 14 dB(A) over the CNML. ▪ The lookout road ancillary facility is an office based facility with no operation of heavy machinery anticipated. ▪ FH propose to undertake introductory consultation with residents surrounding the ancillary facilities, to ensure community expectations and project requirements are discussed, and any concerns addressed ▪ The noise mitigation measures for these areas are further outlined in Section 6 of this Plan and the NVMP.
<p>Criteria (g) Not require vegetation clearing beyond that already required by the State significant infrastructure</p>	<p>Construction Compound C is located next to the project, and requires vegetation clearing which is not required for any structures associated with the project.</p> <p>Management Measures:</p> <ul style="list-style-type: none"> ▪ Preparation of a flora and fauna management plan. ▪ Establish compound buildings around existing vegetation with the aim of preserving all trees within construction Compound C for visual amenity and to mitigate impacts to biodiversity. ▪ Fulton Hogan is to reduce their overall construction compound footprint for Compound C and adjust layout and laydown area to not increase the clearing requirement in accordance with the limits specified under the EIS as amended by the documents listed in CoA A1.

6.2. Environmental aspects and impacts

Establishment and operation of ancillary facilities may result in a range of environmental impacts including those identified in Table 8 below and are identified through a risk management approach. The consequence and likelihood of each activity’s impact on the environment has been assessed to prioritise its significance. The results of this risk assessment are included in Appendix B of this document.

Ongoing environmental risk analysis will be undertaken during construction through regular inspections, monitoring and auditing as described in Chapter 9. This will ensure that issues requiring management (including cumulative impacts) are appropriately managed.

► Table 8: Environmental aspect and potential impacts

ENVIRONMENTAL ASPECT	POTENTIAL IMPACTS
<p>Flora & Fauna</p>	<ul style="list-style-type: none"> ▪ Vegetation clearing ▪ Disturbance or mortality of fauna during clearing works ▪ Habitat loss, degradation, or fragmentation

ENVIRONMENTAL ASPECT	POTENTIAL IMPACTS
Traffic	<ul style="list-style-type: none"> ▪ Traffic impacts associated with spoil and material haulage including potential conflicts with local traffic and increased congestion
Erosion and sedimentation	<ul style="list-style-type: none"> ▪ Sediment laden/contaminated runoff entering waterways and drainage lines ▪ Unauthorized offsite discharge
Noise and vibration	<ul style="list-style-type: none"> ▪ Due to close proximity to neighboring residents and sensitive receivers during compound/ancillary facility establishment and operation there is a potential to impact with noise and vibration. ▪ Noise disturbance to residents and sensitive receivers due to out of hours work ▪ Noise generated by operation of facility and construction traffic accessing facilities
Air quality	<ul style="list-style-type: none"> ▪ Generation of dust emissions and odours from access roads and transport of materials during facility establishment and operation ▪ Nuisance to local residents
Heritage	<ul style="list-style-type: none"> ▪ Impact to undiscovered or undocumented heritage sites ▪ Unauthorised access to Heritage areas
Storage of Hazardous substances	<ul style="list-style-type: none"> ▪ Accidental spills and leaks, resulting in pollution of waterways and soils (hydrocarbons, curing agents, septic waste).
Waste and recycling	<ul style="list-style-type: none"> ▪ Generation of waste by site personnel using offices and staff amenities ▪ Generation of waste during establishment of ancillary facilities disposed of incorrectly, e.g. recyclable materials being sent to landfill and not meeting ISCA requirements.
Visual amenity	<ul style="list-style-type: none"> ▪ Potential for site hoardings or other exposed surfaces to be vandalised. ▪ Potential for site lighting to affect the amenity of surrounding residents and businesses. ▪ Potential for waste to not be placed in appropriate bins and result in litter around the construction worksites
Contaminated land	<ul style="list-style-type: none"> ▪ Potential for encountering previously undocumented contaminated material
Socio-economic	<ul style="list-style-type: none"> ▪ Direct land use impacts associated with the location of construction compounds, temporarily disrupting use and access to land including rural or vacant land, residential and commercial uses.

