

**MULTIPLY**

# CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

New Maitland Hospital  
Main Works

MPX-MNGPL-MW004  
Rev.5

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# 1. Introduction

## 1.1 Purpose

The purpose of this Construction Environmental Management Plan (Plan) is to provide a coordinated high level plan that details, at a Project level, the environmental management strategies and procedures that will be adopted on the New Maitland Hospital Main Works Project (the Project) on which Multiplex is operating as the Principal Contractor.

This plan is a sub-plan of the Project Management Plan, which forms part of the Multiplex Management System which is certified to:

- » AS/NZS ISO 9001:2015 – Quality Management System;
- » AS/NZS ISO 14001:2015 – Environmental Management System;
- » AS/NZS 4801:2001 – Occupational Health and Safety Management System; and
- » New South Wales Government Accreditation Scheme

Copies of these certifications can be found on the Multiplex Operating System ‘Document and Forms Library’.

## 1.2 Scope of this Plan

This Plan applies to the works associated with the Project and consists of:

- » An overview of the Environmental Management System (EMS);
- » The organisational structure for environmental management;
- » Applicable legislative requirements;
- » Sub-plans to manage the environmental aspects of the Project;
- » Environmental incident management processes; and
- » Processes to monitor and evaluate environmental performance.

## 1.3 Abbreviations

The abbreviations used in this Plan are outlined below.

Abbreviation	Definition
AS/NZS	Australian and/or New Zealand Standard
ASS	Acid Sulfate Soil
CEMP	Construction Environmental Management Plan
DPIE	Department of Planning, Industry and Environment
EMS	Environmental Management System
EWMS	Environmental Work Method Statement
SDS	Safety Data Sheet
MPX	Multiplex Constructions Pty Ltd
MSOP	Management System Operational Procedures
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measure

Figure 1 *Abbreviations*

## 1.4 Precedence

Where ambiguity is detected between the procedures and requirements in this plan and the MSOPs located on Multiplex Operating System, then the procedures nominated in this Plan will take precedence.

## 1.5 Interface with other Operational Procedures and Project Plans

This Plan should be read in conjunction with the MSOP and Management Plans detailed in Section 2.2 of this Plan.

The MSOP referenced in this Plan are confidential documents, and as such, will not be issued outside of Multiplex. However, they will be made available, for the purpose of surveillance and audit of the EMS.

## 1.6 Project Description

The New Maitland Hospital is a 339 bed hospital green field development located off Metford road, Metford. The hospital building consists of 7 floors including; lower ground floor for back of house and services plant, two level podium (Gnd and Lvl 1) and two wing tower above (levels 2 to 5) linked with primary lift cores.

The ground floor, which has an 11,000m<sup>2</sup> footprint will accommodate the main entry functions and key clinical departments that require direct public access and retail. All loading dock functions and back of house facilities are located at lower ground level.

Some of the services being delivered include:

- » Inpatient Units (IPUs), Intensive Care Unit (ICU), maternity and special care nursery, an emergency department, rehabilitation unit and renal dialysis;
- » 24 bed mental health inpatient services and a new 6 bed psychiatric emergency care centre (PECC); renal services;
- » Chemotherapy service (12 bays) and expanded oral health service;
- » Ambulatory care and outpatient clinics;
- » Support spaces including operating theatres and recovery stage 1 and 2, delivery suites and assessment rooms;
- » Imaging modalities including MRI, x-ray, CT, Fluoroscopy, Orthopantomogram (OPG), ultrasound; and
- » Clinical support services including Central Sterile Services Department, pharmacy, pathology, isolation rooms where required, plaster rooms and gyms to support both general and mental health services for residents.

## 1.7 Legal and Other Requirements

In accordance with Procedure BU AUS IMS P DIV 050 – Document and Records Management, a schedule of environmental legislation has been developed to identify all environmental legal and other requirements that are applicable to the project. This schedule is maintained on Multiplex Operating System and is reviewed annually by the WHS&E Manager/Coordinator.

### 1.7.1 Legislative References

The pertinent Acts, Regulations and Guidelines that apply to the project are outlined below:

<b>ENVIRONMENTAL LEGISLATION REGULATIONS AND GUIDELINES</b>	
<b>Acts</b>	
» Contaminated Land Management Act 1979	» Ozone Protection Act 1989
» Environmentally Hazardous Chemicals Act 1985	» Pesticides Act 1999
» Environmental Planning and Assessment Act 1979	» Protection of the Environment Operations Act 1997
» Heritage Act 1977	» Soil Conservation Act 1938
» Land and Environment Court Act 1979	» Sydney Water Act 1994
» Local Government Act 1993	» Waste Avoidance and Resource Recovery Act 2001
» National Parks and Wildlife Act 1974	» Water Act 1912
<b>Regulations</b>	
» Contaminated Land Management Regulation 2013	» Protection of the Environment Operations (Clean Air) Regulation 2010
» Environmentally Hazardous Chemicals Regulation 2017	» Protection of the Environment Operations (General) Regulation 2009
» Environmental Planning and Assessment Regulation 2000	» Protection of the Environmental Operations (Underground Petroleum Storage Systems) Regulations 2014
» Heritage Regulation 2012 – various amendments and Regulations	» Protection of the Environment Operations (Noise Control) Regulation 2017
» Land and Environment Court Regulation 2005	» Protection of the Environment Operations (Waste) Regulation 2014
» Local Government (General) Regulation 2005	» Sydney Water Regulation 2017
» National Parks and Wildlife Regulation 2009	
» Pesticides Regulation 2017	
<b>Commonwealth (National) Environmental Legislation</b>	
» Aboriginal and Torres Strait Islander Heritage Protection Act 1984	» Ozone Protection and Synthetic Greenhouse Gas Management Act 1989
» Environmental Protection and Biodiversity Conservation Act 1999	» Product Stewardship Act 2011
» National Environment Protection Council Act 1994	» Water Efficiency Labelling and Standards Act 2005
» National Greenhouse and Energy Reporting Act 2007	
<b>Commonwealth National Environmental Protection Measures</b>	
» National Environment Protection (National Pollutant Inventory) Measures 1998	» National Environment Protection (Diesel Vehicle Emissions) Measure 2001
» National Environment Protection (Ambient Air Quality) Measure 1998	» National Environment Protection (Used Packaging Materials) Measure 2011
» National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)	» National Environment Protection (Air Toxics) Measure 2011
<b>NSW Environmental Planning Policies</b>	
» State Environmental Planning Policy (State and Regional Development) 2011	» State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
» State Environmental Planning Policy (Exempt and Complying Development Codes) (2008)	» State Environmental Planning Policy No 71 (Coastal Protection)
» State Environmental Planning Policy (Infrastructure) 2007	» State Environmental Planning Policy No 55 (Remediation of Land)
» State Environmental Planning Policy (Major Development) 2005	» Sydney Local Environmental Plan 2012
<b>Guidelines/ Australian Standards</b>	
» Air Quality Guidance Notes for Construction Sites	» NSW Heritage Office Guidelines- Photographic Recording of Heritage Items using Film or Digital Capture.
» Assessing Significance for Historical Archaeological Sites and Relics	» AS 1940-2017- The storage and handling of flammable and combustible liquid
» Assessing Vibration – Technical Guidelines (2006) – DEC (EPA) AS1055	

## ENVIRONMENTAL LEGISLATION REGULATIONS AND GUIDELINES

» Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)	» AS 4976-2008- The removal and disposal of underground petroleum storage tanks
» City of Sydney Code of Practice for the Construction Hours/Noise 1992	» AS 4897-2008 – The design, installation and operation of underground petroleum storage systems
» City of Sydney Council's Policy for Waste Minimisation in New Developments 2005	» UPSS Technical Note: Site Validation Reporting
» Technical Guidelines to Minimise Blasting Overpressure and Ground Vibration	» UPSS Technical Note: Decommissioning, Abandonment and removal of UPSS
» Environmental Management Systems Guidelines for the Construction Industry	
» Interim Construction Noise Guideline	
» Know Your Responsibilities – Managing Waste From Construction Sites	
» Managing Urban Stormwater – Soils and Construction	
» National Australian Built Environment Rating System (NABERS Energy)	

Figure 2 Environmental Legislative Regulation and Guidelines

### 1.7.2 Approvals, Licenses and Permits

The relevant approvals, permits and licenses for the project are outlined below:

Approval/Licence/Permit	Relevant Authority	Details
» Environmental Protection License for extractive activities	» Environmental Protection Agency	» A copy of the EPL is included in full in Appendix 4.

Figure 3 Approvals, permits and licenses

### 1.7.3 Development Conditions

The relevant development conditions relating to environmental management for the project are outlined below:

Condition No.	Requirement
SSI 9775	Final Conditions are provided in Appendix 3 below.

Figure 4 Development Conditions

## 1.8 Document Control

This plan and relevant environmental sub-plans will be revised:

- » Six monthly;
- » In response to future project approvals or modifications;
- » In response to changes in law, risks or accepted practices;
- » In response to major changes in site conditions or work methods, or due to incidents;
- » Commencement of new phases or stages of design and construction;
- » In response to the findings, recommendations or outcomes of a planned management review, audit or risk assessment;
- » Requests or requirements of EPA or any other Authority; and
- » In support of planning approvals or licence variations as necessary.

Electronic distribution of this Plan will be made to those detailed on the distribution list on Aconex.

All changes will be identified as below, and communicated to all relevant personnel.

Revision	Date	Description	Page	Reviewed By	Approved By
1	July 2019	Initial issue	All	S. Russell	J. Wall
2	August 2019	Minor updates for Main Works Submission	All	J.Smyth	J.Wall
3	Sep 2019	Update for SS12 first CC.	4 – 8,	J.Smyth	J.Wall
4	Nov 2019	Updated in response to CBRE review	All	S.Russell	J.Wall
5	Dec 2019	Development Approval included	53	S.Russell	J.Wall

Figure 5 Document Revisions Control

## 2. Environmental Management System Framework

### 2.1 Approach to Environmental Management

Multiplex is continuously seeking to improve environmental culture and standards across its business and the broader industry.

Multiplex works with its clients to integrate environmental management controls at the earliest opportunity. Our aim is to eliminate critical risks which may have long-term consequences.

Multiplex's approach to environmental management is underpinned by a mature and disciplined environmental culture which is embraced by its people and driven by what its leaders do and say. Multiplex encourages its people to learn from each other's experiences and share best practice.

### 2.2 Management System Framework

Multiplex has a management framework which is applied throughout the business and on all projects it undertakes. The EMS documentation forms part of this System Framework and maintained in electronic format on Multiplex Operating System.

The structure of the overall Management System is explained below.

Element	Content	
<b>Internal Control Framework</b>	» Operating Environment » Risk Assessment » Control Activities	» Information and Communication » Monitoring Activities
<b>Polices</b>	» Work Health and Safety » Environmental » Quality » Risk	» Drugs and Alcohol » Injury and Rehabilitation » Indigenous Engagement » Diversity
<b>Operational Procedures</b>	» Risk Management » Integrated Management » Quality Management » Design Management » Construction Management » Health and Safety Management	» Environmental Management » Project Administration » Bid Management » Human Resources Management » Planning and Programming
<b>Management Plans</b>	» Project » Quality » Design » Work Health and Safety » Environmental » Emergency	» Construction » Stakeholder and Communications » Risk » Handover and Commissioning » Aboriginal Participation » Workplace Relations
<b>Sub Plans</b>	» Noise and Vibration » Dust and Air Quality » Soil and Water » Chemicals » Contamination » Waste minimisation	» Aboriginal Cultural Heritage » Biodiversity » Traffic and Pedestrian » Site Office » Pollutant Incident Response
<b>Risk Management</b>	» Project Risks	» Aspects and Impacts
<b>Forms and Guides</b>	» As per Appendix 2	

Figure 6 Management Framework

### 3. Responsibility and Accountability

#### 3.1 Environmental Policy

Multiplex policies relating to environmental management are contained in **Appendix 1**.

This policy will be made publicly available through the Multiplex Intranet and distributed for display in prominent Project locations. In addition, all personnel attending Project inductions will be made aware of the policy and Multiplex's commitment to implement it.

#### 3.2 Objectives, Targets and Programs

Environmental objectives and targets established in the table below and in each sub-plan will be monitored, reviewed and assessed by Senior Management, in accordance with Procedure BU AUS IMS P DIV 030 – *Planning and Performance Measurement*.

Objective	Target	Measure
Maximising opportunity to control risk by design, planning and re-planning.	Conduct an environmental risk workshop within 2 months of project commencement.	Environmental aspects and impacts register established within 2 months of project commencement.
Focusing priority on control of critical risks.	Continuously monitor and improve environmental performance through a program of inspections.	Inspections conducted on a fortnightly basis by the onsite Environmental Coordinator.
Closing the gap between paperwork and practice.	Conduct environmental training of all onsite Environmental Coordinators prior to assigned responsibility.	Training conducted prior to assigned responsibility.
Growing a mature culture: innovative, reporting, learning and collaborative.	No environmental regulatory infringements or major pollution incidents.	Number of environmental regulatory infringements and major pollution incidents.

Figure 7 Environmental Project Objectives and Targets

#### 3.3 Management Review

Through the use of audit results, inspection reports, corrective and preventative actions and meetings, Multiplex will continually improve the effectiveness of the EMS in accordance with Procedure BU AUS IMS P DIV 140 – *Management Review*.

Changes to existing procedures will be recorded and communicated to the affected personnel.

#### 3.4 EMS Organisational Chart

Environmental management during construction is the responsibility of each and every member of the Multiplex project team. Management and supervisory personnel lead environmental management by example, through provision of suitable resources to implement and monitor environmental measures, identify and correct any non-conforming conditions or behaviours, and actively promote environmental awareness and individual environmental responsibility.

#### 3.5 Multiplex Roles and Responsibilities

Multiplex has identified appropriate levels of resources, individual responsibility, and accountability for managing environmental across all roles within the Project Team. These are contained in Procedure BU AUS IMS P DIV 010 – *Responsibility and Accountability*. The general responsibilities and accountabilities of key project personnel in relation to Environmental are outlined over.



Role and Responsibility	CEO	Group Sustainability Manager	Regional Managing Director	Regional Director	WHS&E Manager/Coordinator	Project Manager	Site Manager	Design Manager	Contracts Manager/Admin	Engineer/s	Supervisor/s	WHS&E Coordinator	Construction Workers
Provide <b>resources</b> including personnel, time and finances to ensure compliance with Environmental legislation and the Environmental Management System.	✓	✓	✓	✓									
Ensure MPX operations identify, <b>monitors and complies with the current legislation</b> for Environmental Management.	✓	✓	✓	✓	✓								
Ensure that the <b>MPX Management System</b> , risk assessment and procedures reflect the requirements of current environmental legislation, guidelines and standards.		✓		✓	✓								
Identify by way of subscription, all <b>environmental legislation</b> , standards, codes of practices and guidelines pertinent to our works.					✓								
Promote a positive workplace <b>environmental culture</b> .	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Engage in <b>risk workshops</b> to identify, assess and determine appropriate controls for all potential risk and opportunity where required.				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Establish realistic project specific measurable <b>targets</b> . Monitor and report.					✓	✓	✓						
Have a working <b>knowledge</b> of the MPX Environmental Management System.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Complete project specific <b>environmental documents</b> utilising templates.					✓	✓	✓					✓	
Establish the environmental requirements for the projects <b>site establishment and planning</b> requirements.					✓	✓	✓					✓	
Establish a schedule of <b>environmental legislation</b> , communicate and monitor for change.					✓								
Establish records filing system and maintain <b>environmental records</b> .												✓	
Establish and maintain <b>environmental registers including legislation, training and quantifiable targets</b> .					✓							✓	
Establish and organise the environmental component of the <b>induction programme</b> .					✓	✓						✓	
Identify and assess <b>competency</b> of employee' incl. any unforeseen workforce requirements. Undertake training needs analysis and facilitate any <b>training</b> requirements.				✓	✓	✓	✓						
Determine and assess requirements for <b>environmental monitoring</b> (i.e. noise, air and dust) and implement. Review results to determine compliance.					✓	✓						✓	
<b>Assess subcontractor's</b> ability to comply with the project environmental requirements and environmental contract requirements.					✓	✓	✓		✓			✓	
Provide subcontractors with relevant <b>environmental documents</b> templates, EMPS, EWMS relevant parts of the site specific MPX EMP.												✓	
Obtain <b>Environmental documentation</b> from each subcontractor prior to commencing. Register and review adequacy and request changes prior to accessing the site.					✓	✓						✓	
<b>Monitor subcontractors activities</b> and report on performance against EWMS and EMP.					✓	✓					✓	✓	
Conduct <b>inductions</b> for all persons attending site and maintain records.												✓	✓
Complete an <b>environmental aspects, impacts and risk assessment</b> at commencement of the project and update as required to reflect current site conditions.					✓	✓	✓					✓	
Identify and maintain a register of all onsite <b>hazardous materials and dangerous goods</b> .												✓	

Role and Responsibility	CEO	Group Sustainability Manager	Regional Managing Director	Regional Director	WHS&E Manager/Coordinator	Project Manager	Site Manager	Design Manager	Contracts Manager/Admin	Engineer/s	Supervisor/s	WHS&E Coordinator	Construction Workers
Obtain safety data sheets no greater than 5 years old and provide adequate hazardous substances and dangerous goods <b>storage facilities</b> onsite.						✓				✓	✓	✓	
Conduct <b>Environmental inspections</b> and distribute for action, obtain sign-offs from Subcontractors and close out.				✓							✓		
Attend projects to <b>monitor and discuss Environmental issues</b> with project management, supervisors and workers.		✓	✓	✓	✓								
Monitor, resolve and prevent significant <b>Environmental issues</b> and share lessons learnt.	✓	✓	✓	✓	✓								
Schedule and conduct environmental <b>audits</b> of Subcontractors. Distribute report and monitor status.				✓								✓	
Conduct Environmental <b>consultation and communication</b> on environmental matters where required.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Implement <b>emergency response procedures as outlined in the site Emergency Response Plan.</b>					✓	✓				✓	✓	✓	
Record, report and investigate environmental <b>incidents</b> . Monitor corrective actions and distribute any lessons learnt.			✓	✓	✓	✓					✓		
Report and distribute <b>non-conformances</b> and implement corrective and preventative actions. Review effectiveness of corrective actions.				✓	✓	✓			✓	✓	✓	✓	
Implement <b>environmental sub-plans</b> and procedures.				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prepare <b>monthly report</b> on the status of the environmental management system.					✓	✓					✓		
Review <b>Environmental performance</b> including adequacy of resources.	✓	✓	✓	✓	✓	✓					✓		
Obtain feedback for both internal/external training conducted and evaluate the effectiveness of the <b>training programs</b> .		✓		✓									
<b>Review</b> environmental objectives and targets annually and provide clear direction of the Environmental management system for the next 12 months.		✓	✓	✓	✓								
Acquire and disseminate <b>Environmental and related information</b> including alerts and lessons learnt.		✓		✓									
<b>Review procedures and forms</b> resulting from any changes in legislation, regulation, standards, codes of practices and incidents.				✓									
Attend <b>collaborative post project review</b> meeting to assess environmental performance, identify and document lessons learnt.				✓	✓	✓	✓			✓	✓	✓	

Figure 8 Multiplex EMS Roles and Responsibilities Matrix

## 3.6 Contractor Roles and Responsibilities

Contractors must ensure they have an EMP and comply with statutory requirements and instructions given by Multiplex representatives in the performance of work in which they are engaged. Contractors will be responsible for:

- » Implementing their EMS;
- » Reporting incidents, near misses and issues of non-compliance with EMS procedures to their supervisor or Multiplex contact; and
- » Ensuring construction work complies with environmental legislative requirements.

## 4. Communication and Consultation

### 4.1 Communication

Multiplex will ensure meaningful and effective communication processes are established and maintained in accordance with Procedure BU AUS IMS P DIV 040 – *Communication and Consultation*.

Communication on EMS matters will occur through the mechanisms outlined below.

Event	Frequency Requirement	Participants	Record/Evidence
Project specific induction	Prior to commencement of contracted work	All personnel	Project induction and declaration form
Work activity Induction (in EWMS or equivalent).	Prior to commencing any building/construction work	Personnel carrying out specific work activities	Record of training – listed on the EWMS or toolbox meeting record
Toolbox meetings	During the introduction of a new process (EWMS) or when discussing environmental issues/topics	MPX Supervisors and Subcontractors	Toolbox meeting record
Subcontractor meetings	Weekly	MPX Project team / Subcontractors, their employees & others as required	Minutes of meeting
Project team meetings	Weekly	MPX Project Team	Minutes of meeting
PCG meeting/ GC21 Monthly Meeting	Monthly	MPX Principal and Principal's Representative	PCG report/ Monthly Report
Electronic media (i.e. Aconex)	As required	All personnel	Aconex
Project notice board and general signage	As required	All personnel	Project notice board
Environmental Site inspection actions	Fortnightly	MPX Project team and subcontractors	Environmental Site inspection report
Enquiries and Complaints	As required	As per Stakeholder and Communications Management Plan	Communications register
Site Coordination Meetings	Fortnightly* TBC with CBRE/ HI	MPX Project team and Principal/ Principal's Representative	Meeting minutes
GC21 Weekly site walk	Weekly	Site Manager and Principal/ Principal's Representative	Construction Work Site Checklist
Contaminated Material Notice	Only as required	MPX Project team and Principal/ Principal's Representative	Contaminated Material Notice
GC21 Progress Waste Recycling and Purchasing Report	Every 2-months	Multiplex/ Waste Sub-Contractor	Progress Waste Recycling and Purchasing Report

Event	Frequency Requirement	Participants	Record/Evidence
GC21 Summary Waste Recycling and Purchasing Report	Prior to completion	Multiplex/ Waste Sub-Contractor	Summary Waste Recycling and Purchasing Report

Figure 9 Project EMS Communication Mechanisms

## 4.2 Consultation

To ensure effective consultation occurs at all levels throughout the life of the Project, Multiplex will operate in accordance with Procedure BU AUS IMS P DIV 040 – *Communication and Consultation*.

Employees and contractors will be consulted with regard to aspects and impacts that have the potential to impact on the environment.

Consultation on environmental matters will occur through the mechanisms outlined in the table below.

Event	Frequency	Participants	Record
Work activity induction (in EWMS or equivalent)	Prior to commencing work	Personnel carrying out specific work activities	Record of training – listed on the SWMS or Toolbox Talk Record
Aspects and Impacts Risk Workshops	6 monthly	Project team and subcontractors (where required)	Aspects and Impacts Register
Toolbox meetings	As required	Subcontractors	Toolbox meeting record
Subcontractor meetings	Weekly	MPX Project team / Subcontractors, their employees & others as required	Minutes of meeting
Project team meetings	Weekly	MPX Project Team	Minutes of meeting

Figure 10 Project EMS Consultation Mechanisms

## 5. Contractor Management

### 5.1 Evaluation and Selection of Contractors

All Multiplex Contractors (including subcontractors, suppliers and consultants) will be selected and appointed in accordance with Procedures BU AUS IMS P DIV 060 – *Contractor Management*, PAM P DIV 030 – *Tendering Subcontracts* and PAM P DIV 040 – *Letting of Agreements*.

Multiplex's procurement processes ensure that all contractors engaged must meet the environmental Management requirements. This is achieved by:

- » Documenting and correctly completing subcontract agreements, supplier agreements and consultant deeds that include a scope of work and environmental requirements;
- » Examination and evaluation of subcontractor's demonstrated experience and capabilities;
- » Selecting appropriate subcontractors and suppliers for tender;
- » Conducting a tender interview to verify the environmental requirements related to the contract can be met; and
- » Evaluation, recommendation and seeking approval from senior management for engagement of the preferred contractor.

### 5.2 Subcontractors Environmental Management Plans and EWMS

All subcontractors are required to operate with the requirements of the EMP and associated documents.

Based on the EMP and risks identified in the Project Risk Assessment, MPX will assess the subcontractor's environmental management strategies against the following:

- » The potential environmental impacts of the subcontractor's activities;
- » The environmental sensitivity of the area(s) in which the subcontractors will be working;
- » The nature and scope of the subcontractor's activities;
- » The scale of the subcontractor's activities;
- » The subcontractor's capacity to manage its own environmental performance effectively; and
- » The subcontractor's previous performance.

Where a subcontractor is determined to be working in an area identified as high risk for potential impact to the environment, additional management controls will be put in place. These may include the submission of a dedicated EMP/EWMS to address the specific work package(s) awarded and be submitted for review to MPX prior to commencement of work on site. Comments resulting from the review by Multiplex will be issued to the subcontractor for action and where required, re-submission. The EMP/EWMS must assess the level of environmental risk and implement appropriate management controls for the subcontractor's full scope of work.

EWMSs are aimed specifically for use by foremen and construction workers, and are reviewed by each member of the work team before they commence work. This review provides an opportunity for the work team to contribute to environmental controls, and ensure that the work team is trained in environmental methods. Changes to EWMSs are documented and communicated to workers prior to commencing changed methods.

### 5.3 Contractor EMS Submission Requirements

A summary of the subcontractors EMS submission requirements is outlined in the table below.

Item	Description	Time Frame / Frequency of Submission
1	Project Environmental Management Plan for selected trades determined by Multiplex	10 days before commencing on site.
2	Environmental Work Method Statement (EWMS) for all high activities	10 days before commencing on site.
3	Incident/Near Miss Report	Following an incident

Item	Description	Time Frame / Frequency of Submission
4	Incident Investigation Reports	Following an incident
5	MPX Inspections – completed and signed off	As per timeframe nominated in report
6	Inspection and Monitoring Records as detailed in each Environmental Sub-Plan	As per Environmental Sub-Plan

Figure 11 Summary of Subcontractor Environmental Submission Requirements

## 5.4 Subcontractor Environmental Management Monitoring

Multiplex will monitor work activities in accordance with Procedures BU AUS IMS P DIV 060 – *Contractor Management* – to ensure that subcontractors are carrying out work in accordance with SWMS documentation. Monitoring may be achieved by one or more of the following:

- » Ongoing visual inspections by supervisors;
- » Environmental inspections; and
- » External Inspections/Audits.

## 5.5 Purchasing of Goods and Services

Multiplex personnel responsible for the procurement of materials, plant and equipment will ensure that the requirements outlined in Procedures BU AUS IMS P DIV 060 – *Contractor Management* – are implemented to ensure compliance with the relevant Australian Standards and environmental legislation.

Where goods such as materials, plant and equipment are procured, procedures for complying with environmental specifications will be implemented and will cover all environmental standards, legislation or organisational compliance requirements.

Items and equipment that are used to execute the work potentially impacting on the health and safety of a worker or the public, will be subject to hazard identification and risk assessment prior to purchase or hire.

Workers or their WHS Representatives will be consulted regarding any purchasing decisions that could affect their health and safety.

## 6. Risk Management

### 6.1 Risk Workshops

Multiplex and its subcontractors will undertake risk workshops outlined in the table below. Further detail relating to risk management is detailed in Procedure BU AUS IMS P DIV 020 – *Risk and Opportunity Management*.

Type of Risk Programme	Purpose	Frequency	Participants	Record
Project Risk Workshops	Overarching risk workshop conducted to identify all significant risks/opportunities and develop control strategies relating to the project	As per schedule	Project Team	Project Risk Register
Project EMS Risk Workshops	To identify key EMS aspects, impacts and develop control strategies for all works associated with the project	Six monthly intervals	Project Team, WHS&E Manager/Coordinator	Project Risk Register
Trade/Element Risk Workshops	To identify key EMS aspects, impacts and develop control strategies for all works associated with the project	As per schedule	Project Team, WHS&E Manager/Coordinator	Project Risk Register

Figure 12 Risk Workshops

### 6.2 Aspects and Impacts

Key activities carried out by or on behalf of MPX in connection with the Project are identified in the Environmental Aspects and Impacts Risk Register outlined in the table below. This register is completed during the preliminary risk assessment process to help establish key project risks in accordance with Procedure BU AUS IMS P DIV 020 – *Risk and Opportunity Management*.

All risks identified are managed in Project Risk Register on Multiplex Operating System. For each activity the environmental aspects and associated actual and potential environmental impacts are identified for normal operations and uncommon events. All aspects are assessed for risk based on standard controls being in place. Any aspects with a risk rating of high or extreme will be considered a significant aspect and require additional controls/plans to minimise the risk. Additional controls or plans will be referenced in the Environmental Management Sub-plans.

Aspect	Impact	Consequence	Likelihood	Risk Rating
<b>Water Quality</b>	Pollution/contamination of atmospheric, ground or surface water bodies through degradation of water quality.	B	P	8
<b>Erosion &amp; Sediment Control</b>	Soil loss to environment potentially affecting water quality subsequently impacting ecological values.	B	P	8
<b>Site Contamination</b>	Mobilisation of chemicals above the level normally found in nature, potentially having an adverse effect on the surrounding environment.	B	P	8
<b>Air Quality</b>	Pollution/contamination of atmosphere from dust, exhaust emissions, odour and air-born chemicals.	C	U	17
<b>Noise &amp; Vibration</b>	Disturbance/nuisance caused from 'unreasonable' or excessive levels of noise to public/environment.	C	U	17
<b>Hazardous Chemicals</b>	An acute event where hazardous chemicals have the potential to be spilt and released to the environment causing adverse effects.	C	U	17
<b>Cultural Heritage</b>	Damage or disturbance to archaeological/cultural artefacts including skeletal remains, shell middens or other artefacts.	B	P	8

Aspect	Impact	Consequence	Likelihood	Risk Rating
<b>Flora and Fauna</b>	Direct/indirect impact (stress-death) on an individual or species of flora/ fauna.	B	P	8
<b>Waste Management</b>	Degradation of aesthetic values due to ineffective waste management. Build-up of chemical and organic waste.	C	U	17
<b>Office Resources</b>	Depletion of resources as a result of construction and office operations	E	R	25

Figure 13 Environmental Aspects and Impacts Register

		Likelihood				
		Almost certain	Likely	Possible	Unlikely	Rare
Consequence	A. Extraordinary	1	2	4	7	11
	B. Major	3	5	8	12	16
	C. Moderate	6	9	13	17	20
	D. Minor	10	14	18	21	23
	E. Insignificant	15	19	22	24	25

Figure 14 Consequence and Likelihood Matrix

## 6.3 Environmental Controls Map

An Environmental Controls Map has been prepared for the Project to include key information from the sub-plans and other sources. The plan will be displayed on site notice boards, and include:

- » The worksite layout and boundary;
- » Location of the nearest noise sensitive receivers;
- » Sediment and erosion control measures;
- » Noise barriers;
- » Site offices;
- » Construction traffic routes within and adjacent to the worksite;
- » Dust control measures;
- » Monitoring equipment (e.g. dust and noise monitors);
- » Location of environmentally sensitive areas (e.g. conservation areas, protected trees);
- » Location of heritage (indigenous and non-indigenous) items (e.g. artefacts, registered sites);
- » Location of spill containment and clean-up equipment;
- » Location of hazardous substance storage;
- » Stormwater drainage and watercourses;
- » Location of worksite waste management facilities; and
- » Demolition works.



## 7. Training and Competency

### 7.1 Training and Competencies

Multiplex is committed to achieving and maintaining high standards in training and development.

Multiplex will implement systems in accordance with Procedure BU AUS IMS P DIV 110 – *Training and Competency* – to ensure employees have the required skills and training to competently perform required tasks. Multiplex will maintain a training program that identifies:

- » The training required to meet statutory and legislative obligations;
- » The training required for each role or position to meet the required competencies; and
- » A schedule of required refresher training.

Training programs will remain current and be reviewed at least annually or:

- » When new or unforeseen workplace requirements are identified;
- » Following significant changes to the division's business operation;
- » Following a significant incident;
- » Following changes in legislation; and
- » Following feedback from employees.

Multiplex will review the training programs to ensure that the training has been effective.