7. Environmental mitigation measures

This section details the environmental mitigation measures specific to the ancillary facilities that will be implemented to minimise the environmental impacts associated with the establishment and operation of the ancillary facilities.

A range of environmental mitigation measures are identified in the various assessment and approval documents for the project, including the EIS, the Submissions and Preferred Infrastructure Report, the Modification 1 Report, Modification 1 Submissions Report, NSW and Federal Conditions of Approval and TfNSW standard documents.

Site specific mitigation measures have been adapted from these documents as relevant to the establishment, operation, decommissioning and rehabilitation of the ancillary facility as outlined in Table 9: Environmental Mitigation Measures (Ancillary Facilities).

► Table 9: Environmental Mitigation Measures (Ancillary Facilities)

ID	MITIGATION MEASURE	RESPONSIBILITY
GENERAL		
AFMM01	Prior to establishing the ancillary facility a pre-construction land condition assessment will be undertaken by an independent environmental consultant. This will assess the land for any pre-existing contamination or waste issues prior to taking possession.	Environment Manager
AFMM02	When the areas of land used for the site facilities are no longer required, and after restoration of the areas to pre-existing condition or better, a post-construction land condition assessment by an independent environmental consultant is required	Environment Manager
AFMM03	Undertake <u>pre-construction building and structure condition</u> surveys at residential receivers within 18 m of proposed vibration prior to commencing vibration generating activities.	Environment Coordinator
AFMM04	Undertake <u>post-construction building and structure condition</u> surveys at residential receivers within 18 m of proposed vibration generating activities after completion of all works.	Environment Coordinator
ESTABLISHMENT ANCILILARY FACILITY		
AFMM05	Prior to site establishment clearing limits will be accurately and clearly marked. Existing trees within construction area and compounds that do not need to be removed will be identified, protected and maintained throughout the site establishment activities.	Environment Manager
AFMM06	Complete pre-clearing inspections (under the supervision of the Project Ecologist) to confirm the location of hollow bearings trees, habitat trees, woody debris, bushrock, TECs, threatened flora and fauna, weeds, riparian vegetation, and potential roost sites for example. Do not commence clearing works without a Pre-Clearing permit and EWMS in place.	Environment Manager
AFMM07	Manage establishment activities to: <ul style="list-style-type: none"> • Stabilize all disturbed areas as soon as practicable to minimize wind-blown dusts. • Prevent mud tracking on public roads by establishing stabilized access points • Maintain all vehicles and construction equipment • Turn machinery and vehicles off when not in use 	Environment Manager
AFMM08	Location of stockpiles during site establishment activities to be in accordance with Roads and Maritime Stockpile Management Guideline (Roads and Maritime Services 2015).	Environment Manager
AFMM09	Undertake establishment activity works during standard construction hours.	Construction Manager
AFMM10	Maximize the offset distance between noisy items of plant and sensitive receivers for each task and activity during site establishment activities during site establishment activities.	Superintendent

ID	MITIGATION MEASURE	RESPONSIBILITY
	<i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	
AFMM11	Orient plant and equipment known to emit noise strongly in one direction so that noise is directed away from noise sensitive areas. Utilize noise blankets for generators in use during site establishment activities <i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	Superintendent
AFMM12	Position site compounds, access points and roads as far as practicable away from residential receivers. Position stationary or mobile equipment within site compounds as far as possible from sensitive receivers, to take advantage of natural shielding and shielding provided by buildings.	Superintendent
AFMM13	Minimize where possible requirement for vibration intensive plant to be used within 18m of adjacent sensitive receivers. If vibration intensive plant is to be used within 18M of sensitive receivers, works are not to proceed until attended vibration measurements are undertaken.	Superintendent
AFMM14	Develop a PESCP for Ancillary Facilities establishment activities at each location. PESCP controls to be implemented prior to the commencement of any clearing, stripping and earthworks activities being commenced.	Environment Manager
AFMM15	During establishment activities all fuels, chemicals, and liquids are to be stored at least 50 m away from the existing stormwater drainage system and would be stored in an impervious bunded area <i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	Superintendent
AFMM16	During establishment activities storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005). <i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	Superintendent
AFMM17	Access to Ancillary Facilities (for establishment) will be through the use of the following arterial roads: - Construction Compound C (Newcastle Road – A15) - Construction Compound F (Lookout Road – A37) - Lookout Road Site (Lookout Road – A37)	Traffic Manager
AFMM18	Vehicle Movement Plans (VMP) and Pedestrian and Cyclist Movement Plan (P&CMP) (as required) will be developed for all movements in and out of Ancillary Facilities during site establishment in accordance with developed TGS.	Traffic Manager
AFMM19	Safe pedestrian and cyclist access must be maintained around ancillary facilities for the duration of establishment activities. In circumstances where pedestrian and cyclist access are restricted or removed due to establishment, an alternate route (temporary or permanent) which complies with the relevant standards must be provided and signposted.	Traffic Manager
AFMM20	Additional controls relevant to establishment and set up of Construction Compound C:	Environment Manager

ID	MITIGATION MEASURE	RESPONSIBILITY
	<ul style="list-style-type: none"> • During establishment of Construction Compound C, no clearing or material storage is to be undertaken in portion of compound affected by 20 year ARI flood levels. • Locate stockpiles in accordance with AFMM08 and outside the 20 year ARI flood zone to ensure potential flooding impacts are minimized. • Locate equipment and material laydown areas outside the identified 20 year ARI flood zone to ensure they do not impede flood waters. • Prior to working within 50m of the Hollywood site (between CH9600 and 10150) for site establishment activities, install 'no-go' fencing and signage so that the access track is delineated as there are known heritage items to be salvaged. <p>In the case of discovery of any relics or potential heritage, stop work and notify the Project Environmental Manager</p>	
AFMM21	Adopt and promote the waste hierarchy (reduce or avoid waste, reuse waste, recycle waste, recover energy, treat waste, dispose of waste).	Environment Manager
AFMM22	Reuse excavated spoil generated onsite where possible, considering the following options: <ul style="list-style-type: none"> <input type="checkbox"/> Construction of embankments <input type="checkbox"/> Flattening of road batters <input type="checkbox"/> Alternative ground/ foundation treatments 	Environment Manager
AFMM23	Include in waste contractor subcontract agreements requirements to comply with statutory requirements, report quantities, types, dates and destination of material removed from site.	Environment Manager
AFMM24	Provide paper and cardboard recycling bins/boxes in all site offices. All paper waste to be sent to recycling facility. Encourage all staff to separate paper waste.	Construction Manager
AFMM25	In the event that unexpected contamination or asbestos is identified or suspected, implement the Unexpected Contaminated Land and Asbestos Finds Procedure	Environment Manager
AFMM26	The visual impact of ancillary facilities on adjacent residential areas will be minimised through the careful planning and positioning of temporary offices, other plant and material laydown areas, and specific management of lighting and potential for light spill within the identified ancillary facility. <i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	Construction Manager
AFMM27	Boundary screening will be erected around ancillary facilities that are adjacent to sensitive receivers, for the duration of operation unless otherwise agreed with affected residents, business operators or landowners (including the relevant councils where they are the landowner). <i>This mitigation measure is also applicable to operational phase of Ancillary Facilities.</i>	Environment Manager
AFMM28	Boundary screening will be installed to reduce visual, noise and air quality impacts on adjacent sensitive receivers.	Construction Manager
AFMM29	Affected residents and local business owners will be consulted prior to establishing the ancillary facility to identify appropriate measures to manage	Community Relations Manager