### 7.2 Induction Training

The Project has developed induction programmes for Project personnel. The project induction outlines key environmental issues. All personnel directly or indirectly working on the Project, including sub-contractors, are required to complete the induction prior to starting work, and will be provided with identification to show they have been inducted. The environmental induction will be periodically reviewed for adequacy.

The project induction includes the following environmental aspects:

- » Key issues relating to the project and existing environment, such as ecological and heritage conservation areas;
- » Relevant environmental requirements, relevant conditions of planning approvals and environmental licences, and the obligations of all staff in relation to compliance with approvals and licences;
- » Environmental policy; and
- » Site specific issues, such as:
  - Waste management and minimisation
  - Washing, refuelling and maintenance of vehicles, plant and equipment
  - Efficient use of plant, equipment and materials
  - Minimising potential environmental impacts including noise, air and water quality
  - Site-specific erosion and sedimentation controls, and use of spill kits to contain spills
  - Environmental emergency plans, and incident reporting procedures for environmental harm/incidents.

### 7.3 Tool Box Meetings

Where deemed necessary, toolbox meetings are used to highlight specific environmental and community issues relevant to site personnel. Toolbox meetings will be held as required.

A signoff sheet is completed by all personnel in attendance at toolbox meetings to acknowledge understanding of the information provided.

## 8. Incident and Emergency Management

### 8.1 Incident Management

Multiplex maintains a uniform system for the management and investigation of incidents which is outlined in Procedure BU AUS IMS P DIV 100 – *Incident Management*. Notification for environmental incidents will also comply with the Incident Communication Framework agreed to with Health Infrastructure.

All incidents and near misses will be investigated by competent personnel, reported and recorded in the electronic database and conducted in line with the requirements set out in the internal investigation pro-forma and procedures. All incident investigations will identify the root causes of the incident so that appropriate remedial and preventative control measures can be identified and implemented.

Where required and where possible, incidents will be reported to EPA.

Corrective actions resulting from incident investigations will be prioritised and carried out in accordance with defined priorities. The corrective action will be evaluated for its effectiveness and whether the initially identified deficiency has been corrected and prevented from recurring.

### 8.2 Emergency Management

Emergency situations are to be managed through Procedure BU AUS IMS P DIV 100 – *Incident Management and include:*

- » An Emergency Management Plan details a single set of emergency contacts and procedures, consistent with the Project activities that can be scaled as appropriate for any incident or emergency;
- » A Site Evacuation Diagram identifies the locations of emergency assembly points, fire exits, first aid kits and associated equipment, directional flow of pedestrian traffic and firefighting equipment; and
- » A Crisis Management Plan which provides guidance, details, responsibilities and lines of communication for effective emergency management.

Relevant details of the Emergency Management Plan will be provided to all personnel during the site induction, and information posted on notice boards.

## 9. Inspections, Testing and Monitoring

### 9.1 Environmental Site Inspections

To ensure compliance with all regulatory requirements, environmental inspections detailed in the table below will be implemented in accordance with Procedure BU AUS IMS P DIV 070 – *Inspection Testing and Monitoring*.

The outcomes and status of inspection activities will be recorded in inspection reports and issued to the persons delegated with responsibility for rectifying the impact. The onsite WHS&E Coordinator will be responsible for tracking actions resulting from all inspections.

Type of Inspection	Inspection By	Frequency	Record
General	All Supervisors	Daily	Visual
Environmental Impacts	Environmental graduate	Fortnightly and after a shower/rain event.	Environmental Site Inspection
Environmental Impacts	WHS&E Manager/Coordinator	Monthly	Environmental Site Inspection Report
Other	Project Team / Subcontractors	As per Environmental sub-plans	As per Environmental sub-plans

Figure 15 EMS Inspection Programme

### 9.2 Environmental Site Testing and Monitoring

To ensure compliance with regulatory, testing and monitoring requirements, all monitoring and testing will be conducted in accordance with the environmental sub-plans outlined in section 13 and Procedure BU AUS IMS P DIV 070 – *Inspection Testing and Monitoring*.

## 10. Audits and Non-Conformances

### 10.1 Audits

An EMS auditing programme outlined below will be established and implemented to assess compliance, identify trends, drive continual improvement and provide assurance that management processes are being effectively implemented and that performance objectives are being met.

Audit procedures including the scope, frequency and methodology to be used as well as the responsibilities and requirements for conducting audits and reporting results will be in accordance with Procedure BU AUS IMS P DIV 120 – *Internal / External Auditing*.

Type of Audit	Audit By	Frequency	Purpose	Record
Internal EMS audit	WHS&E Manager/ Coordinator	3 monthly	To confirm compliance against the MPX EMS.	Audit Report
External surveillance audits	External certified organisation	As per schedule	To confirm compliance of the MPX EMS and AS/NZS 14001.	Audit Report
Independent Environmental Audit	External certified organisation	In accordance with Independent Audit Program	To confirm compliance with the Independent Audit Post Approval Requirements (Department 2018)	Audit Report
GC21 Contractor Performance Evaluation	Principal/ Principal's Rep.	Monthly	To confirm compliance under the GC21 Contract.	Audit Report

Figure 16 EMS Audit Programme

Audit results will be recorded and an action plan developed identifying the observations and corrective action required against each of the findings in the audit report. Details of any non-conformance reports will be issued in accordance with Procedure BU AUS IMS P DIV 080 – *Control of Non Conformances*.

A follow-up audit will be carried out, as deemed necessary by the auditor, in order to verify and record the implementation and effectiveness of the corrective action taken. Implementation and effectiveness of the corrective actions will be verified and recorded during follow-up. Audits will be closed out in a timely manner.

### 10.2 Non-Conformances, Corrective and Preventative Action

Deficiencies identified during audits, site inspections or observations of day-to-day operations will be generally recorded on the audit report or inspection report/checklist and actioned.

When non-compliance is identified, Multiplex will document the issue on the Non-Conformance Report in accordance with Procedure BU AUS IMS P DIV 080 – *Control of Non Conformances* – on Aconex, identifying the non-conformance and corrective actions. Where appropriate, the recipient and/or Multiplex will also develop measures to prevent recurrence of the non-conformance. The instigator will carry out a follow up review and closeout of the Non-Conformance Report to verify completion of measures taken to rectify and to prevent recurrence of the Non-Conformance within the specified time frame.

## 11. Document and Records Management

### 11.1 Document Control

Multiplex's system of document management and record keeping is detailed at Procedure BU AUS IMS P DIV 050 – *Document and Records Management*. The EMS documentation is maintained in electronic format on Multiplex Operating System and describes and provides direction to the core documents that make up the system. The documentation consists of the following:

- » Policy statements which summarise and detail Multiplex high level commitment to the implementation of the EMS;
- » Management System Operating Procedures to effectively and efficiently manage projects from feasibility and planning phase right through to the design and construct phase of a project; and
- » Supporting materials including Forms, Guides (as outlined in **Appendix 2**) and Management Plans provide the tools to ensure conformance with operational procedures.

Project documentation will be controlled in accordance with the Procedure BU AUS IMS P DIV 050 – *Document and Records Management* – which defines the controls to ensure that:

- » The documentation is periodically reviewed, revised as necessary and approved for adequacy prior to issue;
- » The documentation is current, readily identifiable and available at all points of use;
- » The staff are immediately notified of any changes in the documentation such as, the development or receipt of new documentation and any amendments to the current documentation;
- » The documentation of external origin is registered and regularly reviewed for currency; and
- » The obsolete documents are appropriately identified and archived.

### 11.2 Record Control

The Project will maintain records in Aconex (web-based document control system), S:Drive and other applications as defined in the table below to demonstrate conformance to specified requirements and to ensure the effectiveness of the operation of the EMS. Pertinent EMS records from subcontractors will be an element of this data.

Record	MPX OP System	Aconex	Share Drive	CHEMALERT	SMARTERK
MPX Management Plans	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor EMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor EWMS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incident and Investigation Reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inspection and Test Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Audit Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Data Sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Meeting Minutes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toolbox Meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Risk Workshops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Induction Records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Training Records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitoring Records	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Complaints	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 17 Records Management

## 12. Reporting

The Project will establish and maintain a uniform system of record keeping to enable accurate reporting of EMS matters in accordance with Procedure BU AUS IMS P DIV 130 – *Reporting*. Reporting on environmental matters will include those outlined in the table below.

Type of Report	Report By	Frequency	Recipient/s
Monthly PCG Report/ GC21 Monthly Report	Project Manager/Site Manager	Monthly	Client, Client's Representative and Regional Director.
Environmental Incident Notification Report	Project Manager/Site Manager	As required	Directors, WHS&E Manager/Coordinator and DEC where required.
Environmental Incident Investigation Report	Project Manager/Site Manager or others nominated by Project Manager/Site Manager	As required	Directors, WHS&E Manager/Coordinator and DEC where required.
Environmental Internal Audit Report	Project Manager/ Site Manager/ Environmental Manager	As required	Project Team and WHS&E Manager/Coordinator
External Surveillance Audit	External Auditor	As required	WHS&E Manager/Coordinator, Systems Manager, Directors, Project Manager
Contaminated Material Notice	MPX Project Manager/Site Manager or others nominated by Project Manager /Site Manager	As required	Principal and Principal's Representative
GC21 Weekly site walk	Weekly	Site Manager and Principal/ Principal's Representative	Construction Work Site Checklist
GC21 Progress Waste Recycling and Purchasing Report	MPX WHS&E Coordinator	Every 2-months	Principal and Principal's Representative
GC21 Summary Waste Recycling and Purchasing Report	MPX WHS&E Coordinator	Prior to completion	Principal and Principal's Representative

Figure 18 EMS Reporting Programme

### 13. Detailed baseline data

The Table below outlines a list of environmental reports which form the 'detailed baseline data' for the NMH Project. For simplicity, these reports have not been included within this CEMP. However, copies of these reports have been made publicly available through the State Significant Infrastructure Development Approval process.

Report By	Report Name	Revision
Acoustic Logic	Noise and Vibration Assessment	Rev. 1
AMAC Archaeological	Heritage Impact Statement	Rev. A
Douglas Partners	Geotechnical Assessment (Chitter Pile)	Rev. A
Douglas Partners	Detailed Geotechnical Investigation (Lot 7314)	Rev. 3
GHD Environmental Consultants	Site Water Balance	Rev. A
GHD Environmental Consultants	Surface and Groundwater Assessment	Rev. A
GHD Environmental Consultants	Lot 7314 Remedial Action Plan	Rev. A
GHD Environmental Consultants	Part Lot 401 Remedial Action Plan	Rev. A
GHD Environmental Consultants	Basement Batter Assessment	Rev. 1
GTA Consultants	SSI Stage 2 Traffic Impact Statement	Rev. D
Newcastle Bushfire Consulting	Bushfire Assessment Report	Rev. A
Qualtest Laboratory (NSW)	Preliminary Geotechnical Investigation (Part Lot 401)	Rev. 1
Sclerophyll	Biodiversity Development Assessment Report	Final
Tattersall Lander	Arborist Report	Rev. A
Windtech Consultants	Wind Environment Statement	Rev. 1

Figure 19 Detailed baseline data reports

## 14. Environmental Management Sub Plans

### 14.1 Construction Noise and Vibration Management Sub-Plan

#### 14.1.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To ensure any works causing noise or vibration do not effect nearby structures or residents.	No complaints from the community regarding noise or vibration.	No. of complaints from residents/ businesses related to noise.
Compliance with State and Local requirements as required.	Compliance with the Environmental Protection (Noise) Regulations 1997 - Section 6 of AS 2436-2010 (Standards Australia, 1981). Compliance with 10mm/s vibration limit or as otherwise specified.	Results from environmental inspections. Noise and vibration monitoring records.

#### 14.1.2 Management Strategies

Parameter	Action	Timing	Responsibility
Qualified consultancy	Prepare a management sub-plan by a suitably qualified and experienced noise expert. <b>Note:</b> Refer to <b>Appendix 8</b> for original report.	Prior to construction	MPX/ Acoustic Consultant
Construction Work	All construction work to take place during the hours as determined by either the Client or Environmental Protection (Noise) Regulations 1997, (i.e. 7:00am-7:00pm) and not on Sundays and Public Holidays (except for dust control operations which may be undertaken on Sundays).	Construction	All Subcontractors
Plant and Equipment	Plant and equipment noise control equipment to be maintained in accordance with manufacturer's specification to reduce noise levels.	Construction	All Subcontractors
Plant and Equipment Noise Control	All mobile machinery and stationary equipment to be fitted with noise control equipment as per the manufacturer's specifications.	Construction	All Subcontractors
Noise Monitoring	Noise monitoring to be undertaken if required by the Client and Council conditions or if complaints are received due to unreasonable levels of noise in a noise sensitive area. These levels are to be assessed against levels set in the Environmental Protection (Noise Control) Regulations 2017. Where applicable a Noise Management Plan will be prepared by an appropriately qualified external consultant and attached to this EMP for works outside the hours of 7am – 7pm, Monday to Saturday. This plan is to be approved by the Local Council. As an alternative, consideration is to be given to undertaking works at more suitable times to the complainant.	Establishment / Construction	MPX / Subcontractor



Parameter	Action	Timing	Responsibility
Vibration Monitoring	<p>During operation, if equipment is likely to cause excessive vibration, sensitive structures or areas to be monitored for vibration levels. An appropriately qualified external consultant will develop a Vibration Management Plan which will be attached to this EMP.</p> <p>Vibration levels monitored at sensitive premises are not to exceed 10mm/s (as per German Standard DIN 4150-03 – <i>Structural Vibration Part 3 – Effects of Vibration on Structures</i>) or as otherwise specified in the Vibration Management Plan.</p> <p>Regardless of the criteria above, constant observation of vibration levels and any effects on adjoining structures to be monitored closely during construction, as this may alter vibration monitoring trigger levels.</p> <p>Dilapidation studies to be undertaken of surrounding structures and building prior to any construction.</p>	Establishment / Construction	MPX / Subcontractor
Noise / Vibration – Control Measures	<p>If noise and/or vibration complaints are received, the following techniques should be considered to reduce impact to adjoining owners:</p> <p>Undertake works outside of adjoining building operating hours / peak hours as per the approved Noise Management Plan;</p> <p>Isolate work activity using noise barriers;</p> <p>Ring saw instead of hammering column/beams;</p> <p>Use smaller machinery or quieter alternative; and</p> <p>Use static rolling where possible.</p>	Construction	MPX / Subcontractor
Communication and Notification	A contact list to be prepared to enable nearby residents and owners to be notified regarding works that may impact them as a result of noise and vibration. This will be managed in accordance with the Communication Management Plan and approved Noise Management Plan (where applicable).	Establishment / Construction	MPX
Complaints	Where a complaint is received regarding noise and vibration, the complaint will be investigated and where appropriate, additional control measures will be taken to address the nature of the complaint	Demolition/Civil/ Construction	MPX

### 14.1.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Vibration monitoring if required by Client, local authority and in response to complaints	At commencement and during excessive vibration	MPX	Vibration monitoring records
Noise monitoring if required by Client, local authority and in response to complaints	At commencement and during excessive Noise	MPX	Noise monitoring records
Integrity of noise control equipment (if deemed applicable)	During construction	MPX/All Subcontractors	Environmental Site Inspection
Number of noise and/or vibration complaints	As required	MPX	Communications Register

## 14.2 Dust and Air Quality Management Sub-Plan

### 14.2.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Ensure that dust or odour emissions do not adversely affect the health or visual amenity of surrounding communities.	No complaints from adjoining owners in relation to dust emissions from the works.	No. of public complaints from the public related to dust.
Compliance with State and Local regulatory requirements in relation to dust management.	No visual evidence of deposited dust or suspended particulate matter. Compliance with National Environment Protection Measures (NEPM) standards (where required) and DEC standards during construction.	Visual monitoring of dust movement during environmental inspections. Dust monitoring results (where required).

### 14.2.2 Management Strategies

Parameter	Action	Timing	Responsibility
Air Quality Report recommendations	<p>Activities to be assessed during adverse weather conditions and modified as required (e.g. cease activity where reasonable levels of dust cannot be maintained).</p> <p>Engines to be switched off when not in use for any prolonged period.</p> <p>Vehicles and plant would be fitted with suitable pollution reduction devices wherever possible.</p> <p>Maintain and service vehicles and plant according the manufacturer's specifications.</p> <p>Minimise area of exposed surfaces and amount of stockpiled material.</p> <p>Apply water suppression on exposed areas and stockpiles to minimise dust lift-off.</p> <p>Locate stockpiles away from sensitive receivers where possible.</p> <p>Apply barriers, covering or temporary rehabilitation on exposed surfaces and stockpiles where possible.</p> <p>Progressive staging of construction activities to minimise area of exposed surfaces.</p> <p>Rehabilitation of completed sections as soon as practicable.</p> <p>Keep ancillary vehicles off exposed areas.</p> <p>Reduce drop heights from loading and handling equipment.</p> <p>Watering of haul roads (fixed or mobile) when required.</p> <p>Haul roads/transport routes to be sited away from sensitive receivers where possible.</p> <p>Sealed haul roads to be cleaned regularly.</p> <p>Restrict vehicle traffic to designated routes that can be managed by regular watering.</p> <p>All vehicles on site do not exceed a speed limit of 30 kilometres per hour;</p> <p>Wheel wash, grids or coarse aggregate near exit points to minimise dirt track out.</p> <p>Street cleaning to remove dirt tracked onto sealed roads.</p> <p>Covering vehicle loads when transporting material off- site.</p>	Construction	Bulk Earthworks / Civil / MPX
Stabilised Driveways	A stabilised driveway is to be installed to minimise the tracking of dirt on public roadways.	Establishment	MPX
Dust Control Method –	A physical barrier can be erected perpendicular to prevailing winds prior to the commencement of works along the boundary or around uncontrolled dust sources. Fences can be standard	Establishment	All Subcontractors

Parameter	Action	Timing	Responsibility
Physical Barriers	hoarding panels/fence or a fence with a screening material with a porosity of 50% or less.		
Dust Control Method – Chemical Stabilisation	Where an exposed area or stockpile is located away from traffic and needs to sit for up to 3 months or where an area needs immediate stabilisation, a chemical soil stabiliser can be used such as Zerosion or the area hydro-mulched (seed free).	Construction	Bulk Earthworks / Civil / MPX
External Roads	If any sediment is deposited onto the roads adjoining the site, the roads are to be swept regularly and including prior to any rainfall. No hosing is to be undertaken external to the site.	Construction	MPX
Haul roads	Haul roads to be covered with gravel/road base to minimise dust production or at best concrete to be regularly swept.	Construction	MPX
Speed limits	The speed of all vehicles on-site to be restricted to 10 km/hr. This speed to be further reduced if large amounts of dust are still being generated.	Construction	All Subcontractors
Windy Conditions	Dust generating activities to be assessed during periods of excessively windy conditions (>40km/h). Where dust cannot be adequately controlled work is to be ceased and rescheduled to a time when adequate control of dust generation can be achieved.	Construction	All Subcontractors
Water Carts/ Sprays	Water carts or sprinklers are to be used for specific process activities that may cause dust, and can be used to assist in the dust control on access tracks. Consideration should be given to water efficiency and the possible use of a dust control method above.	Construction	Excavation / Demolition Subcontractor
Housekeeping	During construction the site is to be kept clean to reduce dust lift off during windy days.	Construction	All Subcontractors
Plant and Equipment Maintenance	All construction plant and equipment with access to the site to be properly maintained and serviced in accordance with the manufacturer's specification. During the works maintenance logs are to be maintained and available during inspections and audits.	Construction	All Subcontractors
Exhaust Fumes	Operating machinery and vehicles to be visually checked to ensure exhaust fumes are not discharged into adjoining buildings air intakes.	Construction	All Subcontractors
Truck Transportation	Trucks transporting materials such as sand, soil, landscape materials and gravel to have loads covered and tailgates secured.	Construction	All Subcontractors
Paint-Spraying	Paint-spraying activities are not to be undertaken in adverse weather conditions or near building air intakes.	Construction	All Subcontractors
Exposed Areas	Measures including watering down exposed areas and access will be undertaken to reduce dust generation.	Construction	All Subcontractors
Hazmat	Any Hazmat discovered on the project to be left undisturbed and subsequently managed in accordance with the WHS Management Plan. Asbestos or other containment material found in ground will require assessment in accordance with State requirements. Refer to WHS Handbook Rev 3 – - Asbestos - Lead Dust/Paint	Construction	All Subcontractors
Sweeping	Where applicable, sealed roads to be swept to remove deposited material that could generate dust.	Demolition , Excavation and Construction	All Subcontractors

Parameter	Action	Timing	Responsibility
Complaints	Where a complaint is received regarding dust, the complaint will be investigated and where appropriate, additional dust control measures taken to address the nature of the complaint	Construction	MPX

#### 14.2.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Inspect dust control measures, to ensure they are in place and implemented.	Fortnightly	MPX	Environmental Site Inspection
Visually inspect emissions from plant to ensure they are not contributing to ill health effects.	Fortnightly	MPX	Environmental Site Inspection
Dust monitoring in response to community complaints or in accordance with regulatory requirements.	As required	MPX	Dust monitoring records

## 14.3 Soil and Water Management Sub-Plan

### 14.3.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Avoid the release of contaminants to waterways or drainage systems.	All water discharged complies with minimum water quality criteria.	Water quality records conforming to minimum water quality criteria (where applicable). No breaches of management strategies in applicable Management Plans. Results from environmental inspections.
Ensure that groundwater quality or height is not significantly affected by the construction.	No significant change in groundwater levels and quality during dewatering activities (if applicable).	Groundwater quality reports.
Prevent clay, silt or sand from entering stormwater drains and waterways.	All disturbed stormwater to pass through primary erosion and sediment controls listed below.	Environmental Inspection records of no uncontrolled release of disturbed stormwater to drains and waterways.

**Note:** This Sub-Plan is an amalgamation of the 'Water Quality Management Sub-Plan' and the 'Erosion and Sediment Control Management Plan' previously included in Multiplex NSW's Environmental Management Plan template.

### 14.3.2 Management Strategies

Parameter	Action	Timing	Responsibility
Qualified consultancy	Prepare a management sub-plan by a suitably qualified and experienced environmental consultant. The purpose of this SWMP is to describe how potential impacts to soil and water associated with the Main Works of the Project can be managed and controlled, with the objectives of preventing water pollution, minimising soil erosion and controlling sedimentation on site. Refer to <b>Appendix 9</b> for the original report.	Prior to construction	MPX/ Environmental Consultant
Dewatering for construction purposes	Seepage or rainwater shall not be pumped to the street stormwater system unless separate prior approval is given in writing by Council. A dewatering and discharge procedure (including a water testing regime) will be prepared as part of the CMP. Visual monitoring of local water quality (I.e. turbidity, sheen, oil and grease) will be undertaken regularly to identify any potential water quality issues. A water monitoring program will be developed as part of the CMP to ensure that mitigation measures are operating effectively. The monitoring program will include surface water and groundwater Water to be discharged from sediment basins or similar must be tested and, if required, treated to ensure that it meets water quality criteria and that pollution of the receiving waters does not occur.	Establishment	MPX / Excavation Subcontractor

Parameter	Action	Timing	Responsibility
Dewatering for construction purposes cont'd	<p>Results of testing and details of any treatment undertaken must be documented i.e. MPX water Discharge Permit, photographic evidence (photograph of the PH strip and Turbidity tube)</p> <ul style="list-style-type: none"> <li>» Turbidity: &lt;50 NTU</li> <li>» Suspended solids: &lt;50 mg/L (Nata tested)</li> <li>» pH: 6.5-8.5</li> <li>» Oil and Grease (visual only)</li> </ul> <p>The discharge must be monitored throughout to ensure that the water being pumped:</p> <ul style="list-style-type: none"> <li>» Complies with the discharge criteria;</li> <li>» Does not come into contact with any soil or exposed surfaces before discharging and does not mix with any sediment laden/untested water at either the inlet or outlet; and</li> <li>» Water must never be discharged or reused onsite in a manner that exceeds the capacity of sediment controls and/or generates runoff with the potential to discharge from site.</li> </ul>	Establishment	MPX / Excavation Subcontractor
Acid Sulfate Soil	All excavation with potential to expose Acid Sulfate Soils (ASS) to be determined prior to commencement and an ASS Management Plan is to be prepared by an appropriately qualified external consultant and attached to this EMP.	Establishment / Construction	MPX / Excavation Subcontractor
Trade Waste	Installation of a 3 x 1m3 settlement system for wet-trade washout to be completed.	Establishment	Hydraulic Subcontractor
Tool box meeting	All construction personnel undertaking discharge of water to on-site or off-site areas to undergo a tool box meeting to ensure the correct controls are in place.	Establishment	MPX / Subcontractor
Static Concrete Pumping	A designated washout area and purpose built bunded structure to be provided for concrete pumps and their attachments.	Establishment	Concrete Subcontractor
Mobile Concrete Pumping	An impervious catch tray to be placed below the pump's hopper to contain any possible spillage or droppings. Concrete washout to be undertaken in designated concrete washout area.	Construction	Concrete Subcontractor
Concrete Truck Washout	Concrete trucks are not allowed to wash out on site.	Construction	Concrete Subcontractor
Spills	All spills on site of hazardous chemicals to be cleaned up immediately to minimise pollution of stormwater/groundwater. If water contaminated by hazardous chemicals requires discharge, it will need to be sampled and analysed before release to ensure it meets ANZECC water quality criteria for Aquatic Ecosystems. If contaminated, it will need to be removed and treated by an appropriately licence waste contractor.	Construction	MPX / Subcontractor
Chemical Storage	Paint, form oil, solvents and fuels to be stored correctly and bunded in accordance with Chemical Management Sub-plan.	Construction	All Subcontractors
Paint Washout	The painting subcontractor is required to wash out into purpose built tanks that are to be removed by the painting contractor, through a licensed liquid waste facility with an arrangement to attain verifiable proof of disposal.	Construction	Painting Subcontractor
Surface runoff control	Diversion drains, silt fences, sumps and pumping systems to prevent runoff entering or leaving excavation areas and runoff/suspended solids entering or leaving stockpile areas.	Construction	MPX / Civil Subcontractor

Parameter	Action	Timing	Responsibility
Stockpiles	Stockpiles to be placed away from footpaths/roads, drainage lines, gutters, stormwater pits or inlets. Stockpiles likely to generate dust/odours should be covered. Stockpiles of any contaminated soils should be stored in a secure area. Segregated contaminated material, particularly with foreign material/ACM are preferably to be stored in skip bins prior to disposal where feasible.	Construction	MPX
Vehicle access	Plant and truck movement will be restricted to operation hours and necessary controls should be placed to prevent material being raked off-site, onto roads including wheel washing, sediment barriers, sweeping and shovelling.	Construction	All Subcontractors
Sediment dams	Sediment dams may be constructed and/or existing voids and ponds on the site or adjoining areas of the overall development area may be utilised for detention of stormwater runoff.	Construction	MPX / Civil Subcontractor
Landscaping	Existing vegetation will be protected unless removal is required to undertake remedial works. Vegetation designated for protection may need to be fenced to prevent any disturbance during remedial activities.	Construction	MPX / Civil Subcontractor
Erosion and Sediment Control Plan	For sites with a soil disturbance less than 2,500m <sup>2</sup> and with slopes <10%, an Erosion and Sediment Control Plan is to be prepared in accordance with MPX minimum requirements. For sites with a soil disturbance greater than 2,500m <sup>2</sup> or on a site with a slope of >10%, an Erosion and Sediment Control Plan is to be prepared by a Certified Practitioner in erosion and sediment control. The plan is to be attached as an Appendix to the Construction Environmental Management Plan.	Establishment	Multiplex
Minimum Requirements for sites <2500m <sup>2</sup> and less <10% slopes	<ul style="list-style-type: none"> <li>» Evaluate site limitations: <ul style="list-style-type: none"> <li>- Isolate retained vegetation from clearing with tape;</li> <li>- Identify highly erodible soils with advice from geotech;</li> <li>- Identify up-slope drainage catchments to be diverted around works; and</li> <li>- Identify work areas to allow for erosion and sediment controls.</li> </ul> </li> <li>» Stabilise all site entry/exit points in accordance with MPX minimum requirements. Inspect all vehicles for residual mud and remove before leaving the site. Street sweeping (never hosing down) is to be carried out to reduce sediment on roads.</li> <li>» Install sediment fence(s) down-slope of the site. Treat sediment laden water with the use of sediment fencing installed in accordance with MPX minimum requirements to allow ponding.</li> <li>» The runoff from any slope catchment area exceeding 1,500m<sup>2</sup> is to be diverted around works. The diversion drain is to be appropriately lined to prevent erosion and discharged to lawful stormwater connection outlet.</li> </ul>	Establishment / Construction / Completion	Multiplex

Parameter	Action	Timing	Responsibility
Minimum Requirements for sites <2500m2 and less <10% slopes cont'd	<ul style="list-style-type: none"> <li>» Clear only those areas necessary for building works to occur.</li> <li>» Strip and stockpile any weed-free topsoil to be reused in re-vegetation works. Ensure the top soil stockpile is long and low to maintain aeration and microbiological properties and ensure it is stabilised to prevent erosion.</li> <li>» All stockpiles are to be located away from drainage areas and surrounded with sediment fence or covered with a product that will prevent erosion if in an area where it has the potential to enter the stormwater system. All stockpiles stored for longer than 2 weeks are to be covered to prevent erosion.</li> <li>» Prevent erosion by mulching areas that have achieved final levels but are not ready for landscape works immediately. For completed areas ensure appropriate top soil is available and establish grass cover within 10 days.</li> <li>» Commence building activities.</li> <li>» Ensure all runoff from concreted and roof areas is immediately connected to the stormwater.</li> <li>» Regularly inspect all drainage, erosion and sediment controls and maintain.</li> <li>» Progressively re-vegetate/stabilise the site.</li> <li>» Remove any remaining temporary drainage, erosion and sediment control measures upon complete stabilisation of the site.</li> </ul>	Establishment / Construction / Completion	Multiplex

### 14.3.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Dewatering process and water quality results	Daily (while dewatering) or as specified in the management plan	Supervisor / Onsite WHS&E Coordinator	Water Discharge permit
Trade waste and washouts	Weekly	Supervisor / Onsite WHS&E Coordinator	Environmental site inspection
Inspect erosion and sediment controls are effective and maintained	Fortnightly or after a shower / rain event.	Multiplex/Subcontractor	» Environmental Site Inspection



## 14.4 Chemicals Management Sub-Plan

### 14.4.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Avoid contamination of soil and water from chemicals.	No release of chemicals/pollutants as listed under the Environmental Protection (Unauthorised Discharges) Regulations 2004, into the environment during construction.	No instances of uncontrolled spills.