ID	MITIGATION MEASURE	RESPONSIBILITY
	potential impacts which will be in accordance with the Community Involvement Plan	
ONGOING FACILITY MANAGEMENT		
AFMM30	The design of temporary lighting must avoid unnecessary light spill on adjacent residents, sensitive receivers and the surrounding habitat. Temporary lighting to be designed in accordance with AS 1158.1-1986. Note - Any additional road lighting should be sited to avoid blinding road users.	Construction Manager
AFMM31	Stockpiling of material will not occur within 5m of vegetation protection areas and tree protection zones. Delineation will be in accordance with AS 4970.	Superintendent
AFMM32	Stockpiles will be located above the 1/20 year flood level, at least 5m from concentrated water flows and 10m from the top of bank of any watercourse or drainage line	Superintendent
AFMM33	Fulton Hogan to develop a Soil and Water Management Sub Plan (SWMP) in accordance with the Roads and Maritime specification G38 – Soil and Water Management and the Blue Book – Soils and Construction – Managing Urban Stormwater Volume 1 (Landcom, 2004) and Volume 2D (DEC, 2008a). All work to be in accordance with the SWMP.	Environment Manager
AFMM34	All fuels, chemicals, and liquids would be stored at least 50 m away from the existing stormwater drainage system and would be stored in an impervious bunded area within the compound site.	Superintendent
AFMM35	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005)	Superintendent
AFMM36	Provide security for buildings, materials, construction plant and machinery. Take all necessary precautions to make the area safe to the public	Superintendent
AFMM37	On-going consultation in accordance with the Community Involvement Plan and Community Communication Strategy to affected residents and local businesses, located close to ancillary facilities about the timing, duration and likely impact of construction activities on their business operations would be carried out.	Community Relations Manager
AFMM38	Maximize the offset distance between noisy items of plant and sensitive receivers for each task and activity.	Superintendent
AFMM39	Orient plant and equipment known to emit noise strongly in one direction so that noise is directed away from noise sensitive areas. Utilize noise blankets for generators in use.	Superintendent
AFMM40	Access to Ancillary Facilities is to be completed in accordance with the TTMP and TSMP. Vehicle Movement Plans (VMP) and Pedestrian and cyclist Movement Plan (P&CMP) (as required) will be developed for all movements in and out of Ancillary Facilities	Superintendent Traffic Manager
AFMM41	Fulton Hogan will consult with identified potentially affected residents / businesses to identify periods during which they would be adversely affected by noise generating works. Works will not be undertaken unless arrangements have been made with the potentially affected sensitive receivers (or approval has been provided by CoA E31.	Environment / Community Relations Manager

ID	MITIGATION MEASURE	RESPONSIBILITY
AFMM42	Work outside of standard Construction hours that do not meet the circumstances listed in CoA E26 may be undertaken in accordance with E27 (d) work approved under and Out of Hours Work Protocol under CoA E31.	Environment / Community Relations Manager
AFMM43	Maintain (where possible) existing vegetation around Construction Compound C and Lookout Road Compound to act as vegetative screening.	Construction Manager

8. Compliance management

8.1. Roles and responsibilities

Fulton Hogan’s Project Team organisational structure and overall roles and responsibilities are outlined in Section 4.1 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Table 9: Environmental Mitigation Measures (Ancillary Facilities) of this AFEMP.

8.2. Training

Personnel will receive training appropriate to their role in Ancillary Facilities Management on the project during site inductions. Ongoing toolbox talks covering the requirements for compound and ancillary facilities management will be used to raise awareness among the project team.

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

8.3. Complaints

Complaints will be recorded and addressed in accordance with Section 6.2.3 of the CEMP, the Community Involvement Plan, Community Communication Strategy and Complaints Management Strategy.

8.4. Inspections and monitoring

Regular inspections and monitoring specific to Ancillary Facilities will be undertaken during construction as described in Chapter 7 of the CEMP, in accordance with Table 10 and the identified monitoring programs. General requirements and responsibilities in relation to inspections and monitoring are documented in Sections 8.1 and 8.2 of the CEMP respectively.

► Table 10: Inspections and monitoring

MONITORING DETAILS RECORD	FREQUENCY
<i>During Establishment</i>	
Environmental Inspection Checklist	Weekly
<i>During operational phase</i>	
Noise and Vibration Monitoring	As per Section 9.4 of the NVMP
Soil & Water Monitoring	As per Section 7.4 of the SWMP
Flora and Fauna Monitoring	As per Section 7.4 of the FFMP
Air Quality Monitoring	As per Section 7.4 of the AQMP

8.5. Auditing

Auditing (both internal and external) will be undertaken to assess the effectiveness of environmental mitigation measures, compliance with this AFEMP, TfNSW specifications and other relevant approvals, permits and licences. Auditing requirements are detailed in Section 8.4 of the CEMP.

8.6. Reporting

General reporting requirements and responsibilities are documented in Chapter 9 of the CEMP.

8.7. Non-conformances

Non-conformances will be dealt with and documented in accordance with Chapter 10 of the CEMP.

9. Review and improvement of AFEMP

The AFEMP will be reviewed annually to ensure compliance with legislative requirements and its suitability and effectiveness for the project.

The review may be in the form of:

- A formal management review
- A second party audit, and/or
- An inclusion as a separate item at a site meeting.

The Environmental Manager may review and update the AFEMP more regularly where:

- Significant changes in construction activities occur
- Where targets are not being achieved, or
- In response to audits and non-conformance reports.

Any changes to the AFEMP will be approved by the ER and made in accordance with the process outlined in Section 1.6 of the CEMP.

Appendix B – Environmental aspects and impact risk assessment register for Ancillary Facilities

Table A3-1: Environmental aspects and impacts and risk assessment register for Ancillary Facilities

Project: Newcastle Inner City Bypass Rankin Park to Jesmond (RP2J)

ACTIVITY BEING UNDERTAKEN <i>(What am I doing?)</i>	HAZARD/SOURCE OF IMPACT	IMPACT ON ENVIRONMENT <i>(What can wrong?)</i>	PRE CONTROL RISK			MITIGATION MEASURES <i>(ID provided under Environmental mitigation measures)</i>	POST CONTROL RISK		
			CONSEQUENCE	LIKELIHOOD	RISK RATING		CONSEQUENCE	LIKELIHOOD	RISK RATING
Flora and Fauna									
Earthworks, including vegetation clearing for Ancillary Facilities Establishment	Sediment laden runoff from disturbed area Vehicular movements Vegetation clearing occurs outside the clearing limits	Loss of unexpected threatened ecological community/species	Major	Likely	High 21	AFMM05 and 06	Major	Rare	Med 10
		Loss of native vegetation/ fauna habitat	Significant	Unlikely	High 17	AFMM05 and 06	Significant	Rare	Low 6
		Terrestrial fauna mortality / injury	Significant	Likely	High 17	AFMM05 and 06	Significant	Rare	Low 6
Night Works (during ongoing facility operation)	Light spill	Disturbance to surrounding habitat	Significant	Possible	Med 13	AFMM37-AFMM39 and AFMM41-AFMM42.	Significant	Rare	Low 6
Air Quality									
Stockpiling, material loading and material haulage for Ancillary Facilities Establishment activities and ongoing facility operation.	Mud tracking Wind erosion Poorly maintained equipment	Amenity impacts to sensitive receivers when dust is deposited on surfaces resulting in community complaints.	Significant	Possible	Med 13	AFMM07-AFMM08 and AFMM33	Significant	Rare	Low 6
		Health and environmental impacts due to poorly maintained equipment	Minor	Possible	Med 8	AFMM07-AFMM08 and AFMM33	Minor	Unlikely	Low 5
Noise and Vibration									
Out of Hours works (ongoing facility operation)	Noise outside of standard construction hours and extended hours	Noise from works carried out outside of the standard construction hours, including critical OOHW, results in community complaints	Significant	Likely	High 21	AFMM09-AFMM13 and AFMM41-AFMM43	Significant	Rare	Low 6
Stockpiling and other activities associated with the operation of ancillary facilities for establishment activities and ongoing facility operation.	Noise and vibration from plant operations.	Extended operations of noise intensive activities at ancillary activities results in complaints	Significant	Likely	High 21	AFMM09-AFMM13	Significant	Rare	Low 6
		Vibration generated by compaction works or other vibration intensive works results in complaints	Major	Possible	High 18	AFMM09-AFMM13	Major	Rare	Med 10
Erosion, sedimentation and water quality									
Vegetation clearing and topsoil stripping for establishment activities.	Sediment laden runoff from disturbed areas Diesel/fuel spills	Reduced water quality in local waterways due to increased turbidity and sediment loading	Significant	Possible	Med 13	AFMM14-AFMM15 and AFMM20	Significant	Rare	Low 6
		Contamination of surface water from hazardous substances	Minor	Possible	Med 8	AFMM14-AFMM15 and AFMM20	Minor	Unlikely	Low 5