### 14.4.2 Management Strategies

Parameter	Action	Timing	Responsibility
Hazardous Chemicals	Safety data sheets which outline the procedures for handling, storage and emergency response for all hazardous chemicals stored or used on the Project, to be available in the first aid facility.	Establishment	MPX
Spill Kits	Spill kits are to be established at locations adjacent to where chemical spills have the potential to occur. The spill kits are to be maintained and readily available in the event of a spill.	Establishment	MPX / All Subcontractors
Toolbox Talks	Toolbox talks will be undertaken in the use of spill kits and the steps taken in the event a spill.	Construction	MPX / All subcontractors
Tank and Mobile Tankers	Tank and mobile tankers to be fitted with a screw fitting or overflow protection connected to prevent leaks.	Construction	All subcontractors
Bunds	Bunds capable of storing 110% of the largest container volume to be installed around areas where chemicals are stored. The bund is to be impervious, chemically resistant and fire resistant. Further, the bund is to be protected from weather to avoid the potential of rain reducing the bund capacity. Must be compliant with AS 1940 -2017- The Storage and handling of flammable and combustible liquid	Construction	All subcontractors
Labelling of Chemicals	All chemicals and dangerous goods used on site to be appropriately labelled.	Construction	All subcontractors
Fuel Tankers	Fuel tankers to be equipped with an appropriate device to prevent overfilling. An emergency shut off valve is also to be installed.	Construction	All subcontractors
Handling of Chemicals	Handling of chemicals is to take place in a designated area where there is no potential for spills or contaminated run-off that could reach stormwater. Fuel stored on vehicles is to be stored in a spill tray or other approved container capable of handling a spill.	Construction	All subcontractors
Fuelling of Vehicles or Construction Plant	Refuelling is to take place in designated areas or where contaminated run-off could reach the stormwater. Fuel tankers will use a spill tray beneath the refuelling connection to prevent spills on ground.	Construction	All subcontractors
Fluid Leaks	Trucks that leak any sort of mechanical fluid will not be permitted on or adjacent to the site.	Construction	All subcontractors
Oil Contaminated Stormwater	Oil contaminated water is to be disposed of through a licensed waste facility by a licensed subcontractor.	Construction	All subcontractors
Minor Spills (<100L)	In the event of a spill, the spill kit is to be utilised and the cleaned up material taken to a licensed facility as trackable waste and reported.	Construction	All subcontractors

Parameter	Action	Timing	Responsibility
Major Spills (>100L)	In the event of a major spill, the procedures contained in the Emergency Management Plan are to be implemented and reported.	Construction	All subcontractors
Volume of Fuel and Chemicals	Volumes of fuels and chemicals kept on site are to include only those volumes necessary to complete the works within a reasonable delivery schedule.	Construction	All subcontractors
Solvent Based Paints	Containers of solvent based paints are to be disposed of at an appropriate recycling depot by the subcontractor and a verifiable receipt or docket retained on file by the subcontractor and produced upon request to Site Management.	Construction	All subcontractors

#### 14.4.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Check all bunds are the appropriate size and they are functioning.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check all chemicals are labelled, stored in a container in good condition and in a bunded area.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check equipment is free from leaks.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check the spill kit is available and adequately stocked.	Fortnightly	Subcontractors / MPX	Environmental site inspection

## 14.5 Land Contamination Management Sub-Plan

### 14.5.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To manage contamination in accordance with regulatory requirements.	No spread of contaminants onsite	No Environmental Notices issued to MPX. Waste disposal receipts (where applicable)

### 14.5.2 Management Strategies

Parameter	Action	Timing	Responsibility
Qualified consultancy	Prepare a management sub-plan by a suitably qualified and experienced environmental consultant. The purpose of this Plan is to describe how uncovered previously undetected contaminated materials will be managed during construction of the Project. Refer to <b>Appendix 10</b> for the original report. This report is in line with GHD's Remedial Action Plan/ Contamination Management Plan (2016) for Lot 7314 and Remedial Action Plan/ Contamination Management Plan (2019) for Part Lot 401.	Prior to construction	MPX/ Environmental Consultant
Induction	During inductions all personnel are to be made aware of individual responsibilities in regards to contamination management.	Establishment	All subcontractors
Contaminated Water	Where contaminated water is proposed to be discharged, a full site contamination analysis is to be undertaken on the water prior to works commencing and prior to discharge. Where water is found to be contaminant free in accordance with the ANZECC Water Quality Guidelines, water is to be discharged in accordance with the Water Quality Management Sub Plan. Where water is found to contain contaminants above the criteria in the ANZECC Water Quality Guidelines, water management is to be undertaken with advice from a qualified environmental consultant/professional.	Establishment	MPX / Excavation Subcontractor
Acid Sulfate Soils (ASS)	Where a project is in a known ASS risk area and involves excavation, dewatering, or compacting saturated soils or sediments then an ASS Investigation is required. The ASS Investigation and further management are to be undertaken with State and Local Government requirements. Any ASS Management Plan to be prepared by a qualified environmental consultant/professional and is required to be attached to this EMP as an Appendix. Geotechnical report' indicates that 'the site is outside the mapped areas of potential acid sulphate soils with the following clarifications: <ul style="list-style-type: none"> <li>Coal and other materials with high carbon content can also contain sulphide ores which may lead to acid generation upon oxidation; and</li> <li>Generally, this is not an issue when the carbonaceous materials are thoroughly blended with other soils.</li> </ul> Geotechnical Engineer to comment on this risk and complete an 'Acid Sulphate Soil Report'.	Establishment	MPX / Excavation Subcontractor

Parameter	Action	Timing	Responsibility
Excavated Materials	All excavated materials removed from the site is to be removed in accordance with the approved plan for the management of contamination and disposed of at a facility licensed to take that level of contamination. A register of material movements will be kept in accordance with the Site Audit Report 0503-1612-1 29/01/18.	Excavation	Excavation Subcontractor
Waste Transport Certificate	A Waste Transport Certificate for all contaminated material is required from the responsible contractor.	Excavation	Excavation Subcontractor

#### 14.5.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Contamination Assessment	Commencement	MPX	Site contamination report / Acid Sulfate Soil Report
Management of Contaminated Material	Construction	MPX	Environmental site inspection Water quality records Remediation Report
Contaminated Material Notice	As required	MPX Project Manager/Site Manager or others nominated by Project Manager /Site Manager	Contaminated Material Notice

## 14.6 Waste Minimisation and Management Sub Plan

### 14.6.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Solid and liquid waste to be disposed of as per Regulatory requirements.	All waste to be disposed of by a licensed waste contractor at licensed waste facilities only.	Onsite waste disposal facilities confirmed and documented.
MPX aim to maximise landfill diversion.	Recycle 80% of demolition and construction waste.	Waste reporting by waste contractors.
No waste to affect nearby premises.	No complaints related to construction waste affecting nearby premises during construction.	No. of complaints relating to waste.

### 14.6.2 Management Strategies

Parameter	Action	Timing	Responsibility
Induction	During inductions all personnel are to be made aware of individual responsibilities in regards to waste management, including the understanding that all personal rubbish and construction rubbish generated is to be properly disposed of in designated disposal facilities.	Establishment	All subcontractors
Waste Reduction	Design in waste minimisation during the design phases by standard sizing of materials, the use of modular and prefabricated construction techniques. Stockpile clean fill during the excavation phase for use as backfill on-site. Provide sub-contractors during the construction phase with clear guidance for reducing packaging on their own materials by both their suppliers and subcontractors, by accurate ordering and handling of materials. Specify reusable, stackable and returnable packaging.	Establishment / Construction	MPX, Consultants and Subcontractors
Waste disposal Storage area	Appropriate waste disposal facilities (e.g. bins) shall be provided in strategic locations onsite. Waste bins shall be located such that they do not affect the community and not close to surrounding premises. Separation of waste for recycling may be enforced on the Project and monitored, depending on whether waste is sorted on-site or off-site.	Establishment / Construction	MPX
	Waste disposal facilities shall be regularly collected or emptied by a licensed waste collector in accordance with Local Council Health Laws.	Construction	MPX
	Where possible a storage area allocated for the separation, collection and recycling of wastes will be established.	Establishment	MPX
Waste contractors	Licensed contractors shall be engaged to remove construction waste. A minimum target of 80% landfill waste diversion will be achieved.	Establishment	MPX
Putrescibles waste (Organic waste)	All putrescibles waste to be placed in a lidded bin and removed separately.	Establishment	MPX

Parameter	Action	Timing	Responsibility
Recycling / waste reduction	<p>Waste contractors will collect the waste in a single stream (or two or three if we separate steel, general rubbish, etc. on-site) from site and sort the waste back at their processing yard.</p> <p>All waste stream quantities removed from the site will be tracked, including the collection of disposal dockets from licensed waste management facilities, and reported on a monthly-basis. Reporting will detail the quantities of each waste type generated during construction. Refer to 'Waste Streaming' section below for proposed reuse, recycling and disposal locations.</p>	Establishment / Construction	MPX / All subcontractors
Site office	<p>The site office shall implement the following office waste minimisation techniques:</p> <ul style="list-style-type: none"> <li>» Organising recycling paper bins in the office for waste paper;</li> <li>» Recycle toner cartridges pick-ups;</li> <li>» Using electronic storage to reduce use of paper; and</li> <li>» Purchasing products in bulk to reduce packaging.</li> </ul>	Establishment	MPX
Cleared vegetation	<p>Cleared vegetation needs to be chipped for re-use on-site for ground stabilisation and erosion control.</p>	Establishment / Construction	MPX / All subcontractors
Hazardous waste	<p>Hazardous waste will be managed and disposed of as per the Safety Data Sheet requirements and Environmental Protection (Controlled Waste) Regulations 2004.</p> <p>A site-specific Contamination Management Plan will be developed and methods for the containment of air-borne fibre emissions will be included in the Plan. Likely controls include the following:</p> <ul style="list-style-type: none"> <li>» Dust suppression of asbestos-contaminated soils using on-site stationary sprinklers; and</li> <li>» Dust suppression of asbestos-contaminated soils using hand-held gurneys.</li> </ul> <p>All hazardous waste will be disposed of at approved waste facilities only in accordance with the requirements of the relevant legislation.</p>	Construction	MPX / All subcontractors
Material Tracking Plan	<p>A site-specific Material Tracking Plan will be developed to track:</p> <ul style="list-style-type: none"> <li>» All material from source to final placement (including interim movements);</li> <li>» As well as material descriptions, volumes, dates and locations/movements (from/to); and</li> <li>» Material verified as uncontaminated.</li> </ul>	Construction	MPX / Civil subcontractor
Servicing	<p>Where practicable, plant will be serviced offsite to reduce the generation of hydrocarbon waste onsite and potential for spills.</p>	Construction	All Subcontractors

### 14.6.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Contaminated Material Notice	As required	MPX	Incident notification form
Percentage of diversion from landfill	Monthly	MPX	Monthly Waste Report
Progress Waste Recycling and Purchasing Report	Every 2-months	MPX	Progress Waste Recycling and Purchasing Report
Summary Waste Recycling and Purchasing Report	Before Completion	MPX	Summary Waste Recycling and Purchasing Report
Segregated waste and appropriate waste placement	Weekly	MPX	Environmental Site Inspection

### 14.6.4 Main Works Phase waste streaming

MATERIALS ONSITE	REUSE AND RECYCLING		DISPOSAL
ONSITE		OFF-SITE	
Type of Materials	Specify methods	Specify contractor and recycling outlet	Disposal
EXCAVATION			
Clean Fill	Assess, excavate & stockpile	Transport & fill	No excavated material to be removed from site unless approved by the Principal/ Principal's Representative.
GENERAL WASTE			
General waste	On-site skip bins/ front lift bins and sort waste streams at off-site facility	Dial-A-Dump Bingo Recycling Centre, Tomago	Local licensed waste facility
Concrete	Skip bin and sort waste streams at off-site facility	Dial-A-Dump	Local licensed waste facility
Cardboard	Skip bin and sort waste streams at off-site facility	Bingo Recycling Centre, Tomago	Local licensed waste facility
Metal	Skip bin and sort waste streams at off-site facility	Dial-A-Dump	Local licensed waste facility
Paper	Skip bin and sort waste streams at off-site facility	Bingo Recycling Centre, Tomago	Local licensed waste facility
Packaging	Skip bin and sort waste streams at off-site facility	Dial-A-Dump	Local licensed waste facility
Timber	Skip bin and sort waste streams at off-site facility	Bingo Recycling Centre, Tomago	Local licensed waste facility
Any hazardous waste will be isolated and managed as per the legislation for hazardous waste. 100% of the clean excavation material will be retained on-site (unless otherwise approved by the Principal/ Principal's Rep.) and documented in the Project's 'Material Tracking Plan' in preparation for the creation of the Long Term Environmental Management Plan (LTEMP) for the NMH site.			

#### 14.6.5 Construction Phase Waste Management Plan

MATERIALS ONSITE	REUSE AND RECYCLING		DISPOSAL
ONSITE		OFF-SITE	
Type of Materials	Specify methods	Specify contractor and recycling outlet	Disposal
Concrete	General waste bin.	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Masonry, Brick& Tile	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Timber	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Metal	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Plasterboard	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor & plasterboard recycler	Divert from Landfill
Cardboard	Separate in designated bin	Transfer for reprocess or recycle - Contractor to be confirmed	Divert from Landfill
Mixed waste	General waste bin	Transfer for reprocess or recycle - Waste contractor	80% Recycling
Paper	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Packaging	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Waste will be minimised through reduction of waste generated, reuse of products and recycling. The waste stream will be separated where possible to maximise landfill diversion. Subcontractors will be responsible for recycling and reuse of their waste material.			



## 14.7 Aboriginal Cultural Heritage Management Sub-Plan

### 14.7.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Comply with the requirements of the Heritage Act 1977, Environmental Planning and Assessment Act 1979, and the National Parks and Wildlife Act 1974	Protection of all sites of Aboriginal Heritage significance, both known and as yet unknown.	Immediate reporting of archaeological remains if discovered. Level of disturbance to significance sites recorded.
Minimise impacts on unknown Cultural and Aboriginal Heritage sites.	As above.	As above.

### 14.7.2 Management Strategies

Parameter	Action	Timing	Responsibility
Management Plan	<p>» Develop an Aboriginal Cultural Heritage Management Sub-Plan (<b>this Sub-Plan</b>) for the Project which is based on <b>Appendix 11-A – Aboriginal Cultural Heritage Management Sub-Plan</b> and <b>Appendix 11-B – Heritage Impact Statement</b> which provided within this CEMP.</p> <p>» includes provision for:</p> <ul style="list-style-type: none"> <li>- Procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works</li> <li>- <b>Note:</b> The above has been completed and is included in <b>Appendix 7 – Unexpected Finds Protocol (Aboriginal Heritage)</b>.</li> <li>- Protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations</li> <li>- <b>Note:</b> See <b>Long Term Management Protocols</b> included in the section below.</li> <li>- A requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project.</li> <li>- <b>Note:</b> The surface collection works were completed under the supervision of qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) in Stage 1 of the NMH Project and a detailed summary is included in <b>Appendix 11-C – Surface Collection Report</b>.</li> <li>- A requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long term management of Aboriginal objects.</li> <li>- <b>Note:</b> The Final Report was completed in Stage 1 of the NMH Project and is included in <b>Appendix 11-C – Surface Collection Report</b>.</li> <li>- <b>Note:</b> The Surface Collection Report concluded that “No archaeological/cultural material that was, in the opinion of the archaeologist and the stakeholders, to not be of similar educational, scientific, representative, and cultural significance was located as such will not be subject to any further assessment” (AMAC, pg.42).</li> </ul>	Establishment	Multiplex

Parameter	Action	Timing	Responsibility
Exclusion zone	A 10-metre radius buffer zone be in place and adequately demarcated to ensure that the area is not inadvertently impacted by development activities.	Establishment	MPX / All subcontractors
Induction	Aboriginal Heritage protection related material will be included in workforce inductions including a list of offences associated with the hard or desecration of Aboriginal objects or places.	Establishment	MPX / All subcontractors
Object discovery during works	<ul style="list-style-type: none"> <li>» An Unexpected Finds Protocol (Heritage) which addresses unexpected aboriginal heritage finds will be included in the Construction Environmental Management Plan and shall be included as part of the site induction.</li> <li>» <b>Note:</b> The above has been completed and is included in <b>Appendix 7 – Unexpected Finds Protocol (Aboriginal Heritage)</b>.</li> <li>» If any archaeological relics are uncovered during the course of the work, then all works shall cease immediately in that area and the OEH Heritage Branch contacted. Depending on the possible significance of the relics, an archaeological assessment and an excavation permit under the NSW Heritage Act 1977 may be required before further works can continue in that area.</li> <li>» In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by OEH and the management outcome for the site included in the information provided to AHIMS. The proponent must consult with the Aboriginal community representatives, the archaeologist and OEH to develop and implement management strategies for all objects/sites.</li> <li>» If suspected Aboriginal objects, such as stone artefacts are identified during works, works must cease within 10m of the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, the OEH must be notified under section 89A of the NPW Act. Appropriate management or avoidance should be sought if Aboriginal objects are to be moved or harmed.</li> </ul>	Main Works	MPX/ Archaeological consultant
Skeletal remains discovery during works	In the extremely unlikely event that human remains are found, works should immediately cease and the NSW Police are to be contacted. If the remains are suspected to be Aboriginal, the OEH may also be contacted at this time to assist in determining appropriate management.	Construction	MPX

Parameter	Action	Timing	Responsibility
Long Term Management Protocols	<p>For Aboriginal objects kept or returned to the location they originated from (if uncovered during construction):</p> <ul style="list-style-type: none"> <li>» A full catalogue, including photographic and drawn records for diagnostic stone artefacts, must be made.</li> <li>» The catalogue must be in printed form but may also include an electronic database in the form of a table containing all records.</li> <li>» All stone artefacts must be either individually bagged or bagged in appropriate and identifiable units (e.g. excavation or collection units) that can be referenced back to the catalogue.</li> <li>» The stone artefacts must be stored in good quality, double-bagged plastic zip-lock bags.</li> <li>» The bags must be externally labelled using permanent marker, and an</li> <li>» 'independent' label on robust material (e.g. Tyvek) written with permanent marker must be placed inside each bag.</li> <li>» The collection must be placed in a suitable impervious and permanent container, which must be labelled as above, or engraved.</li> <li>» A full record of the final location of the collection must be made, including grid coordinates, a site plan or mud map referring to permanent features, depth of burial (if buried), full photographic record of the disposition.</li> <li>» The record must be submitted to AHIMS with a site update record card for the site(s) in question.</li> </ul>	Construction	MPX

### 14.7.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Presence of official monitors during earth works (as required)	As required	MPX	Environmental Incident Report Attendance Records
Aboriginal artefact located	As required	MPX Project Manager/Site Manager or others nominated by Project Manager /Site Manager	Incident notification form
Human remains located	As required	MPX Project Manager/Site Manager or others nominated by Project Manager /Site Manager	Incident notification form

## 14.8 Biodiversity Management Sub-Plan

### 14.8.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To reduce the impact of construction on native flora and fauna.	No damage/injury to preserved flora and fauna.	Weekly Environmental Inspection

### 14.8.2 Management Strategies

Parameter	Action	Timing	Responsibility
Qualified consultancy	Prepare a management sub-plan by a suitably qualified and experienced ecologist. This Biodiversity Management Sub-Plan has been developed to reduce any potential impacts of the Project on the site's existing ecological features by minimising the extent of clearing, maintaining and protecting retained habitat and reducing the potential injury to fauna during and after the clearing works. Refer to <b>Appendix 12</b> for the original report.	Prior to construction	MPX/ Ecologist
Induction	Undertake a site induction addressing the management of flora and fauna including: » No employee on the Project will intentionally injure native fauna including reptiles; » Construction personnel are not to handle fauna; » All rubbish and food scraps must be placed in lidded bins that will be serviced regularly; » Native fauna are not to be fed by project employees; and » Vegetation clearing operations and controls to prevent unauthorised clearing.	Establishment	MPX/ All subcontractors
Tree removal plan	Prior to commencement, a Tree Removal Plan will be prepared for Stage 1 works that outlines essential clearing areas required for Stage 1 activities (new sewer main, entry roads, building pads, etc.).	Establishment	MPX/ Ecologist consultant
Pre-clearing survey (by a licensed surveyor)	Clearing limits are to be clearly identified by a registered surveyor and suitably demarcated (e.g. metal stake and high vis plastic flagging/ fencing) prior to any vegetation clearing activities.	Establishment	Multiplex/ Surveying sub-contractor
Pre-clearing survey (by an accredited ecologist)	Ecological pre-clearing surveys where required shall be undertaken by a qualified Ecologist prior to the commencement of clearing. These pre-clearing surveys will include: » An inspection of all trees to be removed for hollows, bird nests, dreys and arboreal termite nests; and » Mark all hollow-bearing trees with a large yellow "H"; If any hollow-bearing trees are present, a stag-watching/bat call survey will be undertaken for each subject tree.	Establishment	MPX/ Ecologist consultant
Nest box program	Should pre-clearing surveys identify any hollow bearing trees targeted for removal, they shall be replaced through a compensatory nest box program in retained bushland habitats located on Lot 7314.	Establishment	MPX/ Ecologist consultant
Pre-clearing inductions/ toolbox meetings	A site induction must be undertaken by all personnel undertaking clearing operations to explain the relevance of any marked items (e.g. hollow bearing trees requiring ecological supervision, clearing boundaries) and identify their responsibilities. An ecological site induction notice will need to be prepared and signed by all relevant personnel involved with the clearing operations.	Establishment	Multiplex/ Civil subcontractors/ Arborists

Parameter	Action	Timing	Responsibility
Arborist	All works carried out on either foliage or root systems will be carried out as per the Australian Standard 4970-2009 Protection of Trees on Development Sites and will be undertaken in consultation with a qualified Arborist.	During construction	Multiplex/ Arborists
Tree clearing protocol	<p>The following tree clearing protocol has been developed for the Project:</p> <ul style="list-style-type: none"> <li>» Where practicable restrict vegetation clearing activity to within the period late February to end of May, this being outside the main breeding periods for threatened hollow dependant fauna known to utilise the site.</li> <li>» Trees should be felled away from the retained forested remnants back into the proposed development footprint to minimise impacts within protected areas.</li> <li>» Where clearing is to be conducted in an area containing potential fauna habitat (e.g. nests, hollow-bearing trees and large woody debris), a two-stage clearing process must be implemented as specified below: <ul style="list-style-type: none"> <li>-Habitat trees shall be carefully felled under the supervision of the Project Ecologist or Fauna Spotter/Catcher;</li> <li>-Hollow-bearing trees and trees with nests will be mechanically shaken or agitated prior to felling to encourage any remaining animals to either leave the tree or show themselves and</li> <li>-subsequently be removed prior to felling; and</li> <li>-Felling will involve gently pushing the tree and lowering or felling using a forestry harvester or an arborist (and not with the use of an excavator mounted closed chipper) to avoid sudden falling as this is likely to injure wildlife;</li> <li>-Immediately after felling, habitat trees will be systematically checked from the ground for any remaining fauna;</li> <li>-Cavities to be checked for inhabiting fauna upon felling. Any injured fauna should be captured where possible and taken to the local wildlife carer. Once rehabilitation has been achieved (if possible), the individual will be released into retained habitats adjoining the capture site, and if required, into shelter sites appropriate for that species (i.e. nest boxes);</li> <li>-In the event that arboreal animals do not move or they cannot be captured because the tree hollow is too large, high or its recovery would breach OH&amp;S requirements then the tree will be felled (in the direction of other tree debris if possible) and animals recovered postfelling under the direction of the Ecologist.</li> </ul> </li> <li>» Hollow bearing limbs, woody debris and bush rocks marked for relocation should be moved to isolated locations on the site.</li> </ul> <p>Remove all remaining materials cleared, primed and grubbed for recycling or recycling or disposal.</p>	During construction	Multiplex/ Civil subcontractors/ Arborists
Establishment of no-go areas (post-clearing)	<p>The following controls will be implemented to restrict access to protected 'no-go' areas on the site including:</p> <ol style="list-style-type: none"> <li>1. Install flagging at the boundaries to all 'no-go' areas;</li> <li>2. Create a mark-up/map of all 'no-go' areas on-site;</li> <li>3. Post a copy of the 'no-go' maps on the Site Notice Board and Induction Room Notice Board; and</li> <li>4. Include details of the 'no-go' areas within the site-specific details of the onsite induction presentation.</li> </ol>	During construction	Multiplex/ All subcontractors
Unidentified Flora or Fauna discoveries	If any previously unidentified flora or fauna is discovered on-site, personnel are required to notify the Site Manager. Relocation or treatment of any unidentified flora and fauna will then be discussed with the Ecologist.	During construction	Multiplex/ All subcontractors/ Ecologist

Parameter	Action	Timing	Responsibility
Trenches/ excavations	All trenches/excavations are to be inspected each morning by the excavation subcontractor. Where flora and fauna are discovered, personnel are to notify the Site Manager. Relocation or treatment of any unidentified flora and fauna will then be discussed with the Ecologist.	During construction	Multiplex/ All subcontractors/ Ecologist
Weed Management	<p>All declared weeds within the site works areas are should be removed in accordance with the below procedures:</p> <ul style="list-style-type: none"> <li>» The use of pesticides and herbicides is to be restricted, have specific application, storage and clean up procedures, and meet requirements of relevant agencies;</li> <li>» Herbicides are to be administered by contractors licensed in accordance with the provisions of State Legislation;</li> <li>» Chemical products must always be used as per Safety Data Sheets; and</li> <li>» Only qualified personnel should undertake chemical control of weeds.</li> </ul> <p>Correct disposal of weeds is to be undertaken ensuring accidental spread of weeds does not occur. Weeds or material containing weed matter must be transported to a landfill under covered load. The cover must seal the top and sides of the load to prevent any weed material being transported by wind.</p>	During construction	Multiplex/ All subcontractors
Feral animals/ pests	<p>The following controls will be implemented to control the impact of any feral animals or pests on the Project:</p> <ol style="list-style-type: none"> <li>1. Work areas will be cleaned regularly to reduce build-up of on-site waste/rubbish;</li> <li>2. Rubbish bins will be covered at the end of each shift;</li> <li>3. Where required, feral pests (e.g. cats, rats, mice, birds) will be trapped on-site and relocated to an approved off-site facility/shelter; and</li> <li>4. All pest controls to be monitored for effectiveness over the course of the Project.</li> </ol>	During construction	Multiplex/ All subcontractors
Rehabilitation	Monitor disturbed areas for weed invasion, and undertake control measures as necessary. Regularly water, weed and fertilise rehabilitated areas to ensure their success.	During construction	Multiplex/ All subcontractors
Fencing	All new fencing, including security fencing associated with the New Maitland Hospital, will avoid the use of barbed wire to avoid injury/ mortality to all flying / gliding fauna.	During construction	Multiplex/ All subcontractors

### 14.8.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Protected trees	Fortnightly	MPX	Environmental site inspection
Clearing Monitoring	Daily during clearing works	MPX/clearing subcontractor	Clearing permit
Rehabilitation Areas	Fortnightly	MPX	Environmental site inspection

## 14.9 Construction Traffic and Pedestrian Management Sub-Plan

### 14.9.1 Objectives and Targets

Objective	Target	Key Performance Indicator
The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips, or the like, under any circumstances.	No complaints or incidents from/ with the public or Local Council.	No. of complaints from residents/ businesses related to traffic control.
Ensure that works do not impact negatively on the local road network and surrounding businesses and residences, including pedestrians and cyclists.	No complaints from the public or Local Council.	No. of complaints from residents/ businesses related to traffic control.
Compliance with State and Local regulatory requirements in relation to traffic management.	No injuries or accidents relating to the traffic management of the construction site.	No. of injuries/ incidents associated with the traffic management of the construction site.

### 14.9.2 Management Strategies

Parameter	Action	Timing	Responsibility
Qualified consultancy	Prepare a management sub-plan by a suitably qualified and experienced person(s). The purpose of the Construction Traffic and Pedestrian Management Plan is to document the impact of the Project on the local road network and to be able to communicate this with the various stakeholders involved with the project. Refer to <b>Appendix 13</b> for original management plan.	Prior to construction	MPX/ Traffic Plan Designer
Consultation	The works associated with the NMH MW Project do not directly impact on the local road network. As such, the Council and the RMS will be consulted for all traffic related matters, however, formal approval is not required. This will be monitored on an ongoing basis.	Establishment	MPX/ Traffic subcontractor
Planning	Within workplace risk assessments and SWMSs the hierarchy of risk control must be applied when planning work that is on or adjacent to a road that is in use by traffic.	Establishment	MPX/ Traffic subcontractor
Emergency Management	Site-specific emergency procedures must be established to manage potential emergencies associated with traffic management.	Establishment	MPX
Traffic Management Plan	A Traffic Management Plan (TMP) for works conducted on, or adjacent to public roadways must: <ul style="list-style-type: none"> <li>» Be developed by an accredited person who is suitably experienced and competent in traffic management;</li> <li>» Is in accordance with the relevant legislation, codes of practice, Australian standards and road/local authority requirements;</li> <li>» Includes location specific traffic control plans;</li> <li>» Details the methodology for implementing and dismantling traffic control devices;</li> <li>» Be approved as required by the relevant authority prior to implementation; and</li> <li>» Be reviewed for adequacy as the project develops.</li> </ul> The Traffic Management provider must consider methodology of how the approved traffic control devices will be safely installed/ removed.	Prior to commencement	MPX/ Traffic subcontractor



Parameter	Action	Timing	Responsibility
Traffic control plans (only if required)	<p>Traffic Control Plans (TCPs) must be developed for each stage of the works by a competent person for works within the workplace and include where relevant:</p> <ul style="list-style-type: none"> <li>» Site layout;</li> <li>» Separate entrance and exit points for pedestrians and vehicles;</li> <li>» Designated travel paths for vehicles and pedestrians;</li> <li>» Consideration of one-way systems or turning circles so that vehicles can turn without reversing;</li> <li>» Traffic control devices and speed limits;</li> <li>» Delivery, loading/unloading areas and work zones;</li> <li>» Emergency access; and</li> <li>» Signage including warning and directional.</li> </ul> <p>All appropriate written authorisations/permits/licences must be considered whilst developing the TCP and must be obtained from the relevant road authority or local authority in accordance with regulations prior to implementing the Traffic Management.</p> <p>TCPs must be regularly monitored and reviewed to ensure they are effective and take into account any changes at the workplace.</p> <p>Prestart meetings or other forms of communication must consider and communicate any major changes to TCPs.</p>	Construction	Traffic subcontractor
Inspection	<p>Traffic management including traffic control devices (barriers) must be installed, verified and maintained in accordance with the TMP or TCP and manufacturer's specifications.</p> <p>All Traffic Control set up must be as a minimum inspected by the work supervisor at the beginning of the shift and at the end of the shift (if set up more than one shift), to ensure compliance with the TCP and effectiveness of control measures.</p> <p>Periodic inspection and maintenance schedule shall be developed for long-term Traffic Control at work sites to ensure:</p> <ul style="list-style-type: none"> <li>» Traffic management is implemented in accordance with the TMP/TCP and reviewed for adequacy as the project develops; and</li> <li>» Traffic control devices are installed as per the manufacturer's instructions, implemented in accordance with the TMP/TCP and monitored for tampering/vandalism.</li> </ul>	Construction	MPX/ Traffic subcontractor
Traffic Controllers (only if required)	<p>Traffic Controllers must:</p> <ul style="list-style-type: none"> <li>» Wear approved hi-visibility clothing and control traffic using a Stop/Slow batten; and</li> <li>» Maintain communication through proper line of sight and portable two way radios.</li> </ul> <p>Where night works are required, traffic controllers must:</p> <ul style="list-style-type: none"> <li>» Have night work clothing which consists of a 'Class N' outer garment made from retro reflective material, including retro reflective hoops on the body, arms and legs, (i.e. white 'night overalls'); and</li> <li>» Be equipped with illuminated wands.</li> </ul>	Construction	Traffic subcontractor
Workers (only if required)	<p>Workers working adjacent to traffic under Traffic Control set up, must wear approved hi-visibility clothing.</p> <ul style="list-style-type: none"> <li>» Where night works are required, night work clothing is to consist of a 'Class N' outer garment made from retro reflective material, including retro reflective hoops on body, arms and legs, (i.e. white 'night overalls').</li> </ul>	Construction	All subcontractors



Parameter	Action	Timing	Responsibility
Training and Competency	<p>Workers responsible for implementing traffic management must hold the appropriate competency.</p> <ul style="list-style-type: none"> <li>» Traffic Controller - required to control traffic with a Stop/Slow bat. This does not qualify a participant to set up or work with traffic control plans.</li> <li>» Implement Traffic Control Plans - required to set up and work with Traffic Control Guidance Schemes/Traffic Control Plans at a work site. This does not qualify a participant to control traffic with a Stop/Slow bat, or modify existing traffic control plans.</li> <li>» Prepare a Work Zone Traffic Management Plan - required to design new traffic management plans and TCGS/TCP's for road works, produce major upgrades of standard plans and/or inspect traffic control plans on any road construction site. This does not qualify a participant to control traffic with a Stop/Slow bat or set up work with traffic control plans.</li> </ul> <p>Relevant personnel including Multiplex supervisors, crane crew, traffic controllers and security guards must be inducted into the TMP and TCPs.</p>	Construction	Traffic subcontractor

### 14.9.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Check that traffic control devices (incl. signs, barricades, pedestrian ramps, etc.) are properly installed.	Daily	Traffic subcontractor	Daily inspection record (only if required)
Check that traffic control devices (incl. signs, barricades, pedestrian ramps, etc.) are properly installed.	Weekly	Traffic subcontractor	Weekly inspection record (only if required)
Check that traffic control devices (incl. signs, barricades, pedestrian ramps, etc.) are properly installed.	Fortnightly	Subcontractors / MPX	WHS site inspection (only if required)

## 14.10 Site Office Environmental Management Sub-Plan

### 14.10.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Maximise the efficient use of resources within the office environment.	Recycle 100% office paper	Monthly Recycling Reports
	Recycle 100% of materials where available	Monthly Recycling Reports

### 14.10.2 Management Strategies

Parameter	Action	Timing	Responsibility
Use of Resources	Recycle office paper and cardboard cans, bottles and printer cartridges.	Commencement to completion	MPX
Use of Energy	Turn off electrical equipment where practicable and use energy efficient products.	Establishment to completion	MPX
Use of Lighting	Use of external lighting in compliance with AS 4282-1997. Control and minimise the obtrusive effects of outdoor lighting;	Commencement to completion	MPX
Use of Resources	Use office paper with recycled content.	Commencement to completion	MPX
Double Sided Printing	Use double sided printing on photocopiers where possible.	Commencement to completion	MPX

### 14.10.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Percentage of diversion from landfill	Monthly	Waste Contractor	Monthly recycling report.

## 14.11 Pollution Incident Response Management Sub Plan

Parameter	Action	Timing	Responsibility
Management Plan	Refer to <b>Appendix 14</b> for Pollution Incident Response Management Sub Plan.	During construction	MPX

## 15. Appendices

### 15.1 Appendix 1: Environmental Policy



#### OUR COMMITMENT

Multiplex and its senior management is committed to:

- Protecting the health and safety of everyone within our workplaces including employees, contractors, visitors, public, neighbours and the community.
- Ensuring that our activities place minimal impact on the environment including pollution.
- Delivering projects that add economic, social and environmental value to our clients, our community and those who invest in us.

#### OUR STRATEGIES

Multiplex works collaboratively with key stakeholders, including our clients, regulators, industry peers, suppliers and contractors, to exceed our legal, contractual and other compliance obligations through the following key strategies:



- Managing risks and opportunities through early intervention in planning and design.
- Monitoring constantly the changing landscape over the project lifecycle and develop rigorous controls in response.
- Creating an outlook and culture in which our commitments are front of mind and part of everyday business.
- Valuing the competency (skills, knowledge and experience) of all persons to perform and find better ways of doing the work.
- Providing employees and other stakeholders the opportunity and expectation to acquire the appropriate competency to enable them to carry out their work safely without risk to themselves, fellow workers and the public.
- Focusing on open conversations between our employees, our clients and the people we work with not just paperwork.
- Creating a culture that encourages the reporting of incidents and occurrences to enable knowledge sharing, learning and information to facilitate improvements in performance.
- Promoting strategies that are driven and embedded by senior management who encourage ownership and continuous improvement in behaviours, practices and outcomes by all persons.
- Aligning our behaviour to our values with an emphasis on teamwork and recognition for innovation and initiative.

CEO  
Multiplex Australasia  
September 2016

**MULTIPLEX**

## 15.2 Appendix 2: EMS Forms and Guides

Category	Forms	Guides
<b>Planning</b>	» Environmental Subcontractor Documentation Status Chart	» Schedule of Environmental Legislation and Other Requirements NSW
<b>Communication and Consultation</b>		» Environmental Fact Sheets
<b>Incident and Emergency Management</b>	» Incident Investigation Report	
<b>Induction and Training</b>	» Induction Training Handout » Project Induction and Declaration	
<b>Hazardous Chemicals Wash Box</b>		» ChemAlert
<b>Inspection and Monitoring</b>	» Environmental Site Inspection	
<b>Subcontractor Management</b>	» Environmental Management Plan Review Checklist » Environmental Safe Work Method Statement Review Checklist	» Subcontractor Environmental Management Plan Template
<b>Audits</b>	» Environmental Internal Audit Checklist	

*Note: Reference should be made to the Multiplex Operating System Document and Forms library to obtain the current versions of the documents above.*

### 15.3 Appendix 3: Conditions of Approval for NMH Stage 2

# Infrastructure Approval

## Section 5.19 of the Environmental Planning and Assessment Act 1979

As delegate of the Minister for Planning and Public Spaces under delegation executed on 11 October 2017, I approve the State significant infrastructure application referred to in Schedule 1, subject to the conditions specified in Schedules 2 and 3.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

  
David Gainsford  
Executive Director  
Infrastructure Assessments

Sydney 6th December 2019

### SCHEDULE 1

**Application Number:** SSI 9775

**Proponent:** Health Administration Corporation

**Approval Authority:** Minister for Planning and Public Spaces

**Site:** Metford Road, Metford  
(Lot 7314 DP 1162607 and Part Lot 401 DP 755237)

**Development:** New Maitland Hospital (Stage 2), comprising construction and operation of the new hospital, including:

- a new eight storey building (including basement and plant levels);
- internal roads;
- car parking;
- rooftop helipad;
- signage;
- site landscaping;
- utility and service connections;
- earthworks; and
- tree removal.



## DEFINITIONS

<b>Aboriginal object</b>	Has the same meaning as the definition of the term in section 5 of the <i>National Parks and Wildlife Act 1974</i>
<b>Aboriginal place</b>	Has the same meaning as the definition of the term in section 5 of the <i>National Parks and Wildlife Act 1974</i>
<b>Accredited Certifier</b>	Means the holder of accreditation as an accredited certifier under the <i>Building Professionals Act 2005</i> acting in relation to matters to which the accreditation applies.
<b>Additional Information</b>	The Proponent's Additional Information in a letter titled <i>RE: New Maitland Hospital – Stage 2 (SSI-9775), Request for Additional Information</i> , prepared by Health Infrastructure dated 5 November 2019, in relation to the application for approval for the infrastructure development under the EP&A Act.
<b>Advisory Notes</b>	Advisory information relating to the approval but do not form a part of this approval
<b>BCA</b>	Building Code of Australia
<b>BC Act</b>	<i>Biodiversity Conservation Act 2016</i>
<b>CEMP</b>	Construction Environmental Management Plan
<b>Certification of Crown building work</b>	Certification under section 6.28(2) of the EP&A Act
<b>Certifier</b>	Means a council or accredited certifier or in the case of Crown development, a person qualified to conduct a Certification of Crown building work
<b>Conditions of this approval</b>	The conditions contained in Schedule 2 of this document
<b>Construction</b>	<p>All physical work to enable operation including but not limited to the carrying out of works for the purposes of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this approval, but excluding the following:</p> <ul style="list-style-type: none"> <li>• building and road dilapidation surveys;</li> <li>• investigative drilling or investigative excavation;</li> <li>• Archaeological Salvage;</li> <li>• establishing temporary site offices;</li> <li>• installation of environmental impact mitigation measures, fencing, enabling works; and</li> <li>• minor adjustments to services or utilities.</li> </ul> <p>However, where heritage items, or threatened species or threatened ecological communities (within the meaning of the <i>Biodiversity Conservation Act 2016</i>) are affected or potentially affected by any physical work, that work is construction, unless otherwise determined by the Planning Secretary in consultation with EES Group or DPIE Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation).</p>
<b>Council</b>	Maitland City Council
<b>Day</b>	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
<b>Demolition</b>	The deconstruction and removal of buildings, sheds and other structures on the site
<b>Department</b>	NSW Department of Planning, Industry and Environment
<b>Development</b>	The development described in the EIS and Preferred Infrastructure Report, including the works and activities comprising construction and operation of the New Maitland Hospital, as modified by the conditions of this approval.
<b>Earthworks</b>	Bulk earthworks, site levelling, import and compaction of fill material,

excavation for installation of drainage and services

<b>EES Group</b>	Environment, Energy and Science Group of the Department of Planning, Industry and Environment (former Office of Environment and Heritage)
<b>EIS</b>	The Environmental Impact Statement titled <i>Environmental Impact Statement New Maitland Hospital - Stage 2 Main Works, Metford Road, Metford</i> , prepared by Ethos Urban dated 21 June 2019, submitted with the application for approval for the infrastructure development, including any additional information provided by the Proponent in support of the application
<b>ENM</b>	Excavated Natural Material
<b>Environment</b>	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
<b>EPA</b>	NSW Environment Protection Authority
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>EP&amp;A Regulation</b>	<i>Environmental Planning and Assessment Regulation 2000</i>
<b>Evening</b>	The period from 6pm to 10pm.
<b>Feasible</b>	Means what is possible and practical in the circumstances
<b>Heritage</b>	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
<b>Heritage Division</b>	Heritage, Community Engagement of the Department of Premier and Cabinet
<b>Heritage Item</b>	An item as defined under the <i>Heritage Act 1977</i> , and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i> , the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), or anything identified as a heritage item under the conditions of this approval
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>Incident</b>	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 <i>Note: "material harm" is defined in this approval</i>
<b>Land</b>	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
<b>LTEMP</b>	Long Term Environmental Management Plan
<b>Management and mitigation measures</b>	The management and mitigation measures set out in the EIS.
<b>Material harm</b>	Is harm that: <ul style="list-style-type: none"> <li>a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or</li> <li>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)</li> </ul>
<b>Minister</b>	NSW Minister for Planning and Public Spaces (or delegate)
<b>Mitigation</b>	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
<b>Monitoring</b>	Any monitoring required under this approval must be undertaken in accordance with section 9.39 of the EP&A Act
<b>Night</b>	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on

	Sundays and Public Holidays
<b>Non-compliance</b>	An occurrence, set of circumstances or development that is a breach of this approval
<b>NSW RFS</b>	New South Wales Rural Fire Service
<b>Operation</b>	The carrying out of the approved purpose of the development upon completion of construction.
<b>Planning Secretary</b>	Planning Secretary under the EP&A Act, or nominee
<b>POEO Act</b>	<i>Protection of the Environment Operations Act 1997</i>
<b>Preferred Infrastructure Report</b>	The Proponent's Preferred Infrastructure Report titled <i>Preferred Infrastructure Report New Maitland Hospital – Stage 2 Main Works, Metford Road, Metford</i> , prepared by Ethos Urban dated 30 September 2019, and response to issues raised in submissions received in relation to the application for approval for the infrastructure development under the EP&A Act.
<b>Proponent</b>	Health Administration Corporation, or any person carrying out any development to which this approval applies
<b>Reasonable</b>	Means applying judgement in arriving at a decision, taking into account: mitigation, benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
<b>Registered Aboriginal Parties</b>	Means the Aboriginal persons identified in accordance with the document entitled " <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> " (DECCW)
<b>Rehabilitation</b>	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting.
<b>Sensitive receivers</b>	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area.
<b>Site</b>	The land defined in Schedule 1.
<b>Site Auditor</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Report</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Statement</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>TfNSW</b>	Transport for New South Wales
<b>TfNSW (RMS)</b>	Transport for New South Wales (Roads and Maritime Services)
<b>VENM</b>	Virgin Excavated Natural Material
<b>Waste</b>	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
<b>Year</b>	A period of 12 consecutive months

## SCHEDULE 2

### PART A ADMINISTRATIVE CONDITIONS

#### Obligation to Minimise Harm to the Environment

- A1. In addition to meeting the specific performance measures and criteria in this approval, all reasonable and feasible measures must be implemented to prevent, and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development.

#### Terms of Approval

- A2. The development may only be carried out:
- (a) in compliance with the conditions of this approval;
  - (b) in accordance with all written directions of the Planning Secretary;
  - (c) generally in accordance with the EIS, Preferred Infrastructure Report and Additional Information;
  - (d) generally in accordance with the approved plans in the table below:

Architectural plans prepared by BVN			
Dwg No.	Rev	Name of Plan	Date
01A-AX0-102	3	SITE PLAN	25/09/19
11B-B00-100	-	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL LOWER GROUND	25/09/19
11B-100-100	14	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL GROUND	25/09/19
11B-100-100	17	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 01	25/09/19
11B-200-100	16	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 02	25/09/19
11B-300-100	15	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 03	25/09/19
11B-400-100	15	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 04	25/09/19
11B-500-100	15	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 05	25/09/19
11B-600-100	3	HOSPITAL - LV06 - GENERAL ARRANGEMENT	25/09/19
11B-600-102	14	HOSPITAL - GENERAL ARRANGEMENT PLAN - LEVEL 06 MEZZANINE	25/09/19
11B-600-103	2	HOSPITAL - LV06 ROOF - GENERAL ARRANGEMENT	25/09/19
11C-A00-102	11	HOSPITAL – ELEVATIONS NORTH AND SOUTH	18/09/19
11C-A00-101	11	HOSPITAL – ELEVATIONS EAST AND WEST	18/09/19
11C-A00-103	11	HOSPITAL – ELEVATIONS PART EAST AND WEST	18/09/19
SK408	-	BUILDING SECTIONS	04/02/19 (as marked)
SK414 (as marked)	2 (as mark	MAITLAND HOSPITAL MATERIALS BOARD	-

	ed)		
<b>Landscape drawings prepared by <i>Black Beetle pty ltd</i></b>			
<b>Dwg No.</b>	<b>Rev</b>	<b>Name of Plan</b>	<b>Date</b>
BBE-LSA-DRW-GXO-100	14	COVER SHEET & KEY PLAN	31.10.19
BBE-LSA-DRW-GA1-1A1	02	Landscape General Arrangement Plan Quadrant A1	05.09.19
BBE-LSA-DRW-GA2-1A2	02	Landscape General Arrangement Plan Quadrant A2	05.09.19
BBE-LSA-DRW-GA3-1A3	06	Landscape General Arrangement Plan Quadrant A3	09.09.19
BBE-LSA-DRW-GA4-1A4	07	Landscape General Arrangement Plan Quadrant A4	31.10.19
BBE-LSA-DRW-GB1-1B1	02	Landscape General Arrangement Plan Quadrant B1	05.09.19
BBE-LSA-DRW-GB2-1B2	02	Landscape General Arrangement Plan Quadrant B2	09.05.19
BBE-LSA-DRW-GB3-1B3	05	Landscape General Arrangement Plan Quadrant B3	05.09.19
BBE-LSA-DRW-GB4-1B4	05	Landscape General Arrangement Plan Quadrant B4	05.09.19
BBE-LSA-DRW-GC0-103	10	Landscape General Arrangement Plan Quadrant C0	05.09.19
BBE-LSA-DRW-G10-110	07	Landscape General Arrangement Plan Quadrant 10	09.09.19
BBE-LSA-DRW-G20-120	06	Landscape General Arrangement Plan Quadrant 20	05.09.19
BBE-LSA-DRW-G30-130	10	Landscape General Arrangement Plan Quadrant 30	31.10.19
BBE-LSA-DRW-G40-140	05	Landscape General Arrangement Plan Quadrant 40	05.09.19
BBE-LSA-DRW-GD1-1D1	05	Landscape General Arrangement Plan Quadrant D1	05.09.19
BBE-LSA-DRW-GD2-1D2	05	Landscape General Arrangement Plan Quadrant D2	05.09.19
BBE-LSA-DRW-GD3-	05	Landscape General Arrangement Plan	05.09.19

1D3		Quadrant D3	
BBE-LSA-DRW-GD4-1D4	01	Landscape General Arrangement Plan Quadrant D4	05.09.19
BBE-LSA-DRW-GE0-106	10	Landscape General Arrangement Plan Quadrant E0	05.09.19
BBE-LSA-DRW-GF1-1F1	05	Landscape General Arrangement Plan Quadrant F1	05.09.19
BBE-LSA-DRW-GF2-1F2	05	Landscape General Arrangement Plan Quadrant F2	09.09.19
BBE-LSA-DRW-GG1-1G1	05	Landscape General Arrangement Plan Quadrant G1	05.09.19
BBE-LSA-DRW-GG2-1G2	01	Landscape General Arrangement Plan Quadrant G2	05.09.19
BBE-LSA-DRW-GXO-300	06	PLANT SCHEDULES AND NOTES	16.09.19
BBE-LSA-DRW-L41-1L41	09	General Arrangement Plan Mortuary Courtyard Lower Ground Level Quadrant 41	09.09.19
BBE-LSA-DRW-142-1142	05	General Arrangement Plan Multi Faith Courtyard Ground Level Quadrant 42	09.09.19
BBE-LSA-DRW-323-1323	07	General Arrangement Plan Rehabilitation Courtyard Level 03 Quadrant 23	09.09.19
BBE-LSA-DRW-324-1324	07	General Arrangement Plan Mental Health Courtyard Level 03 Quadrant 24	09.09.19
BBE-LSA-DRW-344-1344	04	General Arrangement Plan Mental Health Courtyard Level 03 Quadrant 44	09.09.19
BBE-LSA-DRW-523-1523	05	General Arrangement Plan Paediatric Courtyard Level 05 Quadrant 23	09.09.19
BBE-LSA-DRW-123-1123	02	General Arrangement Plan Level 01 Quadrant 23	16.09.19
BBE-LSA-DRW-124-1124	01	General Arrangement Plan Level 01 Quadrant 24	09.09.19
BBE-LSA-DRW-140-1140	01	General Arrangement Plan Level 01 Quadrant 40	19.06.19

- A3. Consistent with the requirements in this approval, the Planning Secretary may make written directions to the Proponent in relation to:
- the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval,

- including those that are required to be, and have been, approved by the Planning Secretary;
  - (b) any reports, reviews or audits commissioned by the Planning Secretary regarding compliance with this approval; and
  - (c) the implementation of any actions or measures contained in any such document referred to in (a) above.
- A4. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c) or A2(d). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c) and A2(d), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

### **Limits of Approval**

- A5. This approval lapses five years after the date of approval unless work is physically commenced.

### **Planning Secretary as Moderator**

- A6. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

### **Evidence of Consultation**

- A7. Where conditions of this approval require consultation with an identified party, the Proponent must:
- (a) consult with the relevant party prior to submitting the subject document for information or approval; and
  - (b) provide details of the consultation undertaken including:
    - (i) the outcome of that consultation, matters resolved and unresolved; and
    - (ii) details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.

### **Staging**

- A8. The project may be constructed and operated in stages. Where staged construction or operation is proposed, a Staging Report (for either or both construction and operation as the case may be) must be prepared and submitted for the approval of the Planning Secretary. The Staging Report must be submitted to the Planning Secretary no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation).
- A9. A Staging Report prepared in accordance with condition A8 must:
- (a) if staged construction is proposed, set out how the construction of the whole of the project will be staged, including details of work and other activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish;
  - (b) if staged operation is proposed, set out how the operation of the whole of the project will be staged, including details of work and other activities to be carried out in each stage and the general timing of when operation of each stage will commence and finish (if relevant);
  - (c) specify how compliance with conditions will be achieved across and between each of the stages of the project; and
  - (d) set out mechanisms for managing any cumulative impacts arising from the proposed staging.
- A10. Where staging is proposed, the project must be staged in accordance with the Staging Report, as approved by the Planning Secretary.

- A11. Where staging is proposed, the terms of this approval that apply or are relevant to the works or activities to be carried out in a specific stage must be complied with at the relevant time for that stage.

### **Staging, Combining and Updating Strategies, Plans or Programs**

- A12. The Proponent may:

- (a) prepare and submit any strategy, plan (including management plan, architectural or design plan) or program required by this approval on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan (including management plan, architectural or design plan) or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan (including management plan, architectural or design plan) or program);
- (b) combine any strategy, plan (including management plan, architectural or design plan), or program required by this approval (if a clear relationship is demonstrated between the strategies, plans (including management plan, architectural or design plan) or programs that are proposed to be combined); and
- (c) update any strategy, plan (including management plan, architectural or design plan), or program required by this approval (to ensure the strategies, plans (including management plan, architectural or design plan), or programs required under this approval are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

- A13. The Planning Secretary must approve any strategy, plan or program prepared in accordance with condition A15 where previously approved by the Planning Secretary under this consent.

- A14. If the Planning Secretary agrees, a strategy, plan (including management plan, architectural or design plan), or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this approval.

- A15. Updated strategies, plans (including management plan, architectural or design plan), or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan, program or drawing.

### **Structural Adequacy**

- A16. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

*Note: Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

### **External Walls and Cladding**

- A17. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

### **Site Contamination**

- A18. Remediation approved as part of this approval must be carried out in accordance with the *New Maitland Hospital, Part Lot 401, Remediation Action Plan / Contamination Management Plan* dated September 2019 and prepared by GHD Pty Ltd.

### **Design and Construction for Bush Fire**

- A19. New construction must comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas or NASH Standard (1.7.14 updated) National Standard Steel Framed Construction in Bushfire Areas – 2014 as appropriate and section A3.7 Addendum Appendix 3 of *Planning for Bush Fire Protection 2006*.
- A20. Water, electricity and gas are to comply with sections 4.1.3 and 4.2.7 of *Planning for Bush Fire Protection 2006*.



## Applicability of Guidelines

- A21. References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.
- A22. Consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Planning Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

## Monitoring and Environmental Audits

- A23. Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, Site audit report and independent auditing.

**Note:** For the purposes of this condition, as set out in the EP&A Act, “monitoring” is monitoring of the development to provide data on compliance with the approval or on the environmental impact of the development, and an “environmental audit” is a periodic or particular documented evaluation of the development to provide information on compliance with the approval or the environmental management or impact of the development.

## Access to Information

- A24. At least 48 hours before the commencement of construction until the completion of all works under this approval, or such other time as agreed by the Planning Secretary, the Proponent must:
- (a) make the following information and documents (as they are obtained or approved) publicly available on its website:
    - (i) the documents referred to in condition A2 of this approval;
    - (ii) all current statutory approvals for the development;
    - (iii) all approved strategies, plans and programs required under the conditions of this approval;
    - (iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval;
    - (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
    - (vi) a summary of the current stage and progress of the development;
    - (vii) contact details to enquire about the development or to make a complaint;
    - (viii) a complaints register, updated monthly;
    - (ix) audit reports prepared as part of any independent audit of the development and the Proponent's response to the recommendations in any audit report;
    - (x) any other matter required by the Planning Secretary; and
  - (b) keep such information up to date, to the satisfaction of the Planning Secretary.

## Compliance

- A25. The Proponent must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the development.

## Incident Notification, Reporting and Response

- A26. The Planning Secretary must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.

A27. Subsequent notification must be given and reports submitted in accordance with the requirements set out in **Appendix 1**.

### **Non-Compliance Notification**

A28. The Planning Secretary must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of any non-compliance. The Certifier must also notify the Planning Secretary in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after they identify any non-compliance.

A29. The notification must identify the development and the application number for it, set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A30. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

### **Revision of Strategies, Plans and Programs**

A31. Within three months of:

- (a) the submission of a compliance report under condition B34;
- (b) the submission of an incident report under condition A26;
- (c) the submission of an Independent Audit under condition C36;
- (d) the approval of any modification of the conditions of this approval; or
- (e) the issue of a direction of the Planning Secretary under condition A2 which requires a review,

the strategies, plans and programs required under this approval must be reviewed, and the Planning Secretary and the Certifier must be notified in writing that a review is being carried out.

A32. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans, programs or drawings required under this approval must be revised, and submitted to the Certifier or to the satisfaction of the Planning Secretary, where previously approved by the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary and / or Certifier within six weeks of the review.

**Note:** *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

## **PART B PRIOR TO COMMENCEMENT OF CONSTRUCTION**

### **Notification of Commencement**

- B1. The Proponent must notify the Planning Secretary in writing of the dates of commencement of construction and operation at least 48 hours before those dates.
- B2. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

### **Certified Drawings**

- B3. Prior to the commencement of construction, the Proponent must submit to the Certifier structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with this approval.

### **External Walls and Cladding**

- B4. Prior to the commencement of construction, the Proponent must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls, including finishes and claddings such as synthetic or aluminium composite panels, comply with the requirements of the BCA. The Proponent must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

### **Protection of Public Infrastructure**

- B5. Prior to the commencement of construction, the Proponent must:
  - (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;
  - (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
  - (c) submit a copy of the dilapidation report to the Planning Secretary, Certifier and Council.

### **Ecologically Sustainable Development**

- B6. Prior to the commencement of construction, unless otherwise agreed by the Planning Secretary, the Proponent must demonstrate that ESD is being achieved by either:
  - (a) registering for a minimum 4 star Green Star rating with the Green Building Council Australia and submit evidence of registration to the Certifier; or
  - (b) seeking approval from the Planning Secretary for an alternative certification process.

### **Outdoor Lighting**

- B7. Prior to commencement of lighting installation, evidence must be submitted to the satisfaction of the Certifier that all outdoor lighting within the site has been designed to comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

### **Environmental Management Plan Requirements**

- B8. Management plans required under this approval must be prepared in accordance with relevant guidelines, and include:
  - (a) detailed baseline data;
  - (b) details of:
    - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
    - (ii) any relevant limits or performance measures and criteria; and
    - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

- (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
- (d) a program to monitor and report on the:
  - (i) impacts and environmental performance of the development;
  - (ii) effectiveness of the management measures set out pursuant to paragraph (c) above;
- (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
  - (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);
  - (ii) complaint;
  - (iii) failure to comply with statutory requirements; and
- (h) a protocol for periodic review / update of the plan and any updates in response to incidents or matters of non-compliance.

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

### **Construction Environmental Management Plan**

B9. Prior to the commencement of construction, the Proponent must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary. The CEMP must include, but not be limited to, the following:

- (a) Details of:
  - (i) hours of work;
  - (ii) 24-hour contact details of site manager;
  - (iii) management of dust and odour to protect the amenity of the neighbourhood;
  - (iv) stormwater control and discharge;
  - (v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;
  - (vi) groundwater management plan including measures to prevent groundwater contamination;
  - (vii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;
  - (viii) community consultation and complaints handling;
- (b) Construction Traffic and Pedestrian Management Sub-Plan (see condition B13);
- (c) Construction Noise and Vibration Management Sub-Plan (see condition B14);
- (d) Construction Waste Management Sub-Plan (see condition B15);
- (e) Construction Soil and Water Management Sub-Plan (see condition B16);
- (f) Aboriginal Cultural Heritage Management Sub-Plan (see condition B17);
- (g) Biodiversity Management Sub-Plan (see condition B18);
- (h) an unexpected finds protocol for contamination and associated communications procedure;
- (i) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;
- (j) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site; and

- B10. The Proponent must not commence construction of the development until the CEMP is submitted to the Certifier and the Planning Secretary.
- B11. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced person(s);
  - (b) be prepared in consultation with Council, TfNSW and TfNSW (RMS);
  - (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services; and
  - (d) detail heavy vehicle routes, access and parking arrangements.
- B12. The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced noise expert;
  - (b) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009);
  - (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
  - (d) include strategies that have been developed with the community, including all noise sensitive receivers where construction noise levels are predicted to exceed the noise management level, for managing high noise generating works;
  - (e) describe the community consultation undertaken to develop the strategies in condition B14(d);
  - (f) include a complaints management system that would be implemented for the duration of the construction; and
  - (g) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures in accordance with Condition B10(d).
- B13. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following:
- (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and
  - (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of construction.
- B14. The Proponent must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:
- (a) be prepared by a suitably qualified expert, in consultation with Council;
  - (b) describe all erosion and sediment controls to be implemented during construction;
  - (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);
  - (d) detail all off-Site flows from the Site; and
- B15. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;
  - (b) be submitted to the Planning Secretary prior to construction of any part of the development;

- (c) procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works;
- (d) protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations;
- (e) a requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project; and
- (f) a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long term management of Aboriginal objects.

B16. The Biodiversity Management Sub-Plan (BMSP) must address, but not be limited to, the following:

- (a) be prepared by a suitably qualified and experienced ecologist;
- (b) engagement of an appropriately qualified ecologist with experience in capturing native wildlife to be on site for all vegetation removal activities;
- (c) clearing protocol in accordance with letter titled *Re: BDAR for NMH Stage 2 SSI Application 9775 (Revised) – FINAL*, prepared by Sclerophyll Flora Surveys and Research Pty Ltd, dated 20 September 2019;
- (d) measures to minimise the loss of key fauna habitat, including tree hollows;
- (e) measures to minimise the impacts on fauna on site, including conducting fauna pre-clearance surveys prior to vegetation clearing;
- (f) controlling weeds and feral pests;
- (g) measures to ensure biodiversity values not intended to be impacted are protected, including barriers and mapping of protected/ 'no-go' areas; and
- (h) a program to monitor the effectiveness of the measures in the BMSP.

B17. A Driver Code of Conduct must be prepared and communicated by the Proponent to heavy vehicle drivers and must address the following:

- (a) minimise the impacts of earthworks and construction on the local and regional road network;
- (b) minimise conflicts with other road users;
- (c) minimise road traffic noise; and
- (d) ensure truck drivers use specified routes.

### **Construction Parking**

B18. Prior to the commencement of construction, the Proponent must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities, unless otherwise agreed with Council.

### **Soil and Water**

B19. Prior to the commencement of construction, the Proponent must:

- (a) install erosion and sediment controls on the site to manage wet weather events; and
- (b) divert existing clean surface water around operational areas of the site.
- (c) direct all sediment laden water in overland flow away from the leachate management system;
- (d) prevent cross-contamination of clean and sediment or leachate laden water.

- B20. Prior to the commencement of construction, erosion and sediment controls must be installed and maintained, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4<sup>th</sup> edition, Landcom 2004) commonly referred to as the 'Blue Book'.

### Biodiversity Offset Strategy

- B21. Prior to the commencement of vegetation clearing, the class and number of ecosystem and species credits in the table below must be retired to offset the residual biodiversity impacts of the development.

Impacted plant community type (PCT)	Number of ecosystem credits	Plant community type(s) that can be used to offset the impacts from development	Trading Group	IBRA sub-region
1592 - Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter	23	Like-for-like option		
		Lower Hunter Spotted Gum Ironbark Forest in the Sydney Basin Bioregion (including PCT's: 1590, 1592, 1593, 1600, 1602)	-	Hunter, Ellerston, Karuah Manning, Kerrabee, Liverpool Range, Peel, Tomalla, Upper Hunter, Wyong, Yengo or any IBRA sub-region that is within 100kms of the outer edge of the impacted site.
		Variation option(s)		
		Dry Sclerophyll Forests (Shrub/grass subformation)	Tier 3 or higher	Sydney Basin or any IBRA subregion within 100 kilometres of the outer edge of the impacted site.
Impacted species	Number of species credits	Species that can be used to offset the impacts from development		IBRA sub-region
Petaurus norfolcensis / Squirrel Glider	23	Like-for-like option		
		Petaurus norfolcensis / Squirrel Glider		Any in NSW
		Variation option(s)		
		Any fauna species with a vulnerable or higher category of listing under Part 4 of the BC Act		Hunter, Ellerston, Karuah Manning, Kerrabee, Liverpool Range, Peel, Tomalla, Upper Hunter, Wyong, Yengo or any IBRA sub-region that is within 100kms of the outer edge of the impacted site.

- B22. The requirement to retire credits in Condition B24 above may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of ecosystem and species credits, as calculated by the Biodiversity Offsets Payment Calculator.
- B23. Evidence of the retirement of credits or payment to the Biodiversity Conservation Fund in satisfaction of condition B24 must be provided to the Planning Secretary prior to carrying out development that will impact on biodiversity values.