Stockpiling and other activities associated with the operation of ancillary facilities for establishment activities and ongoing facility operation.		Reduced water quality in local waterways due to increased turbidity and sediment loading from unconsolidated stockpiles	Significant	Possible	Med 13	AFMM14-AFMM15 and AFMM33 and AFMM20	Significant	Rare	Low 6
Traffic and transport									
Construction traffic entering and exiting Ancillary Facilities for establishment activities and ongoing facility operation.	Construction vehicles movements, deliveries of construction materials and access restrictions for pedestrians and cyclists	Construction impacts on highway traffic and local roads	Significant	Likely	High 17	AFMM17-AFMM19	Significant	Rare	Low 6
		Construction impacts on pedestrians and cyclists	Significant	Likely	High 17	AFMM17-AFMM19	Significant	Rare	Low 6
Flooding									
Establishment of construction ancillary facilities, erosion and sediment controls, or construction hoarding. Stockpile management in Ancillary facilities.	Interruption of overland flow paths and impacts to existing drainage network	Impacts on flood behaviour and overland flows during construction	Major	Possible	High 18	AFMM20 and AFMM08	Major	Rare	Med 10
	Evacuation process	Failure to safely evacuate/ remove or secure loose material, remove plant and equipment etc.	Significant	Possible	Med 13	AFMM20 and AFMM08	Significant	Rare	Low 6
Heritage (Aboriginal and Non Aboriginal)									
Stockpiling, ancillary facility site/site compound use, loading and haulage	Ground disturbance, over-clearing, vibration from plant and equipment, non-adherence to exclusion zones, vehicle movement.	Damage/ impacts to known heritage item/ site	Significant	Likely	High 17	AFMM20	Significant	Rare	Low 6
		Damage/ impacts to unknown heritage item/ site	Significant	Possible	Med 13	AFMM20	Significant	Rare	Low 6
Waste and Recycling									
Site establishment and general construction works, including at ancillary facility sites	Generation of waste during establishment activities and ancillary facilities operation	Generation of waste during establishment of ancillary facilities disposed of incorrectly. Generation of waste by site personnel using offices and staff amenities during operation.	Significant	Possible	Med 13	AFMM21-AFMM24	Significant	Rare	Low 6
		Excessive packaging on products delivered to site.	Minor	Likely	Med 12	AFMM21-AFMM24	Minor	Unlikely	Low 5
		Excessive paper use.	Minor	Likely	Med 12	AFMM21-AFMM24	Minor	Unlikely	Low 5
Contaminated land									
Site establishment at ancillary facility sites	Existing unidentified contamination	Contaminated	Significant	Possible	Med 13	AFMM01 - AFMM02 and AFMM25	Significant	Rare	Low 6
	Existing unidentified asbestos	Contaminated	Significant	Possible	Med 13	AFMM01 - AFMM02 and AFMM25	Significant	Rare	Low 6
Storage of hazardous substances									
Site establishment and ongoing operation of ancillary facility	Storage of construction materials	Improper storage, use and spills of hazardous liquids and chemicals	Significant	Possible	Med 13	AFMM15-AFMM16 and AFMM34-AFMM36	Significant	Rare	Low 6
Socio-economic and Visual amenity									
Site establishment and ongoing operation of ancillary facility sites	Potential for site lighting to affect the amenity of surrounding residents	Ancillary Facilities located adjacent to sensitive receivers, results in complaints.	Significant	Possible	Med 13	AFMM26-AFMM29 & AFMM36-AFMM37 and AFMM43	Significant	Rare	Low 6
	Potential for ancillary facilities to affect the visual amenity of nearby sensitive receivers.		Significant	Possible	Med 13	AFMM26-AFMM29 & AFMM36-AFMM37 and AFMM43	Significant	Rare	Low 6