## **Rainwater Harvesting**

- B24. Within three months of commencement of construction, the Proponent must ensure that a rainwater reuse/harvesting system for the development is developed for the site. A rainwater reuse plan must be prepared and certified by an experienced hydraulic engineer.

## **Operational Noise – Design of Mechanical Plant and Equipment**

- B25. Prior to installation of mechanical plant and equipment, the Proponent must incorporate the noise mitigation recommendations in the *New Maitland Hospital State Significant Infrastructure Application – Stage 2 Noise and Vibration Assessment*, prepared by Acoustic Logic, dated 5 April 2019, into the detailed design drawings. The Certifier must verify that all noise mitigation measures have been incorporated into the design to ensure the development will not exceed the project specific noise levels identified in the *New Maitland Hospital State Significant Infrastructure Application – Stage 2 Noise and Vibration Assessment*.

## **Roadworks and Access**

- B26. Prior to the commencement of construction, the Proponent must submit design plans to the satisfaction of the Certifier which demonstrates that the Rural Fire Services Vehicle Access Track as identified on Drawing Number 01A-AX0-102, titled Site Plan, Revision 3, dated 25 September 2019:
- (a) is an all weather road with a width of 5.5m capable of a 15 Tonne load;
  - (b) has a four metre vertical clearance;
  - (c) has a minimum distance of six metres between inner and outer curves;
  - (d) has a maximum cross fall of 10 degrees; and
  - (e) incorporates traffic management devices to facilitate access by emergency service vehicles.
- B27. Prior to the commencement of construction, the Proponent must submit design plans to the satisfaction of the Certifier which demonstrates that the proposed internal roads, excluding the Rural Fire Services Vehicle Access Track, comply with section 4.2.7 of *Planning for Bush Fire Protection 2006*.

## **Operational Car Parking and Service Vehicle Layout**

- B28. Prior to the commencement of construction, evidence that the layout of the car parking areas and vehicle access areas comply with the following requirements must be submitted to the satisfaction of the Certifier:
- (a) all vehicles must enter and leave the Site in a forward direction;
  - (b) a minimum of 682 on-site car parking spaces for use during operation of the development and designed in accordance with the latest versions of AS 2890.1 and AS 2890.6; and
  - (c) the swept path of the longest construction vehicle entering and exiting the Site in association with the new work, as well as manoeuvrability through the Site, must be in accordance with the latest version of AS 2890.2.

## **Bicycle Parking and End-of-Trip Facilities**

- B29. Prior to the commencement of construction, evidence that with the following requirements for secure bicycle parking and end-of-trip facilities are incorporated in the certified drawings must be submitted to the satisfaction of the Certifier:
- a) the provision of a minimum 23 staff and 12 visitor bicycle parking spaces;
  - b) the layout, design and security of bicycle facilities must comply with the minimum requirements of the latest version of AS 2890.3:2015 *Parking facilities - Bicycle parking*, and be located in easy to access, well-lit areas that incorporate passive surveillance;
  - c) the provision of end-of-trip facilities for staff; and
  - d) appropriate pedestrian and cyclist advisory signs are to be provided.

## **Heritage Interpretation Plan**

- B30. Prior to the commencement of façade works, the Proponent must submit a Heritage Interpretation Plan to acknowledge the industrial heritage of the site to the Planning Secretary. The plan must:



- (a) be prepared by a suitably qualified and experienced expert in consultation with Council;
- (b) include provision for naming elements within the development that acknowledges the site's heritage; and
- (c) incorporates interpretive information demonstrating the historical use of the site.

### **Compliance Reporting**

- B31. No later than 48 hours prior to the commencement of construction, a Compliance Monitoring and Reporting Schedule prepared in accordance with section 2.1 of the Compliance Reporting Post Approval Requirements (Department 2018, or as amended), as amended by Condition A2 must be submitted to the Planning Secretary and the Certifier.
- B32. Table 1 of the Compliance Reporting Post Approval Requirements (Department 2018, or as amended) is amended so that the Compliance Monitoring and Reporting Schedule, minimum frequency of Compliance Reports required is:
  - (a) a Pre-Construction Compliance Report must be submitted to the Planning Secretary prior to commencement of construction;
  - (b) a Pre-Operational Compliance Report must be submitted to the Planning Secretary prior to commencement of operation and/or use; and
  - (c) Operation Compliance Reports are required for the duration of operation and must be submitted to the Planning Secretary at intervals, no greater than 52 weeks from the commencement of operation or as otherwise by the Planning Secretary.
- B33. Compliance Reports of the development must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018, or as amended)
- B34. Compliance Reports of the development must be submitted to the Planning Secretary in accordance with timing outlined in the Compliance Monitoring and Reporting Schedule.
- B35. The Proponent must make each Compliance Report publicly available 60 days after submitting it to the Planning Secretary.
- B36. Notwithstanding the requirements of the Compliance Reporting Post Approval Requirements (Department 2018, or as amended), the Planning Secretary may approve a request for ongoing annual operation Compliance Reports to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that consistent operational compliance has been achieved.

## **PART C DURING CONSTRUCTION**

### **Site Notice**

- C1. A site notice(s):
- (a) must be prominently displayed at the boundaries of the site during construction for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifier and Structural Engineer is to satisfy the following requirements;
  - (b) minimum dimensions of the notice must measure 841 mm x 594 mm (A1) with any text on the notice to be a minimum of 30-point type size;
  - (c) the notice is to be durable and weatherproof and is to be displayed throughout the works period;
  - (d) the approved hours of work, the name of the site/ project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and
  - (e) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.

### **Operation of Plant and Equipment**

- C2. All construction plant and equipment used on site must be maintained in a proper and efficient condition and operated in a proper and efficient manner.

### **Construction Hours**

- C3. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
  - (b) between 8am and 5pm, Saturdays.
- No work may be carried out on Sundays or public holidays.
- C4. Construction activities may be undertaken outside of the hours in condition C4 if required:
- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or
  - (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
  - (c) where the works are inaudible at the nearest sensitive receivers; or
  - (d) for the delivery, set-up and removal of construction cranes, where notice of the crane-related works is provided to the Planning Secretary and affected residents at least seven days prior to the works; or
  - (e) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.
- C5. Notification of such construction activities as referenced in condition C5 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.
- C6. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- (a) 9am to 12pm, Monday to Friday;
  - (b) 2pm to 5pm Monday to Friday; and
  - (c) 9am to 12pm, Saturday.

### **Implementation of Management Plans**

- C7. The Proponent must carry out the construction of the development in accordance with the most recent version of the CEMP (including Sub-Plans).

### **Construction Traffic**

- C8. All construction vehicles are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site before stopping, unless directed by traffic control.

### **Hoarding Requirements**

- C9. The following hoarding requirements must be complied with:
- (a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing; and
  - (b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application.

### **No Obstruction of Public Way**

- C10. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.

### **Construction Noise Limits**

- C11. The development must be constructed to achieve the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.
- C12. The Proponent must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of work outlined under condition C4.
- C13. The Proponent must implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.

### **Vibration Criteria**

- C14. Vibration caused by construction at any residence or structure outside the site must be limited to:
- (a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and
  - (b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).
- C15. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C15.
- C16. The limits in conditions C15 and C16 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B14 of this approval.

### **Tree Protection**

- C17. For the duration of the construction works:
- (a) all trees on the site that are not approved for removal must be suitably protected during construction as per the recommendations of the Arborist Report for New Maitland Hospital, prepared by Tattersall Lander Pty Ltd, dated September 2019; and
  - (b) if access to the area within any protective barrier is required during the works, it must be carried out under the supervision of a qualified arborist. Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a qualified

arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater.

### **Air Quality**

- C18. The Proponent must take all reasonable steps to minimise dust generated during all works authorised by this approval.
- C19. During construction, the Proponent must ensure that:
- (a) exposed surfaces and stockpiles are suppressed by regular watering;
  - (b) all trucks entering or leaving the site with loads have their loads covered;
  - (c) trucks associated with the development do not track dirt onto the public road network;
  - (d) public roads used by these trucks are kept clean; and
  - (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

### **Erosion and Sediment Control**

- C20. All erosion and sediment control measures must be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works have been stabilised and rehabilitated so that it no longer acts as a source of sediment. Erosion and sediment control techniques, as a minimum, are to be in accordance with the publication *Managing Urban Stormwater: Soils & Construction* (4<sup>th</sup> edition, Landcom, 2004) commonly referred to as the 'Blue Book'.

### **Imported Soil**

- C21. The Proponent must:
- (a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;
  - (b) keep accurate records of the volume and type of fill to be used; and
  - (c) make these records available to the Certifier upon request.

### **Disposal of Seepage and Stormwater**

- C22. Adequate provisions must be made to collect and discharge stormwater drainage during construction of the building to the satisfaction of the principal Certifier. The prior written approval of Council must be obtained to connect or discharge site stormwater to Council's stormwater drainage system or street gutter.

### **Emergency Management**

- C23. The Proponent must prepare and implement awareness training for employees and contractors, including locations of the assembly points and evacuation routes, for the duration of construction.

### **Stormwater Management System**

- C24. Within three months of the commencement of construction, the Proponent must design an operational stormwater management system for the development and submit it to the satisfaction of the Certifier. The system must:
- (a) be designed by a suitably qualified and experienced person(s);
  - (b) be generally in accordance with the conceptual design in the EIS and PIR;
  - (c) be in accordance with applicable Australian Standards; and
  - (d) ensure that the system capacity has been designed in accordance with *Australian Rainfall and Runoff* (Engineers Australia, 2016) and *Managing Urban Stormwater: Council Handbook* (EPA, 1997) guidelines.

### **Unexpected Finds Protocol – Historic Heritage**

- C25. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the NSW Heritage Division contacted. Depending on the

possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of the NSW Heritage Division.

### **Waste Storage and Processing**

- C26. All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.
- C27. All waste generated during construction must be assess, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).
- C28. The Proponent must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.
- C29. The Proponent must record the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations for the duration of construction.
- C30. The Proponent must ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

### **Outdoor Lighting**

- C31. The Proponent must ensure that all external lighting is constructed and maintained in accordance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

### **Independent Environmental Audit**

- C32. Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.
- C33. Within four weeks of the commencement of construction, an Independent Audit Schedule prepared in accordance with section 2.1 of the Independent Audit Post Approval Requirements, (Department 2018, or as amended), as amended by Condition A9 must be submitted to the Planning Secretary and the Certifier.
- C34. Table 1 of the Independent Audit Post Approval Requirements (Department 2018, or as amended) is amended so that the Independent Audit Schedule frequency of Independent Audits required in the construction phase is:
  - (a) an initial construction Independent Audit must be undertaken within twelve weeks of the notified commencement date of construction; and
  - (b) subsequent Independent Audits of construction must be undertaken at intervals, no greater than 26 weeks from the date of the initial construction Independent Audit.
- C35. In all other respects Table 1 of the Independent Audit Post Approval Requirements (Department 2018, or as amended) remains the same. The Planning Secretary may require Independent Audits to be undertaken at different times to those specified above, upon giving at least eight weeks notice to the Proponent of the date upon which the Independent Audit must be commenced.
- C36. Independent Audits of the development must be carried out in accordance with:
  - (a) the Independent Audit Schedule submitted to the Planning Secretary and the Certifier under condition C33 of this consent; and
  - (b) the Independent Audit Post Approval Requirements (Department 2018, or as amended).
- C37. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2018, or as amended), the Proponent must:
  - (a) review and respond separately to each Independent Audit Report prepared under condition C36 of this consent;
  - (b) submit the response to the Planning Secretary and the Certifier; and
  - (c) make each Independent Audit Report and response to it publicly available 60 days after submission to the Planning Secretary.

- C38. Independent Audit Reports and the proponent's response to audit findings must be submitted to the Department within 21 days of the date referenced in the Independent Audit Schedule, unless otherwise agreed by the Planning Secretary.
- C39. Notwithstanding the requirements of the Independent Audit Post Approval Requirements (Department 2018), the Planning Secretary may approve a request for ongoing operational Independent Audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that Independent Audits have demonstrated consistent operational compliance.

## **PART D PRIOR TO COMMENCEMENT OF OPERATION**

### **Notification of Occupation**

- D1. At least one month before commencement of operation, the date of commencement of the operation of the development must be notified to the Planning Secretary in writing. If the operation of the development is to be staged, the Planning Secretary must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

### **External Walls and Cladding**

- D2. Prior to commencement of operation, the Proponent must provide the Certifier with documented evidence that the products and systems used in the construction of external walls including finishes and claddings such as synthetic or aluminium composite panels comply with the requirements of the BCA.
- D3. The Proponent must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

### **Post-construction Dilapidation Report**

- D4. Prior to commencement of operation, the Proponent must engage a suitably qualified person to prepare a post-construction dilapidation report at the completion of construction. This report is:
- a) to ascertain whether the construction created any structural damage to adjoining buildings or infrastructure;
  - b) to be submitted to the Certifier. In ascertaining whether adverse structural damage has occurred to adjoining buildings or infrastructure, the Certifier must:
    - i) compare the post-construction dilapidation report with the pre-construction dilapidation report required by these conditions; and
    - ii) have written confirmation from the relevant authority that there is no adverse structural damage to their infrastructure and roads;
  - c) to be forwarded to Council.

### **Protection of Public Infrastructure**

- D5. Unless the Proponent and the applicable authority agree otherwise, the Proponent must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and
  - (b) relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as a result of the development.

*Note: This condition does not apply to any damage to roads caused as a result of general road usage or otherwise addressed by contributions required by conditions of this approval.*

### **Protection of Property**

- D6. Unless the Proponent and the applicable owner agree otherwise, the Proponent must repair, or pay the full costs associated with repairing any property that is damaged by carrying out the development.

### **Utilities and Services**

- D7. Prior to commencement of operation, a compliance certificate under the section 307 of the *Water Management Act 2000* must be obtained from the relevant authority and submitted to the Certifier.

### **Roadworks and Access**

- D8. Prior to the commencement of operation, the Proponent must demonstrate to the satisfaction of the Planning Secretary that the intersection upgrade works at the Chelmsford Drive and Metford Road intersection have been completed or that the intersection is able to operate within design capacity until the intersection upgrade works can be completed.
- D9. Prior to the commencement of operation, the Proponent must demonstrate to the Planning Secretary that a shared path along the eastern side of Metford Road, has been completed in accordance with design specifications prepared in consultation with Council.

### **Works as Executed Plans**

- D10. Prior to the commencement of operation, works-as-executed drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the Certifier.

### **Heritage Interpretation Plan**

- D11. The Proponent must implement the most recent version of the Heritage Interpretation Plan approved under condition B33.

### **Green Travel Plan**

- D12. Prior to the commencement of operation, a Green Travel Plan (GTP), must be submitted to the Planning Secretary to promote the use of active and sustainable transport modes. The plan must:
- (a) be prepared by a suitably qualified traffic consultant in consultation with TfNSW;
  - (b) include objectives and modes share targets (i.e. site and land use specific, measurable and achievable and timeframes for implementation) to define the direction and purpose of the GTP;
  - (c) include specific tools and actions to help achieve the objectives and mode share targets, including supporting TfNSW develop and deliver suitable bus routes to support the use of that transport mode;
  - (d) include measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the GTP; and
  - (e) include details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the GTP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of users of the development.

### **Evacuation and Emergency Planning**

- D13. Prior to the commencement of operation, a Bush Fire Emergency Management and Evacuation Plan must be prepared consistent with *Development Planning – A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* December 2014.

### **Mechanical Ventilation**

- D14. Prior to commencement of operation, the Proponent must provide evidence to the satisfaction of the Certifier that the installation and performance of the mechanical ventilation systems complies with:
- (a) AS 1668.2-2012 *The use of air-conditioning in buildings – Mechanical ventilation in buildings* and other relevant codes; and
  - (b) any dispensation granted by Fire and Rescue NSW.

### **Operational Noise – Design of Mechanical Plant and Equipment**

- D15. Prior to the commencement of operation, the Proponent must submit evidence to the Certifier that the noise mitigation measures required by condition B23 have been implemented to ensure the development does not exceed the project specific noise levels identified in the *New Maitland Hospital State Significant Infrastructure Application – Stage 2 Noise and Vibration Assessment*.

### **Road Damage**

- D16. Prior to the commencement of operation, the cost of repairing any damage caused to Council or other Public Authority's assets in the vicinity of the Subject Site as a result of construction works associated with the approved development must be met in full by the Proponent.

### **Fire Safety Certification**

- D17. Prior to commencement of occupation, a Fire Safety Certificate must be obtained for all the Essential Fire or Other Safety Measures forming part of this approval. A copy of the Fire Safety



Certificate must be submitted to the relevant authority and Council. The Fire Safety Certificate must be prominently displayed in the building.

### **Structural Inspection Certificate**

- D18. Prior to the commencement of occupation of the relevant parts of any new or refurbished buildings, a Structural Inspection Certificate or a Compliance Certificate must be submitted to the satisfaction of the Certifier. A copy of the Certificate with an electronic set of final drawings (contact approval authority for specific electronic format) must be submitted to the approval authority and the Council after:
- (a) the site has been periodically inspected and the Certifier is satisfied that the structural works is deemed to comply with the final design drawings; and
  - (b) the drawings listed on the Inspection Certificate have been checked with those listed on the final Design Certificate/s.

### **Compliance with Food Code**

- D19. Prior to the commencement of operation, the Proponent is to obtain a certificate from a suitably qualified tradesperson, certifying that the kitchen, food storage and food preparation areas have been fitted in accordance with the AS 4674 *Design, construction and fit-out of food premises* and provide evidence of receipt of the certificate to the satisfaction of the Certifier.

### **Stormwater Quality Management Plan**

- D20. Prior to the commencement of operation, an Operation and Maintenance Plan (OMP) is to be submitted to the satisfaction of the Certifier along with evidence of compliance with the OMP. The OMP must ensure the proposed stormwater quality measures remain effective and contain the following:
- (a) maintenance schedule of all stormwater quality treatment devices;
  - (b) record and reporting details;
  - (c) relevant contact information; and
  - (d) Work Health and Safety requirements.

### **Rainwater Harvesting**

- D21. Prior to the commencement of operation, signed works-as-executed Rainwater Re-use Plan must be provided to the Planning Secretary and Certifier.

### **Warm Water Systems and Cooling Systems**

- D22. The installation of water cooling systems (as defined under the *Public Health Act 2010*) must comply with the *Public Health Act 2010*, Public Health Regulation 2012 and the relevant parts of AS/NZS 3666.2:2011 *Air handling and water systems of buildings – Microbial control – Operation and maintenance* and the NSW Health Code of Practice for the Control of Legionnaires' Disease.

### **Outdoor Lighting**

- D23. Prior to the commencement of operation, the Proponent must submit evidence from a suitably qualified practitioner to the Certifier that demonstrates that installed lighting associated with the development achieves the objective of minimising light spillage to any adjoining or adjacent sensitive receivers and:
- (a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); and
  - (b) has been mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

### **Signage**

- D24. Prior to the commencement of operation, way-finding signage and signage identifying the location of staff car parking must be installed.
- D25. Prior to the commencement of operation, bicycle way-finding signage must be installed within the site to direct cyclists from footpaths to designated bicycle parking areas.

- D26. Prior to the commencement of operation, 'Do not drink' signage on non-potable water to new hose taps and irrigation systems for landscaped areas must be installed within the site.

#### **Site Audit Statement**

- D27. Prior to the commencement of operation, the Proponent must submit a Site Audit Report and Section A Site Audit Statement for the relevant part of the site prepared by a NSW EPA accredited Site Auditor. The Site Audit Report and Section A Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided for the information of the Planning Secretary and the Certifier.

#### **Asset Protection Zones**

- D28. Prior to the commencement of operation, the Asset Protection Zones (APZ) surrounding the building as identified in Figure 5 of *Bushfire Assessment Report New Maitland Hospital Stage 2 – State Significant Infrastructure Application*, prepared by Newcastle Bushfire Consulting, dated 2 April 2019, must be provided in accordance with section 4.1.3 and Appendix 5 of the *Planning for Bush Fire Protection 2006* and the NSW RFS document Standards for asset protection zones, as amended by the following requirements:
- (a) an inner protection area (IPA) for a distance of 40m to the south-east of the building;
  - (b) an IPA for a distance of 50m to the east of the building;
  - (c) an IPA for a distance of 68m to the west of the building; and
  - (d) an APZ of 70m to the south and south-west, consisting of an IPA of 60m and an outer protection area of 10m.

#### **Landscaping**

- D29. Prior to the commencement of operation, the Proponent must prepare an Operational Landscape Management Plan to manage the revegetation and landscaping on-site, to the satisfaction of the Certifier. The plan must describe the ongoing monitoring and maintenance measures to manage revegetation and landscaping.
- D30. The Operational Landscape Management Plan must ensure that all landscaping within APZs complies with the principles outlined in Appendix 5 of the *Planning for Bush Fire Protection 2006*.
- D31. The Proponent must not commence operation until the Operational Landscape Management Plan endorsed by the Certifier is submitted to the Planning Secretary.

## **PART E POST OCCUPATION**

### **Operation of Plant and Equipment**

- E1. All plant and equipment used on site must be maintained in a proper and efficient condition operated in a proper and efficient manner.

### **Warm Water Systems and Cooling Systems**

- E2. The operation and maintenance of water cooling systems (as defined under the Public Health Act 2010) must comply with the Public Health Act 2010, Public Health Regulation 2012 and Part 2 (or Part 3 if a Performance-based water cooling system) of AS/NZS 3666.2:2011 Air handling and water systems of buildings – Microbial control – Operation and maintenance and the NSW Health Code of Practice for the Control of Legionnaires' Disease.

### **Operational Noise Limits**

- E3. The Proponent must ensure that noise generated by operation of the development does not exceed the noise limits in *New Maitland Hospital State Significant Infrastructure Application – Stage 2 Noise and Vibration Assessment*, prepared by Acoustic Logic, dated 5 April 2019.
- E4. The Proponent must undertake short term noise monitoring in accordance with the *Noise Policy for Industry* where valid data is collected following the commencement of use of each stage of the development. The monitoring program must be carried out by an appropriately qualified person and a monitoring report must be submitted to the Planning Secretary within two months of commencement use of each stage of the development to verify that operational noise levels do not exceed the project specific noise levels identified in *New Maitland Hospital State Significant Infrastructure Application – Stage 2 Noise and Vibration Assessment*, prepared by Acoustic Logic, dated 5 April 2019. Should the noise monitoring program identify any exceedance of the recommended noise levels referred to above, the Proponent is required to implement appropriate noise attenuation measures so that operational noise levels do not exceed the project specific noise levels or provide attenuation measures at the affected noise sensitive receivers.

### **Unobstructed Driveways and Parking Areas**

- E5. All driveways, footways and parking areas must be unobstructed at all times. Driveways, footways and car spaces must not be used for the manufacture, storage or display of goods, materials, refuse, skips or any other equipment and must be used solely for vehicular and/or pedestrian access and for the parking of vehicles associated with the use of the premises.

### **Green Travel Plan**

- E6. The Green Travel Plan required by condition D12 of this approval must be updated annually and implemented unless otherwise agreed by the Planning Secretary.

### **Parking Demand Study**

- E7. Within two years of commencement of operations, an additional 140 line-marked car parking spaces must be provided, unless otherwise agreed by the Planning Secretary, where:
- (a) it can be demonstrated that an alternate timing for delivery should be approved as the gradual occupation of the building and increase in hospital operations is progressing at a different rate; or
  - (b) a car parking review undertaken by a suitably qualified and experienced person demonstrates that actual demand is lower than the total projected 822 car parking spaces required.

### **Ecologically Sustainable Development**

- E8. Unless otherwise agreed by the Planning Secretary, within six months of commencement of operation, Green Star certification must be obtained demonstrating the development achieves a minimum 4 star Green Star Design & As Built rating. If required to be obtained, evidence of the certification must be provided to the Certifier and the Planning Secretary. If an alternative certification process has been agreed to by the Planning Secretary under Condition B7, evidence of compliance of implementation must be provided to the Planning Secretary and Certifier.

### **Outdoor Lighting**

- E9. Notwithstanding Condition D23, should outdoor lighting result in any residual impacts on the amenity of surrounding sensitive receivers, the Proponent must provide mitigation measures in consultation with affected landowners to reduce the impacts to an acceptable level.

### **Landscaping**

- E10. The Proponent must maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition D29 for the duration of occupation of the development.

### **Rainwater Harvesting**

- E11. The Proponent must implement the rainwater re-use plan required by condition D21 for the duration of the development

### **Asset Protection Zones**

- E12. The asset protection zones required by condition D28 shall be maintained for the duration of occupation of the development.

### **Hazards and Risk**

- E13. The Proponent must store all chemicals, fuels and oils used on-site in accordance with:
- (a) the requirements of all relevant Australian Standards; and
  - (b) the EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* if the chemicals are liquids.
- E14. In the event of an inconsistency between the requirements of condition E14(a) and E14(b), the most stringent requirement must prevail to the extent of the inconsistency.

### **Dangerous Goods**

- E15. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of *Planning's Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this approval removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

**Long Service Levy**

AN2. For work costing \$25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation Helpline on 131 441.

**Legal Notices**

AN3. Any advice or notice to the approval authority must be served on the Planning Secretary.

**Access for People with Disabilities**

AN4. The works that are the subject of this application must be designed and constructed to provide access and facilities for people with a disability in accordance with the BCA. Prior to the commencement of construction, the Certifier must ensure that evidence of compliance with this condition from an appropriately qualified person is provided and that the requirements are referenced on any certified plans.

**Utilities and Services**

AN5. Prior to the construction of any utility works associated with the development, the Proponent must obtain relevant approvals from service providers.

AN6. Prior to the commencement of above ground works written advice must be obtained from the electricity supply authority, an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provisions of adequate services.

**Road Design and Traffic Facilities**

AN7. All roads and traffic facilities must be designed to meet the requirements of Council or TfNSW (RMS) (whichever is applicable). The necessary permits and approvals from the relevant road authority must be obtained prior to the commencement of road or pavement construction works.

**Road Occupancy Licence**

AN8. A Road Occupancy Licence must be obtained from the relevant road authority for any works that impact on traffic flows during construction activities.

**SafeWork Requirements**

AN9. To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements.

**Hoarding Requirements**

AN10. The Proponent must submit a hoarding application to Council for the installation of any hoardings over Council footways or road reserve.

**Handling of Asbestos**

AN11. The Proponent must consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered during construction. The requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 – 'Transportation and management of asbestos waste' must also be complied with.

**Fire Safety Certificate**

AN12. The owner must submit to Council an Annual Fire Safety Statement, each 12 months after the final Safety Certificate is issued. The certificate must be on, or to the effect of, Council's Fire Safety Statement.



## APPENDIX 2 WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

### Written Incident Notification Requirements

1. A written incident notification addressing the requirements set out below must be emailed to the Planning Secretary at the following address: [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under condition A25 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
  - a. identify the development and application number;
  - b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
  - c. identify how the incident was detected;
  - d. identify when the Proponent became aware of the incident;
  - e. identify any actual or potential non-compliance with conditions of approval;
  - f. describe what immediate steps were taken in relation to the incident;
  - g. identify further action(s) that will be taken in relation to the incident; and
  - h. identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Proponent must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
  - a. a summary of the incident;
  - b. outcomes of an incident investigation, including identification of the cause of the incident;
  - c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
  - d. details of any communication with other stakeholders regarding the incident.

## 15.4 Appendix 4: Environmental Protection Licence



# Environment Protection Licence

Licence - 21199

## Licence Details

Number:	21199
Anniversary Date:	06-February

## Licensee

MULTIPLEX CONSTRUCTIONS PTY LTD  
LVL 22, 135 KING ST  
SYDNEY NSW 2000

## Premises

NEW MAITLAND HOSPITAL (CONCEPT PROPOSAL AND  
STAGE 1)  
METFORD RD  
METFORD NSW 2323

## Scheduled Activity

Extractive activities

## Fee Based Activity

Land-based extractive activity

## Scale

> 100000-500000 T annual capacity  
to extract, process or store

## Region

North - Hunter  
Ground Floor, NSW Govt Offices, 117 Bull Street  
NEWCASTLE WEST NSW 2302  
Phone: (02) 4908 6800  
Fax: (02) 4908 6810  
PO Box 488G  
NEWCASTLE NSW 2300

# Environment Protection Licence

Licence - 21199



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# Environment Protection Licence

Licence - 21199



## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

# Environment Protection Licence

Licence - 21199



The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

MULTIPLEX CONSTRUCTIONS PTY LTD

LVL 22, 135 KING ST

SYDNEY NSW 2000

subject to the conditions which follow.



# Environment Protection Licence

Licence - 21199



## 1 Administrative Conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2:

Works in accordance with the proposal contained in the licence application and supporting documents to enable extractive activities for the construction of the New Maitland Hospital facility, including the establishment of sediment and erosion controls.

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Extractive activities	Land-based extractive activity	> 100000 - 500000 T annual capacity to extract, process or store

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
NEW MAITLAND HOSPITAL (CONCEPT PROPOSAL AND STAGE 1)
METFORD RD
METFORD
NSW 2323
PART LOT 401 DP 755237, LOT 7314 DP 1162607
PREMISES DEFINED BY PLAN TITLED "PREMISES PLAN NEW MAITLAND HOSPITAL EPL 21199" DATED 3 MAY 2019 (EPA REFERENCE: DOC19/374386)

### A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

# Environment Protection Licence

Licence - 21199



- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

- P1.1 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

#### *Water and land*

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to waters Water quality monitoring	Discharge to waters Water quality monitoring	Outlet of the sediment basin labelled as "Proposed discharge location 1" on premises plan titled "Premises Plan New Maitland Hospital EPL 21199" revision B dated 3 May 2019 (EPA Reference DOC19/374386)

## 3 Limit Conditions

### L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

### L2 Concentration limits

- L2.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.



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## L2.4 Water and/or Land Concentration Limits

### POINT 1

Pollutant	Units of Measure	50 Percentile concentration limit	90 Percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

### L3 Waste

L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L3.2 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Recovered aggregate	Recovered aggregate that meets all the conditions of 'the recovered aggregate order 2014'	As specified in each particular resource recovery exemption	15,000 tonnes per annum
NA	Excavated natural material	Excavated natural material that meets all the conditions of 'the excavated natural material order 2014'	As specified in each particular resource recovery exemption	The total combined tonnages of virgin excavated natural material and excavated



# Environment Protection Licence

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				natural material must not exceed 15,000 tonnes per annum
NA	Virgin excavated natural material	As defined in Schedule 1 of the POEO Act, as in force from time to time	Waste disposal (application to land)	The total combined tonnages of virgin excavated natural material and excavated natural material must not exceed 15,000 tonnes per annum

## L4 Noise limits

- L4.1 All works must be carried out in accordance with the *Interim Construction Noise Guideline* (DECC, 2009) to minimise the emission of noise and vibration from the premises.

## L5 Hours of operation

### L5.1 Standard construction hours

Except as expressly permitted by another condition of this licence, construction work must be limited to the times listed below:

- a) 7:00 am to 6:00 pm Monday to Friday;
- b) 8:00 am to 1:00 pm Saturdays; and
- c) at no time on Sundays or Public Holidays.

### L5.2 High noise impact works and activities

Notwithstanding the standard construction hours permitted by Condition L5.1, high noise impact works and activities must be limited to the times listed below:

- a) 9:00 am to 12:00 pm Monday to Friday;
  - b) 2:00 pm to 5:00 pm Monday to Friday;
  - c) 9:00 am to 12:00 pm Saturdays; and
  - d) at no time on Sundays or Public Holidays;
- except as expressly permitted by another condition of this licence.

### L5.3 Approved out of hours works

The licensee may undertake works outside of the hours permitted by Condition L5.1 and Condition L5.2 if:

- a) those works constitute deliveries of vehicles, plant or materials that have been determined by the Police or other authorised authorities to require special arrangements for transport along public roads for safety reasons; or
- b) those works constitute emergency works required to avoid loss of life, damage to property or environmental harm; or
- c) those works are inaudible at the nearest noise sensitive receivers; or
- d) those works have been approved in advance in writing by the EPA.

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The licensee must notify potentially affected noise sensitive receivers of any out of hours works before undertaking any out of hours works.

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

### O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O3.3 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

### O4 Processes and management

O4.1 The licensee must maximise the diversion of run-on waters from lands upslope and around the site whilst land disturbance activities are being undertaken.

O4.2 The licensee must minimise the area of the site that is able to generate suspended material when water runs over it.

O4.3 The licensee must ensure that all erosion and sediment control measures installed on the premises are inspected and works undertaken to repair and maintain these controls:

- a) at least weekly, and
- b) immediately before site closure, and
- c) immediately following rainfall events that cause runoff.



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The licensee must record all such inspections including observations and works undertaken to repair and maintain erosion and sediment controls.

- O4.4 The licensee must ensure that all diversion banks, channels and points of discharge, including any licenced discharge points, be constructed or stabilised so as to not cause off site erosion or scouring.
- O4.5 The licensee must ensure the design storage capacity of the sediment basins installed on the premises is reinstated within 5 days of the cessation of a rainfall event that causes runoff to occur on or from the premises.

## O5 Other operating conditions

- O5.1 The licensee must store and handle all liquid chemicals and hazardous materials used at the premises within bunded areas that are constructed and maintained in accordance with the following:
- a) any relevant Australian Standards for the liquids being stored;
  - b) within a bunded area with a minimum bund capacity of 110% of the volume of the largest single stored vessel within the bund;
  - c) the Storing and Handling Liquids: Environmental Protection Participant's Manual (DECC, 2007); and where any conflict exists between these requirements, the most stringent requirements apply.
- O5.2 For the purpose of condition O5.1, any tanks or other storage vessels that are interconnected and may distribute their contents either by gravity or automated pumps must be considered a single vessel.
- O5.3 The licensee must implement all practicable measures to prevent material, including mud and waste, being tracked from the premises.

## 5 Monitoring and Recording Conditions

### M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
- a) in a legible form, or in a form that can readily be reduced to a legible form;
  - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
  - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
- a) the date(s) on which the sample was taken;
  - b) the time(s) at which the sample was collected;
  - c) the point at which the sample was taken; and
  - d) the name of the person who collected the sample.

# Environment Protection Licence

Licence - 21199



## M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

### POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	In situ
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample

Note: 'Special Frequency 1' means:

- a) less than 24 hours prior to a controlled/scheduled discharge and daily for any continued controlled/scheduled discharge; and
- b) within 1 hour of the commencement of discharge when rainfall causes a discharge from the licensed discharge point.

## M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

## M4 Weather monitoring

M4.1 The licensee must install and maintain a rainfall depth measuring device.

M4.2 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

## M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.



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- M5.2 The record must include details of the following:
- a) the date and time of the complaint;
  - b) the method by which the complaint was made;
  - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the licensee, the reasons why no action was taken.
- M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## M6 Telephone complaints line

- M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M6.3 The preceding two conditions do not apply until 4 weeks from the date of the issue of this licence.

## 6 Reporting Conditions

### R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- 1. a Statement of Compliance,
  - 2. a Monitoring and Complaints Summary,
  - 3. a Statement of Compliance - Licence Conditions,
  - 4. a Statement of Compliance - Load based Fee,
  - 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
  - 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
  - 7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

# Environment Protection Licence

Licence - 21199



**Note:** The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

**R1.3** Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

**Note:** An application to transfer a licence must be made in the approved form for this purpose.

**R1.4** Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

**R1.5** The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

**R1.6** The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

**R1.7** Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

## **R2 Notification of environmental harm**

**R2.1** Notifications must be made by telephoning the Environment Line service on 131 555.

**Note:** The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

**R2.2** The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

## **R3 Written report**

**R3.1** Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the



# Environment Protection Licence

Licence - 21199



carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## 7 General Conditions

### G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

### G2 Contact number for incidents and responsible employees

G2.1 The licensee must operate 24-hour telephone contact lines for the purpose of enabling the EPA to directly contact one or more representatives of the licensee who can:

- a) respond at all times to incidents relating to the premises; and
- b) contact the licensee's senior employees or agents authorised at all times to:
  - i) speak on behalf of the licensee; and
  - ii) provide any information or document required under this licence.

# Environment Protection Licence

Licence - 21199



- G2.2 The licensee is to inform the EPA in writing of the appointment of any subsequent contact persons, or changes to the person's contact details as soon as practicable and in any event within fourteen days of the appointment or change.

## 8 Special Conditions

### E1 Special Dictionary

#### E1.1 Special Dictionary

Term	Meaning
high noise impact works and activities	means works or activities occurring at or on the ground surface that generate noise with impulsive, intermittent, tonal or low frequency characteristics. Examples include: jack hammering; rock breaking or hammering; impact pile driving; vibratory rolling; cutting or grinding of pavement, concrete or metal; and bitumen milling and profiling.
noise sensitive receivers	means residences or sensitive land users that may be affected by noise above the Management Level described in the Interim Construction Guideline, Department of Environment and Climate Change (DECC) 2009, from the activities under this licence.



# Environment Protection Licence

Licence - 21199

## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

# Environment Protection Licence

Licence - 21199



<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .



# Environment Protection Licence

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<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
<b>utilisation area</b>	Means any area shown as a utilisation area on a map submitted with the application for this licence
<b>waste</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>waste type</b>	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Mark Hartwell

Environment Protection Authority

(By Delegation)

Date of this edition: 06-February-2019

## End Notes

2 Licence varied by notice 1575993 issued on 04-Mar-2019

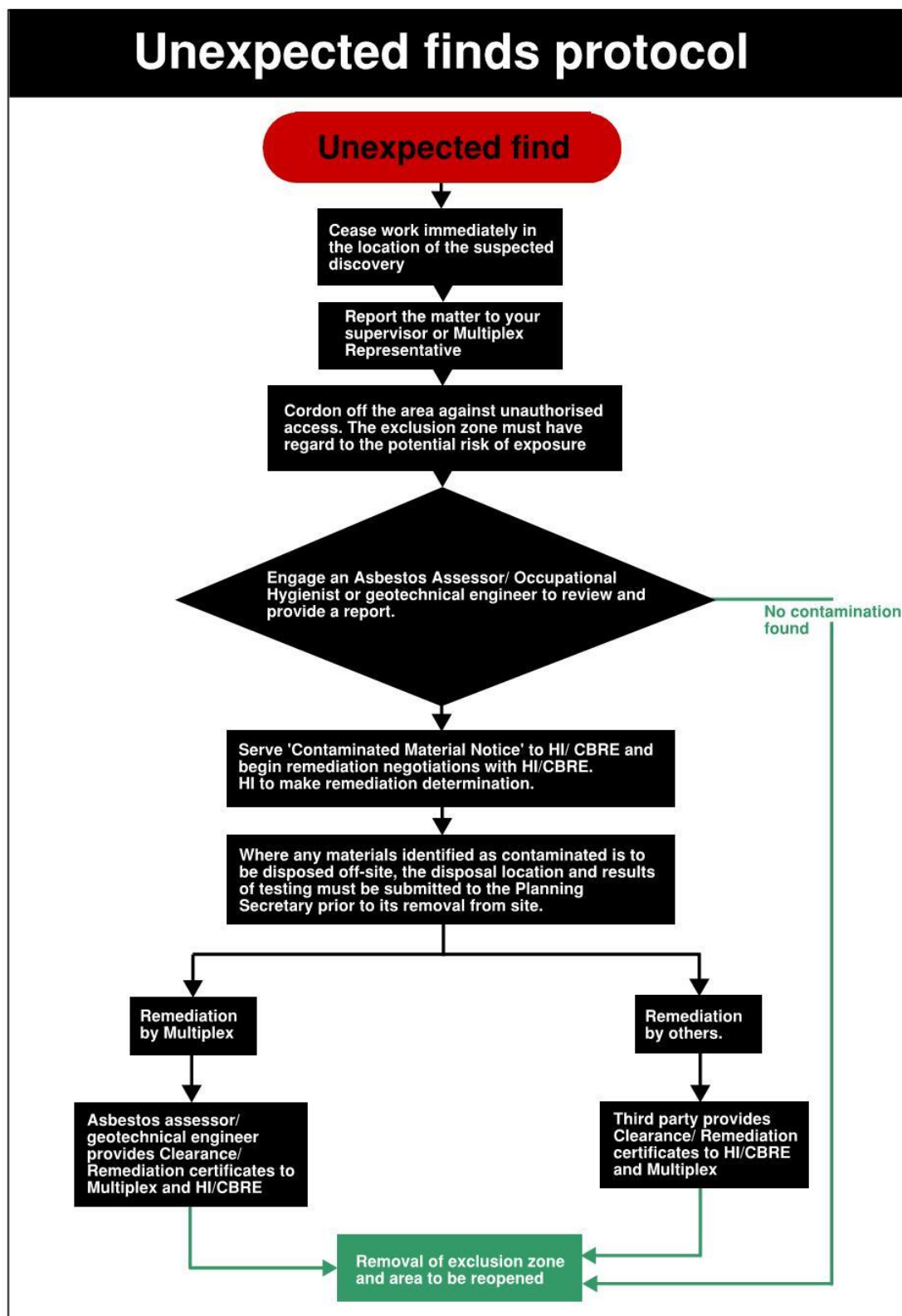
# MULTIPLEX

## 15.5 Appendix 5: Map of Premises

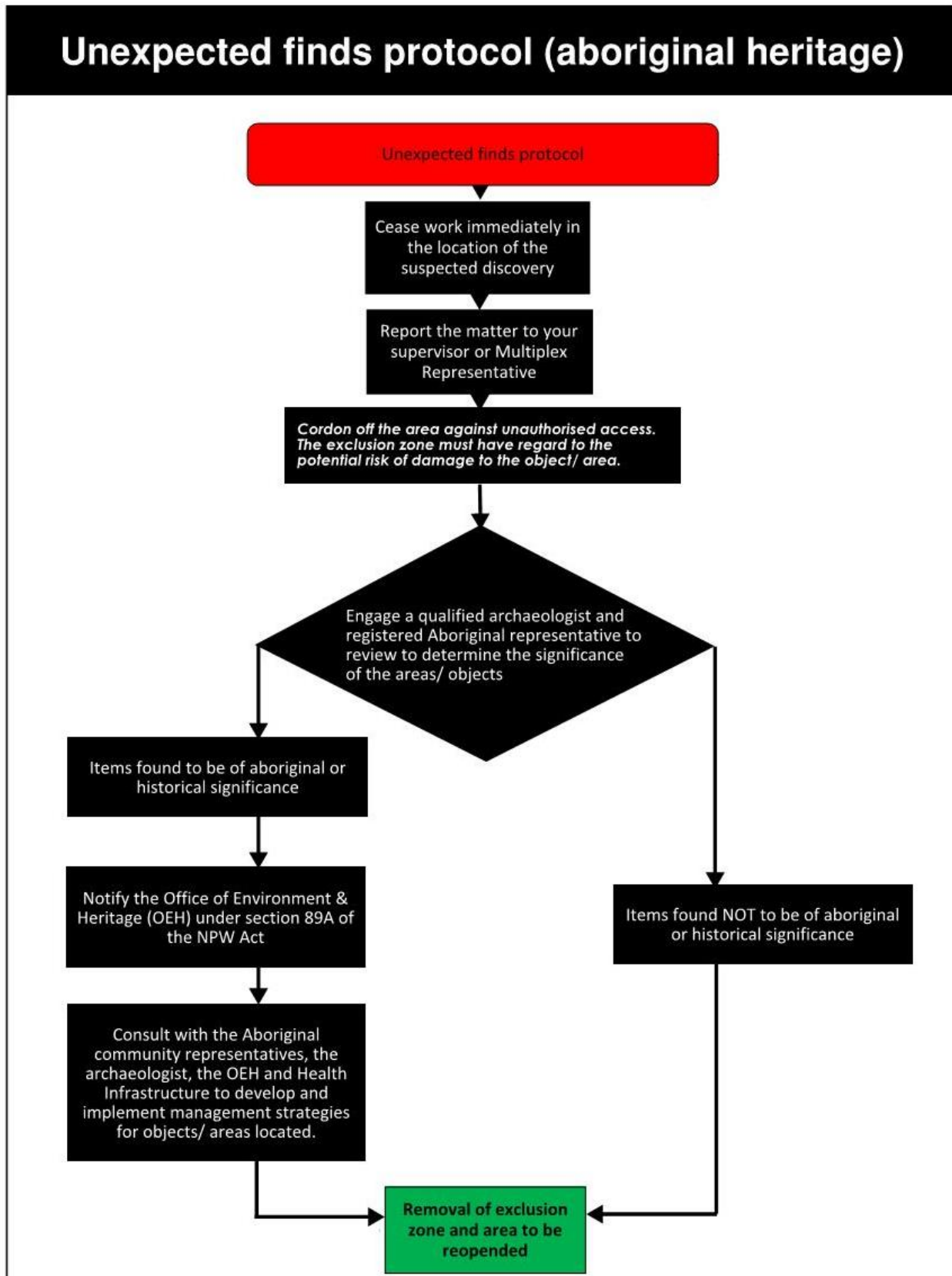




15.6 Appendix 6: Unexpected finds protocol (contaminated material)



15.7 Appendix 7: Unexpected finds protocol (aboriginal heritage)



## 15.8 Appendix 8: Construction Noise and Vibration Management Sub-Plan

New Maitland Hospital  
State Significant Infrastructure Application - Stage 2  
Noise and Vibration Assessment

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# 1 INTRODUCTION

Acoustic Logic Consultancy has been engaged by Multiplex to undertake an acoustic assessment of potential operation and proposed construction noise and vibration from the New Maitland Hospital (NMH) project.

In this report, we will:

- Identify nearby noise sensitive receivers and anticipated noise and vibration sources with the potential to adversely impact nearby development.
- Identify relevant EPA acoustic criteria applicable to the development for operational and construction noise.
- Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours
- Predict noise emissions and assess them against acoustic criteria.
- If necessary, determine management controls necessary to mitigate noise and vibration impacts.

In order to satisfy the following SEARs requirements:

- SSI 9975 SEARS 9. Noise and Vibration
- SSI 9975 SEARS 18. Construction Hours
- SSI 9022 Approval Conditions – Sch.2, Part.B, Item.B5, Requirements for Future Stages
- SSI 9022 Approval Conditions – Sch.2, Part.B, Item.B6, Requirements for Future Stages

## 2 SITE DESCRIPTION

New Maitland Hospital is located on the eastern side of Metford Road (on Lot 7314 DP 1162607 and part Lot 401 DP 755237). The site is bound by industrial development and active recreation facilities to the west, an existing CSR rehabilitation site to the north, and residential properties to the south.

### 2.1 PROJECT DESCRIPTION

The NMH will provide the infrastructure required to adequately meet the anticipated growth in demand and enhance an integrated patient journey from acute, subacute and ambulatory care services to community-based services in partnership with other health providers.

The Project generally includes the following:

- 289 beds for day and overnight medical, surgical, paediatric, short stay, maternity and mental health services
- 8 bed critical care service (ICU);
- 12 cot Special Care Nursery for neonates;
- 24 day and overnight rehabilitation beds in addition to the existing beds at Kurri Kurri Hospital to meet overall rehabilitation demand;
- New Emergency department;
- 24 bed Mental health inpatient services and a new 6 bed psychiatric emergency care center (PECC);
- Satellite renal dialysis;
- A new chemotherapy service and expanded oral health service;
- Ambulatory care and outpatient clinics;
- Support spaces including operating theatres and recovery stage 1 and 2, delivery suites and assessment rooms;
- Imaging modalities including MRI, x-ray, CT, Orthopantomogram (OPG), ultrasound; and
- Clinical support services including Central Sterile Services Department, pharmacy, pathology, fluoroscopy, isolation rooms where required, plaster rooms and gyms to support both general and mental health services for residents.

### 2.2 CONSTRUCTION ACTIVITIES AND METHODOLOGY

Following is a description of the activities and methodology proposed to be employed to complete the construction of the New Maitland Hospital.

Construction will consist primarily of the following:

- Stage 1 Early Works
- Excavation will be required. Given the geological conditions at the site, excavation is expected to be conducted using rippers (noise/vibration intensive equipment such as rock saws and hydraulic hammers is not expected to be required).
- Materials handling area (deliveries) and concrete pumping stations are proposed along the northern boundary of the site. Vehicular access is via a driveway on Metford Road.
- Construction will be typical concrete frame building construction, with glass facade and cladding installation.

## **2.3 RECEIVERS**

Noise sensitive development in the vicinity of the site, consists of:

- Residential developments to the south;
- Active recreation space to the west (sports field); and
- Industrial developments to the west.

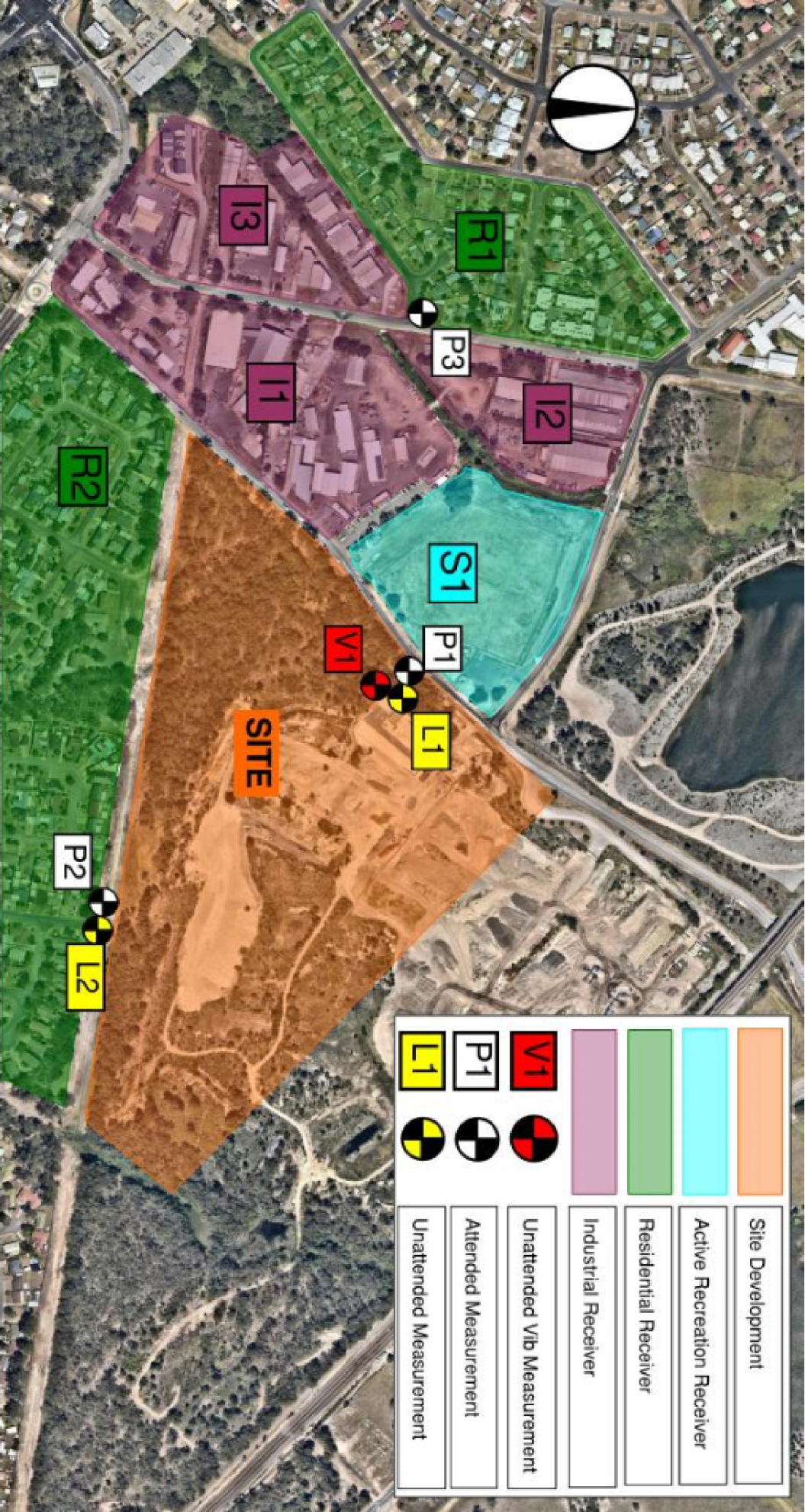
See aerial photograph below, in Figure 1 showing the site and receiver locations. The site plan is shown in Figure 2.

## **2.4 HOURS OF CONSTRUCTION**

Works are proposed to be undertaken during the following construction hours:

- Monday to Friday 7:00am to 6:00pm
- Saturday 8:00am to 5:00pm
- No work on Sundays and Public Holidays; and
- Low noise activities carried out (e.g. handheld tools (including power tools), painting etc) may be carried out at all times provided the activities do not cause offensive noise





Source: nearmap.com

Figure 1 – Aerial View of Site and Receivers





### 3 SURVEY OF AMBIENT NOISE

Both long term unattended noise logging and attended noise measurements were conducted to quantify the existing acoustic environmental and have been presented in the *Noise & Vibration Impact Assessment for Stage 1* prepared by Wood & Grieves, dated 8 May 2018. The location of the monitors and measurements are outlined in Figure 1. See Wood & Grieves Report (Project-No. 32489-1, dated: 08/05/18) for detailed assessment of background noise levels.

The resultant long term noise logging data is presented below.

**Table 1 – Long Term Noise Logging Data**

Location	Time of Day		
	Daytime (7am-6pm)	Evening (6pm-10pm)	Night (10pm-7am)
Residential Properties to the South	49dB(A) <sub>Leq(Day)</sub> 42dB(A) <sub>L90</sub>	48dB(A) <sub>Leq(Evening)</sub> 42dB(A) <sub>L90</sub>	45dB(A) <sub>Leq(Night)</sub> 37dB(A) <sub>L90</sub>

### 4 NEW MAITLAND HOSPITAL (STAGE 2) SSI 9775 APPLICATION

#### SSI 9975 SEARS 9. Noise and Vibration

- *Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.*

#### SSI 9975 SEARS 18. Construction Hours

- *Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours*

#### SSI 9022 Approval Conditions – Sch.2, Part.B, Item.B5, Requirements for Future Stages

- *The SSI application for the detailed design and construction of the NMH must be accompanied by a detailed noise and vibration impact assessment prepared by a suitably qualified person, which details the main construction and operational noise and vibration sources and activities, including future mechanical plant. Details are also to be included outlining all feasible and reasonable noise and vibration mitigation and management measures.*

#### SSI 9022 Approval Conditions – Sch.2, Part.B, Item.B6, Requirements for Future Stages

- *The noise and vibration impact assessment, as required by condition B5 of Schedule 2, must demonstrate that the location and operation of the helipad has been designed to minimise noise impacts on sensitive land uses.*



## 5 OPERATIONAL NOISE & VIBRATION

### 5.1 NOISE CRITERIA

Wood & Grieve's 'Acoustic Performance Specification' (Project No. 32489-1, Dated 20<sup>th</sup> June 2018) and 'Noise & Vibration Impact Assessment for Stage 1' (Project No. 32489-1, Dated 8<sup>th</sup> May 2018) outlines external acoustic criteria for NMH. These criteria have been restated below.

Noise and vibration emissions from the operation of the hospital shall comply with the following criteria.

#### 5.1.1 Sleep Disturbance

Wood & Grieve's 'Acoustic Performance Specification' states the following with reference to sleep disturbance:

*"The NSW NPI, the NSW RNP and the NSW ENCM address the issue of sleep arousal. The NSW ENCM makes the general observation that a person's sleep can be significantly disrupted by noise. Scientific research has established that short duration or intermittent noise is more disturbing to sleep than continuous noise of similar acoustic energy. The following is concluded from interim research discussed in these documents:*

- *L<sub>Amax</sub> noise levels less than 50-55dB(A) are unlikely to cause sleep disturbance*
- *One or two events per night with 65-70dB(A) L<sub>Amax</sub> noise levels are not likely to cause adverse health effects*

*Chapter 19 of the NSW ENCM provides guidelines for assessing sleep disturbance resulting from short-duration high-level noises which occur at night (10:00pm to 7:00am according to the NSW EPA) as follows:*

*"Noise control should be applied with the general intent to protect people from sleep arousal. To achieve this, the L<sub>1</sub> level of any specific noise source should not exceed the background noise level (L<sub>90</sub>) by more than 15dB(A) when measured outside the bedroom window."*

*Furthermore, the NSW NPI and the NSW RNP provide guidelines to indicatively assess sleep arousal events based on maximum internal noise levels. The application notes of the previous version of the NSW NPI state that the current sleep disturbance criterion of an L<sub>A1,1min</sub> not exceeding the L<sub>A90,15min</sub> by more than 15dB(A) is not ideal. Nevertheless, as there is insufficient evidence to determine what should replace it, the NSW EPA will continue to use it as a guide to identify the likelihood of sleep disturbance. This means that where the criterion is met, sleep disturbance is not likely to occur, but where it is not met, a more detailed analysis is required. The current NSW NPI external noise level criteria are as follows:*

- *L<sub>Aeq,15min</sub> less than 40 dB(A) or the prevailing background noise level plus 5 dB, whichever is the greater, and/or*
- *L<sub>AFmax</sub> less than 52 dB(A) or the prevailing background noise level plus 15 dB, whichever is the greater.*

*According to the application notes of the previous version of the NSW NPI, the assessment can be undertaken using the L<sub>A1(1 minutes)</sub> or the L<sub>Amax</sub> noise descriptors provided these are obtained under 'fast' time response.*

*Therefore, based on the guidelines discussed herein, an external L<sub>Amax</sub> noise level of 50dB(A) at the residences will ensure that the internal noise level requirements for sleep arousal will also be achieved. Please note this criterion should be confirmed with further measurements of existing ambient noise levels on site and at the nearest affected residences.*

*It should also be noted that compliance with this criterion will influence mitigation measures for plant items which operate during the night time period and emergency equipment such as stand-by generators.”*

### 5.1.2 External Noise Criteria

Wood & Grieve’s ‘Acoustic Performance Specification’ states the following with reference to external noise criteria:

*“The noise being emitted from the development into the surroundings must be considered to preserve the existing noise environment for the nearby sensitive receivers. Generally, most of the operational noise comes from various mechanical equipment and plant, but the noise from vehicle movements etc. should also be taken into account.*

*A noise survey including both unattended and attended measurements was conducted from the 15<sup>th</sup> to the 24<sup>th</sup> of June 2017. The results and the determination of the external noise level criteria following the NSW NPI (year 2000 issue) have been detailed in the previous Wood & Grieve report for Stage 1 Town Planning submission.”* The resulting project specific noise levels (PSNL) have been reproduced in Table 2.

**Table 2 - External Noise Emissions**

Type of Receiver	Time of Day	Descriptor	PSNL. dB(A)
Residential - R1, R2	Day	L <sub>Aeq,15min</sub>	47
	Evening	L <sub>Aeq,period</sub>	45
	Night	L <sub>Aeq,period</sub>	40
		L <sub>A,max</sub>	< 45
Industrial - I1-I3	When in use	L <sub>Aeq,period</sub>	70
Active Recreation Area - S1	When in use	L <sub>Aeq,period</sub>	55

*“The overall external noise level criteria (defined in the NSW NPI as project specific noise levels) apply to all external noise emissions by the hospital, such as mechanical plant items and car parking. Hence, an assessment based on these criteria should determine any necessary treatment to these mechanical plant items and other sources in order to achieve compliance. Typically, these apply to all outdoor plant units and external air paths (i.e. outside air, relief air, exhaust air). The assessment should be conducted at all external noise sensitive receivers identified in Section 3.4 of this report.”*

### 5.1.3 Traffic Noise Generation Criteria

Wood & Grieve’s ‘Noise & Vibration Impact Assessment for Stage 1’ (Project No. 32489-1, Dated 8<sup>th</sup> May 2018) states the following with reference to traffic noise generation criteria:

*“The L<sub>Aeq</sub> noise level or the “equivalent continuous noise level” correlates best with the human perception of annoyance associated with traffic noise. Road traffic noise impact is assessed in accordance with the NSW Road Noise Policy (RNP, Office of Environment and Heritage 2011). The criterion (Table 3 – Road Traffic Noise Assessment Criteria for Residential Land Uses) divides land use developments into different categories and lists the respective criteria for each case. The category that is relevant to the proposed use of the site is shown below in Table 13 (Table 3 in this report).”*

**Table 3 – NSW Road Noise Policy - Traffic Noise Assessment Criteria**

Road Category	Type of project/land use	Assessment Criteria – dB(A)	
		Day (7am – 10pm)	Night (10pm – 7am)
Freeway/ arterial/ sub- arterial roads	1. Existing residences affected by noise from new freeway/arterial/sub-arterial road corridors	L <sub>Aeq</sub> , (15 hour) 55	L <sub>Aeq</sub> , (9 hour) 50
	2. Existing residences affected by noise from redevelopment of existing freeway/arterial/subarterial roads	L <sub>Aeq</sub> , (15 hour) 60	L <sub>Aeq</sub> , (9 hour) 55
	3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments		
Local Roads	4. Existing residences affected by noise from new local road corridors	L <sub>Aeq</sub> , (1 hour) 55	L <sub>Aeq</sub> , (1 hour) 50
	5. Existing residences affected by noise from redevelopment of existing local roads		
	6. Existing residences affected by additional traffic on existing local roads generated by land use developments		

*"In the event that the traffic noise at the site is already in excess of the criteria noted above, the NSW RNP states that the primary objective is to reduce the existing level through feasible and reasonable measures to meet the criteria above.*

*If this is not achievable, Section 3.4.1 Process for applying the criteria – Step 4 states that for existing residences affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise should be limited to 2 dB above that of the corresponding 'no build option'.*

*Also, the inherent quality of noise from vehicles on public roads arriving to and departing from the site would be indistinguishable from other traffic noise on public roads."*

## 5.2 VIBRATION CRITERIA

Wood & Grieve's 'Noise & Vibration Impact Assessment for Stage 1' (Project No. 32489-1, Dated 8<sup>th</sup> May 2018) states the following with reference to vibration criteria:

*"The office of Environment and Heritage (OEH) developed a document, "Assessing vibration: A technical guideline" in February 2006 to assist in preventing people from exposure to excessive vibration levels from construction and operation of a development within buildings. The guideline does not however address vibration induced damage to structures or structure-borne noise effects. Vibration and its associated effects are usually classified as continuous, impulsive or intermittent."*

### 5.2.1 Human Comfort – Continuous and Impulsive Vibration Criteria

*"Structural vibration in buildings can be detected by occupants and can affect them in many ways including reducing their quality of life and also their working efficiency. Complaint levels from occupants of buildings subject to vibration depend upon their use of the building and the time of the day. Maximum allowable magnitudes of building vibration with respect to human response are shown*

in Table 17 (Table 4 in this report). It should be noted that the human comfort for vibration are more stringent than the building damage criteria."

**Table 4 – Preferred and Maximum Weighted RMS Values for Continuous and Impulsive Vibration Acceleration (m/s<sup>2</sup>) 1-80Hz**

Location	Assessment Period	Preferred Values		Maximum Values	
		z-axis	x & y-axis	z-axis	x & y-axis
CONTINUOUS VIBRATION					
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and place of worship	Day or night time	0.020	0.014	0.040	0.028
IMPULSIVE VIBRATION					
Residences	Daytime	0.30	0.21	0.60	0.42
	Night time	0.10	0.071	0.20	0.014
Offices, schools, educational institutions and place of worship	Day or night time	0.64	0.46	1.28	0.92

### 5.2.2 Human Comfort – Intermittent Vibration Criteria

"Disturbance caused by vibration will depend on its duration and its magnitude. This methodology of assessing intermittent vibration levels involves the calculation of a parameter called the Vibration Dose Value (VDV) which is used to evaluate the cumulative effects of intermittent vibration. Various studies support the fact that VDV assessment methods are far more accurate in assessing the level of disturbance than methods which is only based on the vibration magnitude."

**Table 5 – Acceptable Vibration Dose Values for Intermittent Vibration (m/s<sup>1.75</sup>)**

Location	Daytime (7am to 10pm)		Night-time (10pm to 7am)	
	Preferred Values	Maximum Values	Preferred Values	Maximum Values
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and place of worship	0.40	0.80	0.40	0.80

### 5.2.3 Structural Damage – Vibration Criteria

"Ground vibration criteria are defined in terms of levels of vibration emission from infrastructures or from the construction activities which will avoid the risk of damaging surrounding buildings or structures. It should be noted that human comfort criteria are normally expressed in terms of acceleration whereas structural damage criteria are normally expressed in terms of velocity.

Most commonly specified structural vibration levels are defined to minimize the risk of cosmetic surface cracks and are set below the levels that have the potential to cause damage to the main structure. Structural damage criteria are presented in German Standard DIN4150-Part 3 "Structural

vibration in buildings – Effects on structures” and British Standard BS7385-Part 2: 1993 “Evaluation and Measurement for Vibration in Buildings”. Table 19 (Table 6 in this report) indicates the vibration limits presented in DIN4150-Part 3 to ensure structural damage doesn’t occur.”

**Table 6 – Guideline value of vibration velocity,  $v_i$ , for evaluating the effects of short-term vibration**

Line	Type of Structure	Vibration velocity, $v_i$ , in mm/s			
		Foundation at a frequency of			Plane of floor of uppermost full storey
		Less than 10Hz	10 to 50Hz	50 to 100*Hz	All Frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that, because of their particular sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8
*For frequencies above 100Hz, at least the values specified in this column shall be applied					

## 5.3 OPERATIONAL NOISE ASSESSMENT

### 5.3.1 External Car park, Loading Dock & Waste Collection

Wood & Grieve's 'Noise & Vibration Impact Assessment for Stage 1' (Project No. 32489-1, Dated 8<sup>th</sup> May 2018) looks at external car park noise using the methodologies as presented in the NSW Noise Policy for Industry. It was found that noise generated from use of the car park and loading dock were less than 45dB(A) during the evening time, and thus compliant with the noise emission criteria outlined in section 5.1.

Acoustic Logic concurs with these findings.

### 5.3.2 Traffic Noise Generation

Wood & Grieve's 'Noise & Vibration Impact Assessment for Stage 1' (Project No. 32489-1, Dated 8<sup>th</sup> May 2018) looks at traffic noise generation. It was found the maximum increase in traffic noise due to the development is 0.3dB(A), and thus compliant with the noise emission criteria outlined in section 5.1.

Acoustic Logic concurs with these findings.

### 5.3.3 Helicopter

#### Location

The proposed roof top helipad is located on the south western wing of the hospital building. This location is more than 200-meters north of the closest residential receivers.

#### Frequency of Use

AviPro (Helicopter Landing Site (HIS) Concept Design Report For Ssi Stage 1 ) have noted the following with regards to the helicopter landing site frequency of use:

*"The number of helicopter movements for the existing Maitland Hospital is approximately 2 per month being for emergency aeromedical transfers. It is anticipated, given the growth of the area and the availability of increased clinical capability at the NMH, that the use of the helicopter landing site moving forward may increase, albeit not substantially. The frequency of use will depend on patient needs and clinical transfer policies. Whilst the exact figure is unknown, it is anticipated that the frequency may be approximately three flights per month. "*

#### Noise Emission

There are no mandatory acoustic criteria with respect to noise from emergency vehicles.

Acoustic guidelines such as the EPA Noise Policy for Industry and Australian Standard 2021:2015 are commonly adopted guidelines for noise emissions and for aircraft noise respectively. However, neither are appropriate for use in assessment of emergency helicopter noise, which is much more infrequent than industrial noise or noise from commercial aircraft.

Other relevant (although not mandatory) guidelines are:

- The EPA Noise Control Manual. Although no longer used by the EPA, the Noise Control Manual provides some guidance for helicopter noise. The Noise Control Manual recommends:
  - Peak noise events – noise not exceed 82dB(A)<sub>L<sub>max</sub></sub> at residential properties and 85dB(A)<sub>L<sub>max</sub></sub> at commercial properties.

- Average noise levels (ie – the noise level averaged over the entire day) should not exceed 55dB(A) at residential properties and 65dB(A) at commercial properties.

The Noise Control Manual, however, does not apply to emergency vehicles.

- Air Services Australia *Environmental Principles and Procedures for Minimising the Impact of Aircraft Noise*. Principle 7 states – *There should be a current agreed aircraft noise exposure level above which no person should be exposed, and agreement that this level should be progressively reduced. The goal should be 95dB(A).* (This performance goal was adopted at Royal North Shore, where there are typically 3-4 helicopter movements per week).

We note, however, that the above guidelines are not intended to be applied to emergency vehicles. Regardless, given the location of the helipad and proposed flight movements, a worst-case helicopter movement is predicted to not exceed 85dB at the nearest residential receivers. Which is 10dB less than the Air Services Australia noise guideline of 95dB(A).

#### **5.3.4 Mechanical Plant Equipment Noise**

As detailed plant selections for the NMH are not available at this stage, it is not possible to carry out a detailed examination of the ameliorative measures that may be required to achieve the noise targets.

Plant will be acoustically treated to prevent noise emissions from adversely impacting the surrounding properties in conjunction with the criteria detailed in this report. This may include selecting the quietest plant practicable, or treating the plant with enclosures, barriers, duct lining and silencers, etc as required to comply with the sound level recommendations.

Experience with similar projects indicates that it would be possible to achieve the requirement with appropriate treatment of the plant. General requirements for a number of potential plant items on the site are expanded on below. A preliminary review of the major plant items and general fans has been provided below.

##### **5.3.4.1 Air Handling Units**

The Air Units (AHU) are proposed to be installed within an enclosed plant rooms located on basement 1 on the northern corner and north-western end of the building.

The plant rooms will provide good acoustic shielding. In regard to air flow; outside air to and exhaust from the AHU's will be ducted to the externals via rigid ducts which have the potential to be treated using lining, bends and silencers/attenuators. Thus, all AHUs are capable of meeting the noise emission criteria, set out in section 5.1 of this report



#### **5.3.4.2 Chillers**

The chillers are proposed to be installed within an enclosed plant room located on basement 1 on the northern-eastern end of the building.

The plant rooms will provide sufficient acoustic attenuation, and should not have any external ventilation opening/louvre.

If ventilation is required, attenuators must be implemented on façade louvres (indicatively 1200mm long 45% open area rectangular attenuators based on a 1500 x 1500mm opening size).

Light weight cladding to plant room walls and ceiling will potentially require internal plasterboard sheeting to ensure noise breakout through wall/roof are compliant with NPfI requirements. Final plant room building shell design to be conducted following final chiller section and plant room location.

All chillers are capable of meeting the noise emission criteria, set out in section 5.1 of this report

#### **5.3.4.3 Cooling Tower**

The cooling towers are proposed to be installed on the on the roof on the southern end of the building.

All cooling towers are to have variable speed drives, to allow for reduced fan speed during periods of low load. Typically, a fan speed of no more than 50% would be expected at night time

These cooling towers are located more than 100-meters from the nearest residential receiver, and their elevated location allows the building structure to provide a barrier affect, further shielding the residential receivers from the cooling towers. Thus, all cooling towers are capable of meeting the noise emission criteria, set out in section 5.1 of this report.

#### **5.3.4.4 Emergency Generators**

Generators are located externally on the north-eastern side of site, and are proposed to be used only in emergency.

Generators are to be selected such that the noise level measured within the adjacent loading dock is equal or less than 65dB(A).

Generators are to be installed on a concrete plinth. Plinth is to be isolated from the structural slab by two layers of 10mm thick Vibramat (from Acoustic Supplies) or equal. There should be no rigid connection between plinth and structural slab.

Generator should be isolated from the plinth using 50mm static deflection spring vibration isolators.



#### **5.3.4.5 Fans and Other General Plant Items**

All fans are capable of meeting the noise emission criteria, set out in section 5.1 of this report, with the implementation of lined duct work and bends.

##### **Supply / Exhaust fans**

Supply and exhaust fans may be located within the underground plant rooms or in rooftop plant areas. These units typically emit high noise levels and require acoustic treatment such as silencers and internal lined ductwork. Silencer requirements would be determined once fan selections have been completed.

##### **Minor Plant**

Other minor plant items, such as bathroom or kitchen exhaust fans, may also be required. These items typically emit relatively low noise levels and may require minimal acoustic treatment of a standard nature, such as internally lining of ductwork.

##### **Major Plant**

It is at the construction design stage that consideration should be given to the placement of equipment including intake and discharge air locations. In addition to the location of the equipment acoustic treatments to the major plant items may include silencers, treatment to ducting, time control, operational limitations, vibration isolation and the like.

## 6 CONSTRUCTION NOISE & VIBRATION

### 6.1 MANAGEMENT LEVELS & CRITERIA

#### 6.1.1 EPA Interim Construction Noise Guidelines

##### 6.1.1.1 Standard Construction Hours

Section 2.2 of the NSW Environmental Protection Authority's (EPA) Interim Construction Noise Guideline (ICNG) recommends the following standard hours of construction. Certain activities can be performed outside of these hours, and these are detailed in section 2.3 of the ICNG.

- Monday to Friday 7:00am to 6:00pm
- Saturday 8:00am to 1:00pm
- No work on Sundays and Public Holidays

The SSI 9975, SEARS 18 states: *"Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours."* As such, it is proposed to implement the following construction hours:

- Monday to Friday 7:00am to 6:00pm
- Saturday 7:00am to 5:00pm
- No work on Sundays and Public Holidays; and
- Low noise activities carried out (e.g. handheld tools (including power tools), painting etc) may be carried out at all times provided the activities do not cause offensive noise

The reasons for the proposed construction hours are:

- The EPA guidelines are general guidelines that would be applicable in more sensitive situations. In this particular case, the affected residential properties are located a significant distance away from the construction site.
- Adopting the proposed hours will allow for efficient construction on Saturdays and the entire construction timetable will be expedited which will benefit the surrounding community.
- Noise restrictions are proposed to limit noise impacts outside the standard hours.
- Hospitals, such as Nepean Hospital, Wagga Wagga Hospital, and other recent major projects in the area, including Stockland Green Hills approximately 2km away, were afforded similar construction hours.
- Whilst the proponent will be encouraging local workforce with all projects of this size there is a portion of workforce that travel further than a daily commute to the site and have to stay in local temporary accommodation. Working a full day on Saturday would provide these workers with the ability to capture a productive day on a Saturday. This would in turn make travelling workers more likely to stay in the local area on a Friday and would have an economical benefit for local businesses.
- Providing a full working day on Saturdays would allow heat policies to be more manageable during warm weather as workers would be less likely to push through warm weather without breaks if they know they have more time to achieve their work goals on a Saturday.

- Providing workers with extended working hours on a Saturday could actually provide better flexibility for them socially by being able to attend their child sport in the morning and get some productive work hours later in the day.

#### 6.1.1.2 Construction Noise Emission

EPA guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences:

- *"Noise affected" level.* Where construction noise is predicted to exceed the "noise affected" level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the "noise affected level". For residential properties, the "noise affected" level occurs when construction noise exceeds ambient levels by more than 10dB(A)<sub>Leq(15min)</sub> for work during standard construction hours (7am-6pm Monday to Friday and 8am to 1pm on Saturdays); and
- *"Highly noise affected level".* Where noise emissions are such that nearby properties are "highly noise affected", noise controls such as respite periods should be considered. For residential properties, the "highly noise affected" level occurs when construction noise exceeds 75dB(A)<sub>Leq(15min)</sub> at nearby residences.

A summary of noise emission management levels for the proposed hours of construction are presented.

**Table 7 - Construction Noise Affected Management Levels**

<b>Location</b>	<b>"Noise Affected" Management Level - dB(A)<sub>Leq(15min)</sub></b>	<b>"Highly Noise Affected" Management Level - dB(A)<sub>Leq(15min)</sub></b>
Residences (south of the site)	52dB(A)/47dB(A)*	75dB(A)
Industrial Development (east of site)	75dB(A)	75dB(A)
Active Recreation Space (east of site)	65dB(A)	75dB(A)

\*During the proposed extension on Saturdays from 1pm to 5pm, and 6pm to 7pm period on Monday to Fridays, all noise affected levels are to be background plus 5dB(A) instead of background plus 10dB(A)

## 6.2 VIBRATION

Vibration caused by construction at any residence or structure outside the subject site must be limited to:

- For structural damage vibration, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*; and
- For human exposure to vibration, the evaluation criteria presented in the British Standard BS 6472:1992 *Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80Hz)* for low probability of adverse comment.

#### 6.2.1 Structure Borne Vibrations (Building Damage Criteria)

German Standard DIN 4150-3 (1999-02) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (1999-02) are presented in Table 4.

It is noted that the peak velocity is the value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

**Table 8 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration**

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms <sup>-1</sup> )			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

The surrounding commercial and residential buildings would be considered Type 1 structures.

### 6.2.2 Assessing Amenity

Table 2.2 of EPA "Assessing Vibration: A technical guideline" specifies the following vibration criteria for the protection of human comfort:

**Table 9 – Construction Vibration Goals**

Location	Time	Peak velocity (mm/s)	
		Preferred	Maximum
Continuous Vibration			
Residences	Daytime	0.28	0.56
Offices	When in use	0.56	1.1
Impulsive Vibration			
Residences	Daytime	8.6	17
Offices	When in use	18	36

### 6.3 ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES

Typical works expected during the construction phase are set out below.

**Table 10 – Sound Power Levels of the Proposed Equipment**

<b>EQUIPMENT /PROCESS</b>	<b>SOUND POWER LEVEL dB(A)</b>
Pneumatic Hammer	115
Remediation Plant	115
Asphalting	110
Compactor (Vibratory)	110
Piling Rig	110
General Trucks	108
Concrete Pump	105
Concrete Truck	105
Electric Hammer	105
Site Crane	105
Impact drill	105
Concrete Float/Vibrators	105
Excavator (bucket attachment)	105
Compactor (Roller)	105
Forklifts	100
Bobcat	100
Powered Hand Tools	95
Air compressor	86

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

Noise levels take into account correction factors (for tonality, intermittency where necessary).

## 6.4 NOISE AND VIBRATION EMISSION ASSESSMENT

### 6.4.1 Noise emission Assessment

With respect to general construction noise, the impacts on nearby development will be dependent on the activity in question and where on the site the activity is undertaken. Predictions of the construction noise levels for these key activities are presented below:

**Table 11 – Construction Noise Emission to Residences to the South**

<b>Activity</b>	<b>Predicted Level – dB(A)<sub>Leq(15min)</sub> (External Areas)</b>	<b>Comment</b>
Pneumatic Hammer	57 – 75	Exceeds 52dB(A) Noise Management Level. Does not exceed 75dB(A) Highly Noise Affected level.
Remediation Plant	57 – 75	
Asphalting	52 – 70	
Compactor (Vibratory)	52 – 70	
Piling	52 – 70	
Truck	50 – 68	
Concrete Pump	47 – 65	Exceeds 52dB(A) Noise Management Level when working near the southern property boundary. Does not exceed 75dB(A) Highly Noise Affected level.
Concrete Truck	47 – 65	
Electric Hammer	47 – 65	
Site Crane	47 – 65	
Impact drill	50 – 65	
Concrete Float/Vibrators	47 – 65	
Excavator (bucket attachment)	47 – 65	
Compactor (Roller)	47 – 65	
Forklifts	42 – 60	
Bobcat	42 – 60	
Powered Hand Tools	40 – 55	Marginal exceedance of the 52dB(A) Noise Management Level when working on the southern property boundary. Does not exceed 75dB(A) Highly Noise Affected level.
Air compressor	31 – 46	Does not exceed 52dB(A) Noise Management Level.



**Table 12 – Construction Noise Emission to Industrial Premises**

<b>Activity</b>	<b>Predicted Level – dB(A)<sub>Leq(15min)</sub> (External Areas)</b>	<b>Comment</b>
Pneumatic Hammer	57 – 75	Does not exceed 75dB(A) Noise Management Level.
Remediation Plant	57 – 75	
Asphalting	52 – 71	
Compactor (Vibratory)	52 – 71	
Piling	52 – 71	
Truck	50 – 69	
Concrete Pump	47 – 66	
Concrete Truck	47 – 66	
Electric Hammer	47 – 66	
Site Crane	47 – 66	
Impact drill	50 – 66	
Concrete Float/Vibrators	47 – 66	
Excavator (bucket attachment)	47 – 66	
Compactor (Roller)	47 – 66	
Forklifts	42- 61	
Bobcat	42 – 61	
Powered Hand Tools	40 – 56	
Air compressor	31 – 47	

**Table 13 – Construction Noise Emission to Active Recreation Space**

<b>Activity</b>	<b>Predicted Level – dB(A)<sub>Leq(15min)</sub> (External Areas)</b>	<b>Comment</b>
Pneumatic Hammer	57 – 75	Exceedance of the 65dB(A) Noise Management Level when working on the western property boundary. Does not exceed 75dB(A) Highly Noise Affected level.
Remediation Plant	57 – 75	
Asphalting	52 – 71	Marginal exceedance of the 65dB(A) Noise Management Level when working on the western property boundary. Does not exceed 75dB(A) Highly Noise Affected level.
Compactor (Vibratory)	52 – 71	
Piling	52 – 71	
Truck	50 – 69	
Concrete Pump	47 – 66	1dB exceedance of the 65dB(A) when working unscreened on the western property boundary. Noise Management Level. Does not exceed 75dB(A) Highly Noise Affected level.
Concrete Truck	47 – 66	
Electric Hammer	47 – 66	
Site Crane	47 – 66	
Impact drill	50 – 66	
Concrete Float/Vibrators	47 – 66	
Excavator (bucket attachment)	47 – 66	
Compactor (Roller)	47 – 66	
Forklifts	42 – 61	Does not exceed 65dB(A) Noise Management Level.
Bobcat	42 – 61	
Powered Hand Tools	40 – 56	
Air compressor	31 – 47	

#### 6.4.2 Vibration Emission Assessment

Equipment items typically associated with high levels of vibration generation are sheet/pile piling, extensive excavation in rock and vibratory compaction. Of these activities, it is only vibratory compaction which is likely to be used extensively. Given the distance from the proposed works and the residential properties, the vibration criteria in Section 5 is not expected to be exceeded during the construction activities.

All other construction items are also not expected to generate vibration exceeding building damage or amenity acoustic criteria.

#### 6.4.3 Recommendations

The following specific noise controls are recommended:

- No works are to commence on site prior to 7am.
- All excavation and construction equipment shall be well maintained.
- Where possible, excavation using hydraulic hammers is to be avoided
- Stationed equipment shall be located as far as practicable from residents.
- Vehicle Noise:
  - Truck movements should not commence prior to 7am. Trucks are not to idle with their engines running outside the site prior to 7am.
  - Trucks and concrete trucks must turn off their engines during idling to reduce impacts on adjacent residential receivers (unless truck ignition needs to remain on during concrete pumping).
- In the event of complaint, noise management techniques identified in this report should be employed to minimise the level of noise impact. This may include community consultation and scheduling of loud construction processes which will be undertaken in accordance with Multiplex Communications Management Plan. Additionally, Section 8 of this report outlines procedures for community consultation.
- Notwithstanding above, general management techniques and acoustic treatments are included below which may be implemented on a case-by-case basis to reduce noise emissions to surrounding receivers.

## 6.5 CONTINGENCY PLANS

Where non-compliances or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc. where practical.
4. Selecting alternative equipment/processes where practical
5. If necessary, setup noise/vibration and dust monitoring devices at locations representing the nearest noise/vibration and dust affected receivers and provide data for each complain time period. Analysis is required to determine suitable mitigation measures.

Complaints associated with noise /vibration and dust generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact telephone number.

## 7 CONCLUSION

An acoustic assessment of the potential operational noise from the proposed New Maitland Hospital has been conducted. This document forms part of the documentation package to be submitted to the Department of Planning as part of the SSII application. This report has provided:

- criteria, in-principle treatment and design requirements which aim to ensure operational noise is compliant with criteria set out in this report.
- management process for managing noise and vibration impacts on the surrounding receivers due to excavation and construction activities for the main works of the New Maitland Hospital.

The assessment of noise and vibration indicates that:

- For at least part of the excavation/construction work period, some processes are likely to generate noise levels that will require additional management. Adoption of the controls outlined in this report will ensure that noise impacts will be minimised.
- Ground vibration criteria have been set in this report to safeguard existing structures and vibration sensitive receivers close to the project site. Vibration associated with the construction package is not expected to exceed building damage or amenity acoustic criteria.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd  
Jenna MacDonald

## 15.9 Appendix 9: Construction Soil and Water Management Sub-Plan





# New Maitland Hospital Construction Soil and Water Management Plan

**Prepared for Multiplex Constructions Pty Ltd**

November 2019

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# Appendices

Appendix A – Erosion and Sediment Control Plans

Appendix B – Calculations

Appendix C – Existing water quality monitoring data

Appendix D – Checklist templates

# Abbreviations

Abbreviation	Definition
AEP	Annual exceedance probability
AMP	Asbestos Management Plan
ARI	Average recurrence interval
AS	Australian standard
ASS	Acid sulfate soils
BOM	Bureau of Meteorology
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
EC	Electrical conductivity
EIS	Environmental Impact Statement
EPA	Environment Protection Authority (NSW)
ESCP	Erosion and Sedimentation Control Plan
EWMS	Environmental Work Method Statement
NTU	Nephelometric turbidity unit
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RAP	Remediation Action Plan
SEPP	State Environmental Planning Policy
SWMP	Soil and Water Management Plan
TRH	Total recoverable hydrocarbons
TSS	Total suspended solids
WM Act	<i>Water Management Act 2000</i>
WQM	Water Quality Monitoring

# 1. Introduction

## 1.1 Background

Health Infrastructure NSW (HI) engaged Multiplex Constructions Pty Ltd (Multiplex) as the Principal Contractor (Contractor) for the construction of the New Maitland Hospital (NMH), Metford Road, Metford, NSW (the Project).

Multiplex engaged GHD Pty Ltd (GHD) to prepare a Soil and Water Management Plan (SWMP) for the construction of the New Maitland Hospital – Main Works at Lot 7314 DP1162607 and Part Lot 401 DP755237 (the Site) (see Figure 1-1).

The works are located wholly within the Maitland City Council local government area (LGA), with the Stage 2 construction works expected to commence late 2019.

## 1.2 Project description

The New Maitland Hospital is a 339 bed hospital green field development located off Metford road, Metford. The hospital building consists of 7 floors including; lower ground floor for back of house and services plant, two level podium (Ground and Level 01) and two 2-wing towers above (Levels 2 to 5) linked with a central lift core.

Some of the services being delivered include:

- Inpatient Units (IPUs), Intensive Care Unit (ICU), maternity and special care nursery, an emergency department, rehabilitation unit and renal dialysis;
- Mental health inpatient services and a new psychiatric emergency care centre (PECC); renal services;
- Chemotherapy service and expanded oral health service;
- Ambulatory care and outpatient clinics;
- Support spaces including operating theatres and recovery stage 1 and 2, delivery suites and assessment rooms;
- Imaging modalities including MRI, x-ray, CT, Fluoroscopy, Orthopantomogram (OPG), ultrasound; and
- Clinical support services including Central Sterile Services Department, pharmacy, pathology, isolation rooms where required, plaster rooms and gyms to support both general and mental health services for residents.



**Figure 1-1 Site location and design layout**



Oct 18 2019  
© 2019 Nearmap, HERE

Paper Size A3  
0 12.5 25 50 75 100  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



**LEGEND**

- Cadastre
- Project site boundary
- Site layout



Multiplex Constructions  
New Maitland Hospital  
Soil and Water Management Plan

Job Number	22-19923
Revision	1
Date	18 Nov 2019

Proposed design layout

Figure 1-1

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### 1.3 Purpose and objectives

**As mentioned in Section 1.1, this SWMP only addresses soil and water management associated with the Stage 2 construction phase of the Project.**

This SWMP forms part of the Contractor's Construction Environmental Management Plan (CEMP), and incorporates the Erosion and Sediment Control Plan (ESCP) for the Stage 2 construction. Where possible, the construction should be staged and corresponding ESCP developed. At the start of each stage all temporary sediment and erosion controls will be implemented prior to disturbance.

The purpose of this SWMP is to describe how potential impacts to soil and water associated with the Stage 2 construction of the Project can be managed and controlled, with the objectives of preventing water pollution, minimising soil erosion and controlling sedimentation on site. This SWMP includes:

- Description of the existing environment
- Details on erosion control
- Management of sedimentation
- Spoil management
- Groundwater-related impacts
- Water quality management (including site wastewater and contamination issues)

This SWMP has been prepared to ensure that the project design contains appropriate measures and can reasonably comply with all relevant legislation and other requirements described in Section 2.

The SWMP defines the requirements for environmental monitoring, maintenance expectations and decommissioning requirements, and also defines the roles, responsibilities, training and a number of triggers where review of this SWMP would be required.

## 2. Legislation and guidelines

### 2.1 Legislation

#### 2.1.1 Environmental Planning and Assessment Act 1979

##### **State Environmental Planning Policy No 55 – Remediation of Land**

The objective of *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55) is to provide a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. In accordance with Clause 7(1) of SEPP 55, a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated and whether remediation is required.

GHD carried out a 'Phase 2' Environmental Site Assessment (ESA) (also known as a Detailed Site Investigation, or DSI) in 2015, which identified relatively minor and isolated exceedances of the assessment criteria, with the exception of the large shale stockpile and the adjacent weathered shale outcropping (soil contamination findings are summarised in Section 3.3.3).

Based on the ESA, GHD prepared a Remedial Action Plan (RAP) documenting the site contamination issues, and description of the proposed remediation and soil management programs, procedures and standards which are to be followed during the course of the redevelopment, to ensure the successful remediation of the site and consequently the protection of the environment and human health, so that the site can be made suitable for the nominated land use. The ESA and RAP were reviewed by an independent Site Auditor (JBS&G), who issued a Site Audit Report for the site (JBS&G, 2018).

### **2.1.2 Protection of the Environment Operations Act 1997**

The *Protection of the Environment Operations Act 1997* (POEO Act) consolidates key pollution statutes relating to air, water and noise pollution and environmental offences, and establishes a duty to notify either the NSW Environment Protection Authority (NSW EPA) or the local council where incidents are likely to cause material harm to the environment.

The POEO Act (parts 3.4 and 8.5) considers licence holders and occupiers of unlicensed premises to be liable for any breach of a licence condition or pollution caused by any associated person.

All disturbed soils will need to be managed during construction so as not to cause pollution to the surrounding environment. Pollution may take the form of the release of sediments into waterways, the movement of contaminants off site via water flows or release of acid from acid sulfate soils.

Any wastes generated during the construction activities that are to be disposed off-site must comply with the requirements of the POEO Act, requiring classification in accordance with the *Waste Classification Guidelines* (NSW EPA 2014).

### **2.1.3 Water Management Act 2000**

The *Water Management Act 2000* (WM Act) provides for the protection of river and lakeside land in NSW and aims to provide for the sustainable management of the water resources throughout NSW. It identifies provisions relating to 'controlled activities' which includes carrying out an activity that affects the quantity or flow of water in a water source or affects land fronting a waterway.

#### **Water use approvals**

Water use approvals for taking of water within a water management area are established under Section 56 of the WM Act. Clause 38 of the Water Management (General) Regulation 2011 specifies that a public authority does not need to obtain water use approval. The WM Act defines a public authority as a government department or administrative office, which would include HI.

No water is proposed to be extracted from waterways or groundwater during construction activities (beside volumes that occur incidentally associated with piling).

#### **Controlled activity and aquifer interference approvals**

Activity approvals are required when a certain activity is likely to interfere with an aquifer (aquifer interference approval). Similarly to above (Clause 38 of the WM Regulation), HI does not need to obtain a controlled activity approval for any controlled activities that it carries out in, on or under waterfront land.

Prior to interception of a groundwater source, the Contractor requires aquifer interference approval. The approval would be subject to an allocation of water issued under the *Water Sharing Plan (WSP) for the Hunter Unregulated and Alluvial Water Sources 2009*. Should the Contractor require groundwater extraction, a licence will be obtained from the NSW Department of Industry – Lands and Water.

### **2.1.4 Contaminated Land Management Act 1997**

The *Contaminated Land Management Act 1997* (CLM Act) establishes a process for investigating, managing and remediating contaminated land and allows the NSW EPA to regulate any site contamination that poses a significant risk of harm, to ensure the contamination is managed or remediated appropriately.

Any wastes generated during the construction activities that are to be disposed of on site, must comply with the requirements of the CLM Act.

If contaminated soils or contaminated groundwater will be disturbed during construction, these areas will be managed in accordance with the RAP (GHD, 2016).

### **2.1.5 Summary of regulatory requirements**

In summary, the regulatory requirements where the contractor needs to obtain approvals, licences or permits prior to commencing works in regard to soil and water management include:

- Any wastes generated during the construction activities that are to be disposed off site must comply with the requirements of the POEO Act (refer Section 2.1.2).
- Any wastes generated during the construction activities that are to be disposed of on site must comply with the requirements of the CLM Act (refer Section 2.1.4).
- Approval for groundwater interception during the works (refer Section 2.1.3).

## **2.2 Guidelines**

### **2.2.1 Managing Urban Stormwater**

#### **Managing Urban Stormwater – Soils and Construction Volume 1**

The Contractor will implement mitigation of construction impacts in accordance with the strategies recommended in the *Managing Urban Stormwater – Soils and Construction Volume 1* (referred to as the Blue Book) (Landcom 2004). This will include implementation of localised erosion and sediment controls and utilisation of a sediment basin. These controls are part of a multi-faceted approach that also includes procedural controls, site management controls and monitoring.

### **2.2.2 Australian and New Zealand Guidelines for Fresh and Marine Water Quality guidelines**

The Australian and New Zealand and Australian State and Territory Governments (ANZAST) (2018) criteria were endorsed by NSW EPA under s 105 of the CLM Act on 4 September 2018. At the same time the Australian and New Zealand Environmental Conservation Council (ANZECC) (2000) water quality guidelines were revoked. While the ANZAST (2018) have been endorsed, preliminary review of these guidelines by GHD and others has identified a number of discrepancies with ANZECC (2000), which have yet to be clarified. As such, ANZECC (2000) criteria have still been adopted for the purposes of this plan until the issues with ANZAST (2018) have been resolved (at which time this plan may be revised, along with subsequent reports).

The *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC 2000) recommend water quality indicators applicable to waterways down gradient of the site. The guidelines provide benchmarks for assessing existing water quality in accordance with default guideline values for chemical and physical stressors for south-east Australia for slightly disturbed lowland river aquatic ecosystems. Recommended water quality guideline values are discussed further in Section 4.1.1.

## **2.3 Plan reference specifications**

The following documents should be considered in the implementation of this SWMP:

### **Multiplex**

Construction Environmental Management Plan

WHS Handbook

Permit to Work - Water Discharge

Environmental Inspection Checklist

Contamination Management Plan

### **Standards**

AS/NZS 5667.1 – Water Quality – Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples

ASTM D2035 -13 – Standard Practice for Coagulation-Flocculation Jar Test of Water

AS 1940-2004 – The storage and handling of flammable and combustible liquids

### **Publications**

ARR2016

Australian Rainfall and Runoff 2016

## 3. Existing environment

### 3.1 Surrounding land use

The site currently comprises Lot 7314 DP 1162607 and Part Lot 401 DP755237 in the south-western portion of the Metford Triangle. The Metford Triangle is the old brickworks and quarry formally leased and operated by CSR. The triangle consists of four separate lots: Lot 7314 DP1162607, Part Lot 3 DP 1091727 and Lots 266 and 401 DP 755237. The Metford Triangle is bounded by Metford Road along the north-western boundary, by the Great Northern rail line along the north-eastern boundary and by a high voltage electricity easement to the south. Surrounding land to the north-west of the site is a mixture of commercial uses, light industrial uses and public recreation areas, including a sports field. Beyond these areas is residential land.

The surrounding land uses (and approximate distances) are summarised as:

- North – CSR site comprising former PGH Bricks & Pavers (currently vacant); Northern Railway (300 m); East Maitland Cemetery (400 m); Raymond Terrace Road (500 m); East's Leisure & Golf (golf course adjacent Raymond Terrace Road); and Two Mile Creek and Tenambit Wetlands (700 m).
- South – Residential developments (adjacent, separated by power line easement).
- East – CSR site comprising former PGH Bricks & Pavers quarry site (predominantly unused and vegetated, adjacent); Northern Railway (400 m); East Maitland Cemetery (unused and vegetated), rural residential properties and Three Mile Gully (400 m); Raymond Terrace Road (600 m); scale model aircraft flying field and rural property (adjacent Raymond Terrace Road); and Four Mile Creek (1.2 km).
- West – Metford Road (adjacent); Fieldsend Oval (public sporting/football field), Council Depot and industrial properties (adjacent Metford Road); and Two Mile Creek (300 m).

### 3.2 Topography

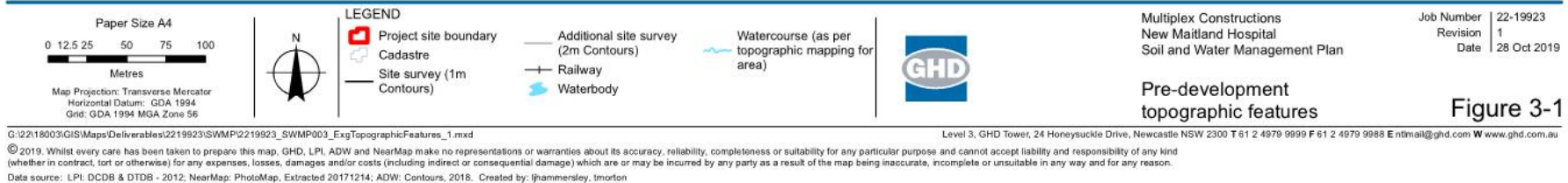
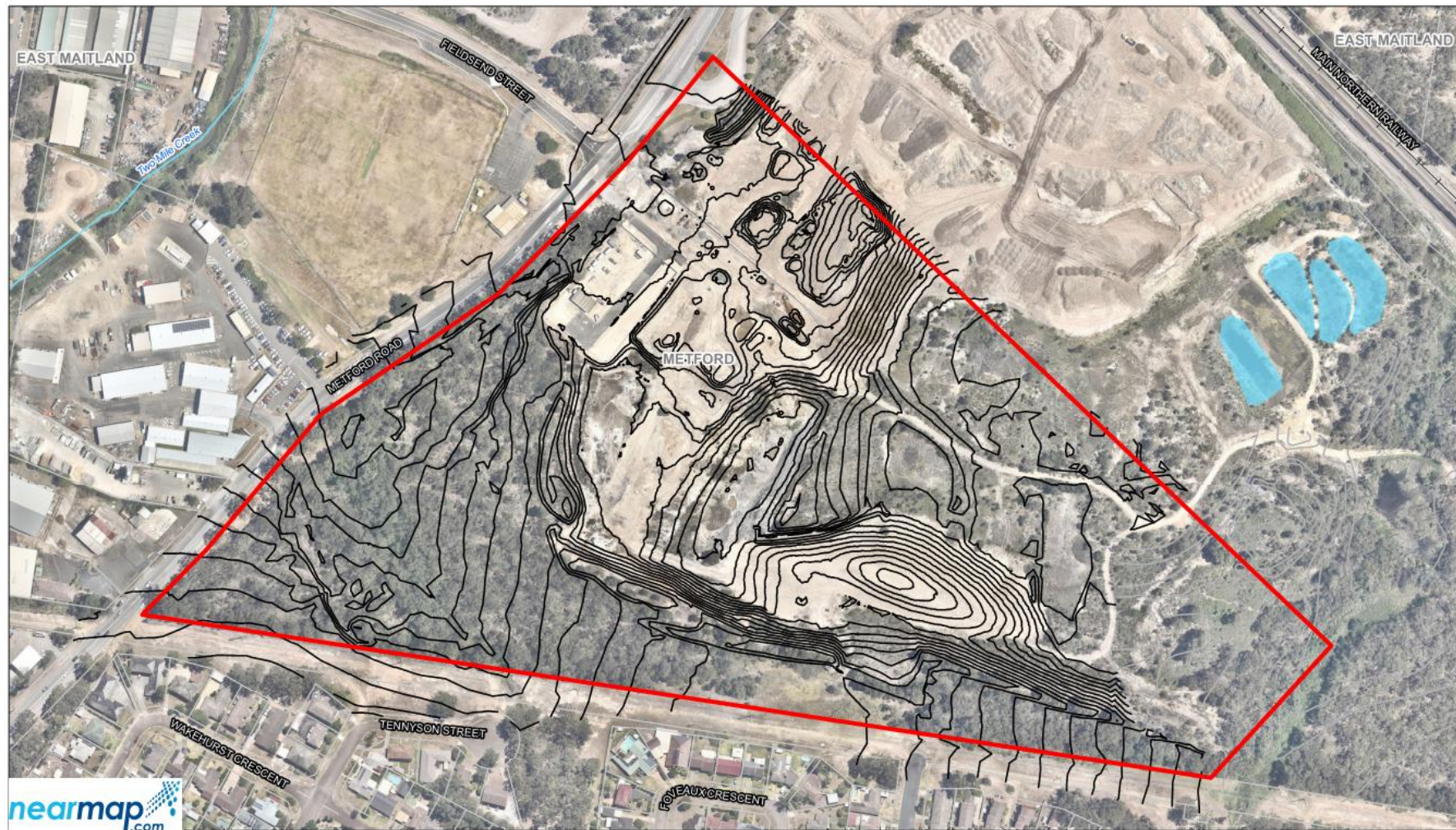
The site is elevated in the southern portions up to approximately 20 m Australian Height Datum (mAHD), sloping towards the northeast down to approximately 10 mAHD. The landform of the site was characterised by an open extraction pit, which has diversions in place directing catchments from the south towards urban drainage paths in the west, towards Two Mile Creek. The diversions are formed to protect a steep highwall up to 10 m high, which extends along the southern portions of the site with mounded fill located at the top, adjoining natural ground levels to the south and the areas to the north generally at the base of the quarry or with material stockpiled above the base.

A small portion of the site falls to the east, towards Three Mile Gully. The area surrounding the open extraction pit has been disturbed by mining operations, with highly variable landform including mounds, channels and pits leading either to the pit or sediment basins in the north.

The pre-development topographic features are shown in Figure 3.1.



**Figure 3-1 Pre-development topographic features**



### 3.3 Soils

#### 3.3.1 Soil landscapes

According to the EIS (Pitt & Sherry, 2018) (sourced from DP, 2018):

- The Newcastle Coalfields 1:100,000 Geology map indicates that the site is underlain by the Tomago Coal and there is a residual landscape, containing soils formed from in-situ weathering of Permian sedimentary rocks (geology code Pt), including laminated sandstone, claystone, siltstone, tuff and coal.
- The Newcastle 1:100,000 Soil landscape Sheet indicates that much of the surrounding land comprises the Beresfield Soil Landscape and the Site includes two soil landscape types Beresfield (geology code Be) and disturbed terrain (Matthei, 1995). Beresfield soils generally consist of moderately well drained to imperfectly drained duplex soils, including Yellow Podzolic Soils, Red Podzolic Soils and Soloths, varying with landscape position. Soil profiles commonly comprise loam and sandy loam topsoils overlying medium to heavy clay subsoils. Soil materials in the western part of site are extensively disturbed and would comprise a heterogeneous mix of soil materials, potentially including materials imported from offsite for use in brick making.. Additionally, small areas of the Cockle Creek Soil Landscape, an alluvial landscape, occur in the lowest lying central northern and far eastern parts of Metford Triangle outside of the site.
- The site has been significantly disturbed for the purposes of mining works, as well as Early Works bulk earthworks and contains a heterogeneous mix of soils. Mining of raw materials for brick making has lowered the natural surface level and created several sediment ponds to control runoff.

Figure 3-2 presents the soil landscapes with respect to the Project extent with soil landscape limitations and erodibility presented in Table 3-1.

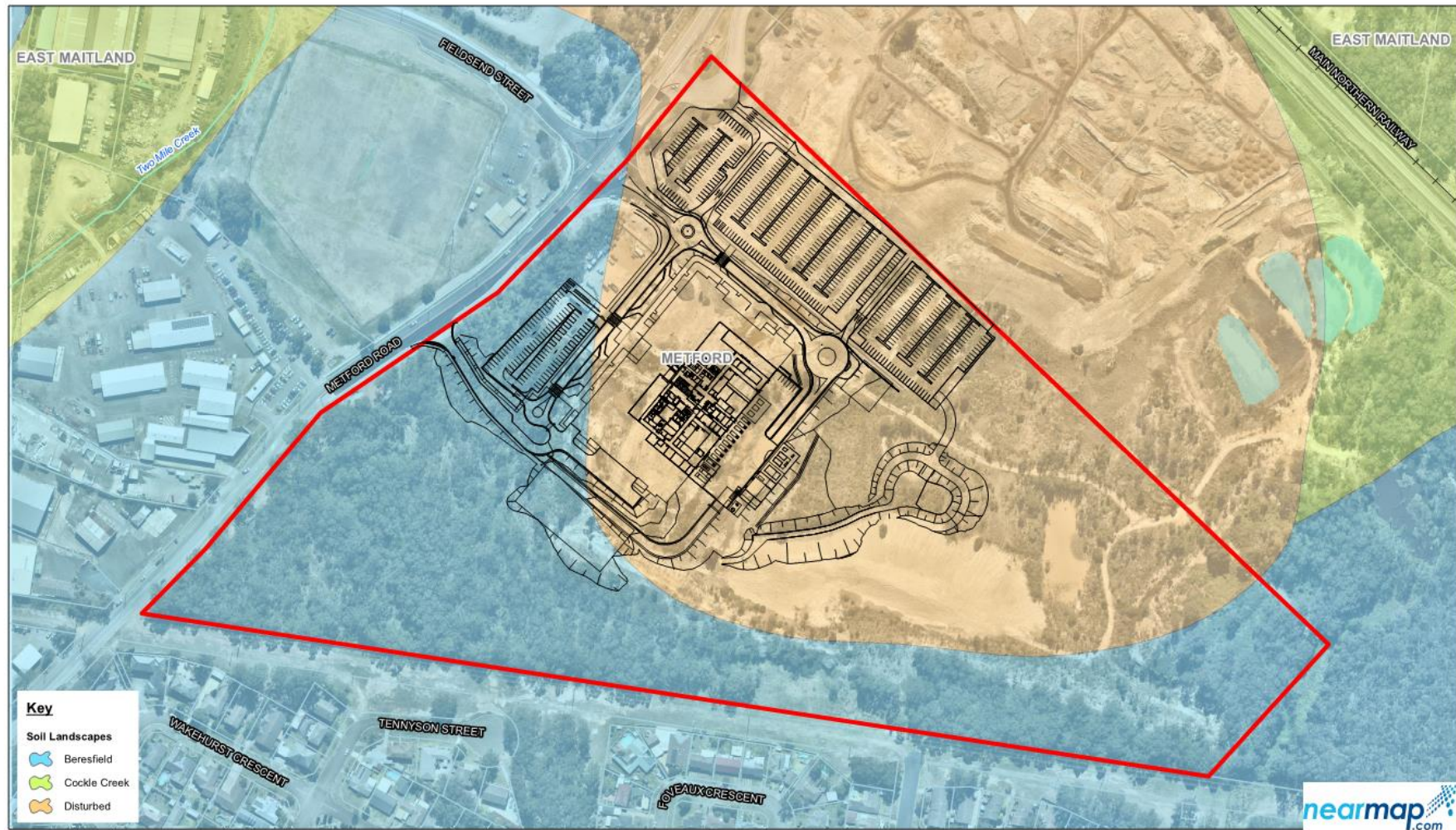
**Table 3-1 Soil landscapes within the Project extent**

Soil landscape	Limitations	Erodibility factor
Beresfield (Be)	High foundation hazard, water erosion hazard, Mine Subsidence District, seasonal waterlogging and highly acid soils of low fertility.	K – 0.048, (OEI, 2018)
Disturbed Terrain	Mass movements hazard, steep slopes, foundation hazard, unconsolidated low wet bearing strength material, potential acid sulphate soils, impermeable soils, poor drainage or erosion hazard.	Assumed similar to nearby soil landscape.

\* Blue Book (Landcom, 2004) Table 17



**Figure 3-2 Soils and Acid Sulfate Soils risk mapping**



Paper Size A4  
0 12.5 25 50 75 100  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



**LEGEND**

- Project site boundary
- Site layout
- Cadastre
- Railway
- Waterbody
- Watercourse (as per topographic mapping for area)



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Revision | 1  
Date | 28 Oct 2019

Soils and Acid Sulfate  
Soils risk mapping

**Figure 3-2**

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Data source: DECC: Soil, 2008; LPI: DCDB & DTDB - 2012; NearMap: PhotoMap, Extracted 20171214. Created by: jhammersley, tmorton

### **3.3.2 Acid sulfate soils**

The NSW Acid Sulphate Soils Risk map indicates no risk of actual or potential acid sulfate soils (ASS and PASS respectively) (refer to Figure 3-2). The Maitland LEP ASS mapping indicates that the Site is located on land shown as Class 5 ASS. The planning requirements relevant to Class 5 land focus not on preventing PASS impacts within the Class 5 land (given that PASS do not occur on Class 5 land), but rather on ensuring development works do not cause inadvertent offsite impacts on lands potentially containing PASS (i.e. Class 1, 2, 3 and 4 lands).

The site has historically been highly disturbed and excavated for mining and quarry works additionally the lowest ground elevations are approximately 7 mAHD, which is much higher than the levels at which PASS typically occur locally (which is below 2 mAHD). Therefore, it is unlikely that any undisturbed PASS exists on the site. This site has also undergone significant cut and fill works associated with the Early Works phase of the New Maitland Hospital Project. Furthermore, some soils on the Site returned high pH values, up to 9, which is inconsistent with ASS/PASS.

However, as a conservative measure, Section 4.4.3 defines the management requirements if PASS are encountered during construction activities.

### **3.3.3 Existing areas of contamination**

Based on investigations carried out prior to 2018, there were existing areas of soil contamination on Lot 7314, generally associated with the natural carbonaceous soils/geology and fill material, as identified in the ESA (GHD, 2015). Since these investigations (GHD, 2015), remediation work has been carried out on site, primarily associated with ACM finds in the western portion of Lot 7314. The findings and validation of these remediation activities is subject to a separate Site Validation report, currently in the final stages of preparation. No further contamination is expected to be encountered during construction activities on Lot 7314.

Part Lot 401 was recently investigated by GHD, and is documented in the draft Additional Site Investigation report (GHD, 2019). Of particular concern, the investigation identified bonded and friable asbestos on the surface of the site, and within fill material in the former "Pit 2". To manage the contamination during construction, the Remediation Action Plan / Contamination Management Plan (GHD, 2019), Asbestos Management Plan (AMP) (GHD, 2019) and Unexpected Finds Protocol (Multiplex, 2019) should be referenced in conjunction with this SWMP.

## **3.4 Climate**

Climatic conditions for the Project were obtained from the nearest Bureau of Meteorology (BOM) registered station, East Maitland Bowling Club (station number 061034) which is located within 3 km of the site.

### **3.4.1 Rainfall (and associated erosion hazard)**

#### **Rainfall statistics**

Monthly rainfall statistics (from 1902 to 1994) for near the site are summarised in Table 3-2.

**Table 3-2 Rainfall statistics for East Maitland**

Month	Mean rainfall (mm)	Mean number of rain days (days $\geq 1$ mm)
January	149.2	6.6
February	184.0	6.4
March	186.0	6.2
April	159.1	6.3
May	133.0	5.5
June	134.6	6.0
July	92.3	5.5
August	83.0	5.3
September	74.6	4.9
October	100.2	6.0
November	114.4	5.5
December	123.7	5.4
<b>Annual</b>	<b>1,542.2</b>	<b>69.9</b>
Source: <a href="http://www.bom.gov.au/climate/averages/tables/cw_061034.shtml">http://www.bom.gov.au/climate/averages/tables/cw_061034.shtml</a>		

**Erosion hazard**

A monthly erosion hazard was determined based on:

- The erosion hazard categories outlined in Table 4.2 of the Blue Book
- The average annual erosion index (EI) presented in Table 6.2 of the Blue Book
- The SWMP design criteria presented in Table 4-2 (Section 4.1.1)

Table 3-3 presents the monthly erosion hazard for the site (using an area weighted average soil loss estimate).

**Table 3-3 Monthly hazard rating**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Erosion index (%)	12	15	16	11	9	5	4	4	4	5	7	8
Average soil loss (t/ha/year)	130	162	173	119	97	54	43	43	43	54	76	86
Hazard		low		very low								

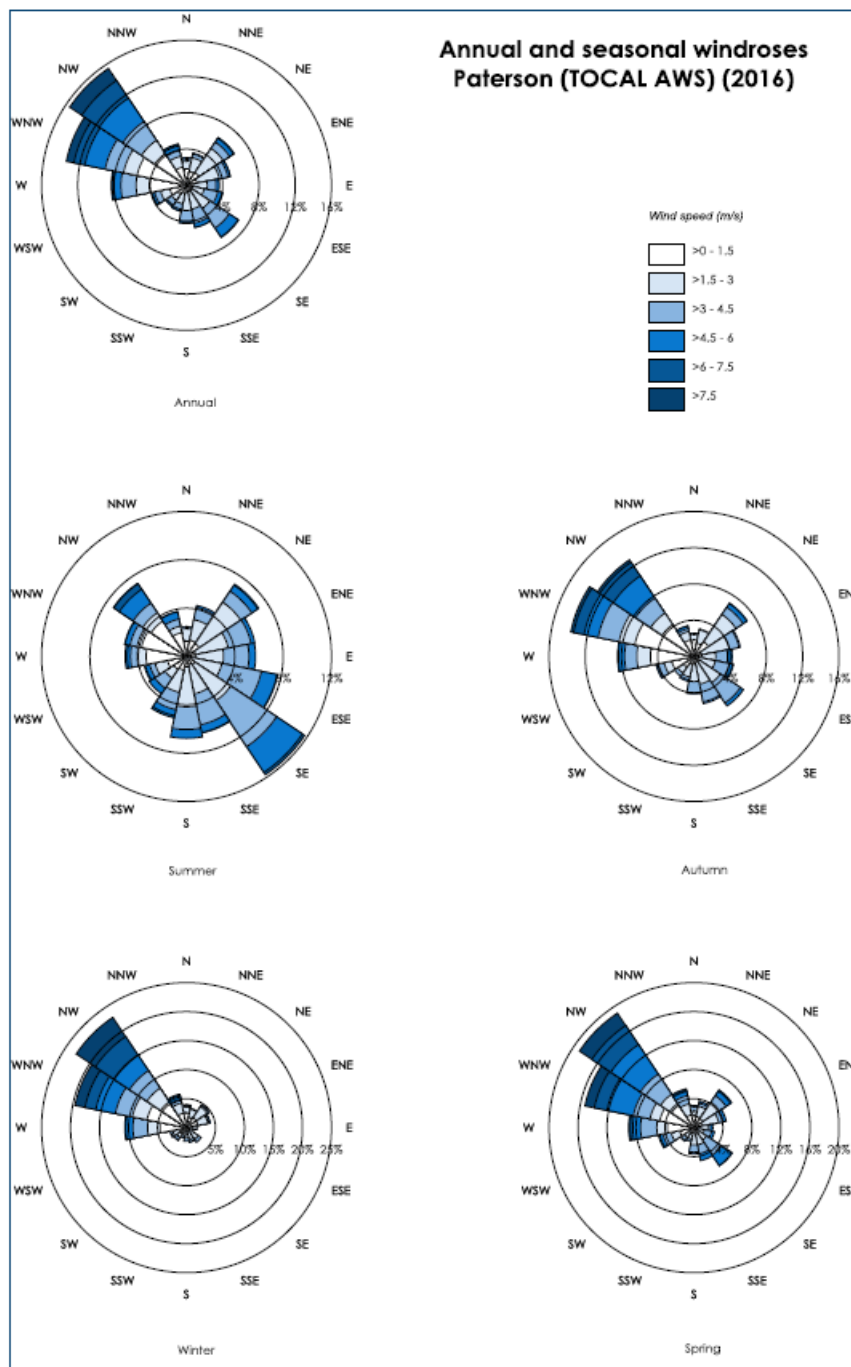
As indicated in Table 3-3, the late summer months present a low to moderate erosion hazard. The erosion hazard is very low during the remainder of the year.

According to the Blue Book erosion hazard graph (Figure 4.6 of the Blue Book) and based on a rainfall (R) factor of 2090 (refer to Table 4-2 in Section 4.1.1), slopes greater than approximately 12% would present high erosion hazard.

**3.4.2 Wind**

Wind roses from 9:00 am and 3:00 pm data measured at the BOM station at Paterson (Tocal AWS, station number 61250) are presented in Figure 3-3.





**Figure 3-3 Wind roses for TOCAL AWS (61250) (2016)**

Based on review of the EIS (Pitt & Sherry, 2018), wind speeds during the warmer months have a greater range between the 9am and 3pm conditions compared to the colder months. Mean 9am wind speeds range from 5.5 kilometres per hour (km/h) in February to 13.3km/h in August. Mean 3pm wind speeds range from 11.3km/h in April to 17.9km/h in August.

The most common winds (on an annual basis) are from the west-northwest and northwest sectors. During summer winds are predominately from the southeast, with a spread of other winds ranging from the northeast to the south. The autumn distribution is similar to the annual distribution with winds predominately from the west-northwest and northwest. In winter and spring, the wind distributions are fairly similar with the most frequent winds occurring from the west to the northwest. Spring also experiences a lesser portion of winds from the southeast.



## **3.5 Surface water environment**

### **3.5.1 Hydrology**

The Project is located in the Hunter River catchment. Review of the Beresfield 1:25,000 topographic map indicates there are no mapped natural watercourses within the NMH development site or the broader Metford Triangle. The closest watercourses are Two Mile Creek, approximately 200 m to the west of the site, and Three Mile Gully, approximately 600 m east of the site.

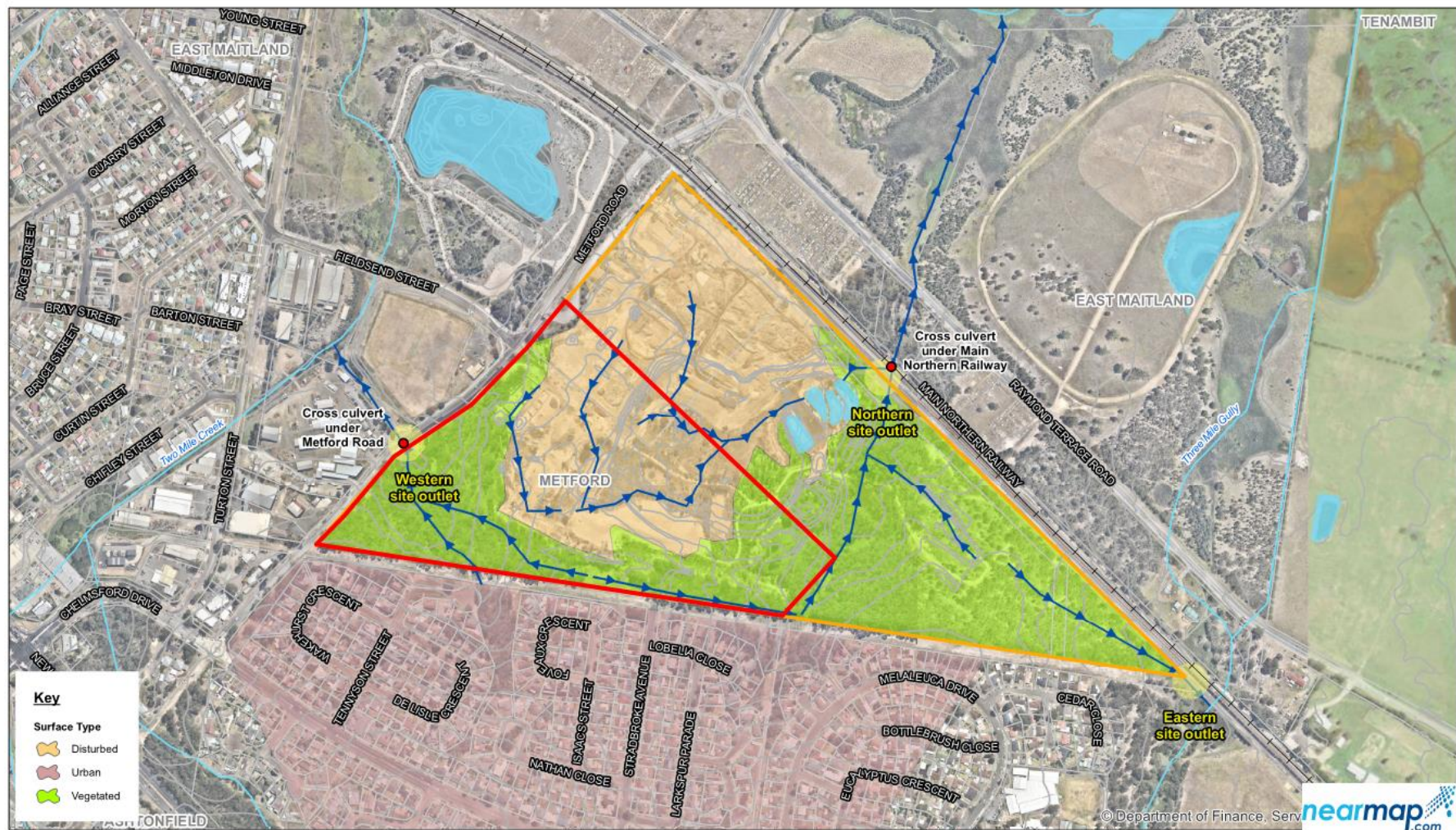
The site comprises disturbed and undisturbed bushland and land that has been quarried and filled. Surrounding the proposal site to the west and south are residential developments. North-east of the site is predominantly a wetland environment (Tenambit Wetlands) surrounding by open bushland.

Within the site are various informal drains and one prominent watercourse in the south-western corner, which receives stormwater from the residential area to the south. The site now contains a sedimentation basin that has been constructed within the Early Works phase of the New Maitland Hospital Project.

The hydrologic features of the site are provided in Figure 3-4.

Water quality in the ephemeral watercourses is likely to be typical of residential and natural land uses, with potentially slightly elevated suspended solids due to the historical extractive activities of the site.

**Figure 3-4 Pre-development hydrologic features**



Paper Size A4  
0 25 50 100 150 200  
Metres  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



**LEGEND**

- Project site boundary
- Metford Triangle
- Cadastre
- Site outlets
- Inferred existing flow path
- Railway
- Waterbody
- Watercourse (as per topographic mapping for area)



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Pre-development  
hydrologic features

Figure 3-4

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Data source: LPI: DCDB & DTDB - 2012; ESRI: Aerial Imagery 2013. Created by: jhammersley, lmonton



### 3.5.2 Water quality

Surface water quality has been monitored around the Project site since 2015. However, the monitoring sample numbers are not sufficient to determine either a baseline data set or site specific guideline values (SSGVs). Regardless, the following provides an indication to the surface water quality present on site.

The sampling location (SW401) representative of background (upgradient) conditions reported:

- EC of 276.5  $\mu\text{S}/\text{cm}$  (2017 sampling program)
- Filtered zinc concentrations above default guideline values (DGVs)
- One of two samples containing elevated lead concentrations above DGVs

Down gradient sampling locations (SW402, SW403 and SW506) reported:

- Elevated EC at SW402 (3,843  $\mu\text{S}/\text{cm}$  in 2017 sampling program)
- pH measurements indicated slightly acidic conditions
- Elevated filtered zinc and nickel concentrations (above DGVs)
- Elevated filtered cadmium and manganese concentrations at SW402, and elevated filtered copper concentrations at SW506 (above DGVs)

Across the surface water monitoring locations, elevated quality parameters indicated an influence from the Project site's previous land use as an area of materials extraction. Typically, zinc, nickel and manganese are associated with geochemical processes associated primarily with coal seams. Where stockpiles of overburden can influence surface water runoff quality this will typically result in concentrations as shown at SW402, SW403 and SW506.

Samples at SW401 have elevated zinc concentrations indicating that sources of zinc may be within the background catchment chemistry. Whilst nickel did not exceed the guideline value at SW401, it was elevated compared to other monitoring locations.

Sampling results for previous monitoring rounds are provided in Appendix C.

### 3.6 Groundwater

Groundwater exists within coal measures (deep aquifer), a colluvium/weathered bedrock zone and localised alluvial deposits (shallow aquifers).

Groundwater flow directions for the deep aquifers are likely to be influenced by geological dip, and recharge-discharge processes. Aquaterra (2008) indicate that deep aquifers flow to the west, south and east as they coincide with the crest formed by the Four Mile Creek Anticline. Generally, flow directions are independent of the topography. Conversely, the shallow aquifers, have flow directions driven by topography. The shallow aquifers within this area have been defined as being influenced by local rainfall recharge with downward percolation to a water table where connectivity to surface water can occur based on topographic influence.

Connectivity between surface water and groundwater environments has been previously assessed by Aquaterra (2008). They confirmed that connectivity does exist between wetlands and swamps based on the measurement of water levels in both environments. They indicate that on average, flow from shallow aquifers contribute to the surface water environment, however, in larger rainfall periods or periods of flooding, it is possible for the shallow aquifer to undergo recharge.

Aquaterra (2008) conclude that whilst it identified surface water and groundwater connectivity, it is unlikely that groundwater systems present within the area are extensive or significant.

## 4. Control measures

### 4.1 Erosion and sediment control strategy and plans

Erosion control is the first priority of any erosion and sediment control strategy. Erosion control measures generally function by reducing the duration of soil exposure to erosive forces, either by holding the soil in place or by protecting it. Measures to be used include a variety of construction practices, structural controls and vegetative measures aimed at managing runoff at a non-erosive velocity and the protection of disturbed soil surfaces.

Generally, construction activities are sequenced and managed to minimise potential water quality degradation due to erosion. General management measures include:

- Define access and no/go areas on site.
- Establishment of a sediment basin.
- Early installation of physical controls, including cross drainage to convey clean water around or through the site.
- Minimising the duration of exposed topsoil by retaining topsoil cover, grassed drainage lines and shrub cover on the soil surface for as long as possible minimising the extent of disturbed areas.
- Interim stockpiling of materials (minimal permanent stockpiles).
- Minimising the lengths of slopes by limiting the extent of excavations and/or using diversion drains to reduce water velocity over disturbed areas.
- Progressive rehabilitation or sealing of works areas.

More detail on the control measures is provided in the following sections, aimed at managing the flows for small rain events, including 1 and 5 year average recurrence intervals (ARIs). Control measures for large rain events (including 100 year ARI) are outlined in Section 5.2.

The ESCP/s is/are provided in Appendix A.

Typical control measures required for the Project are provided in Table 4-1.

**Table 4-1 Key erosion and sediment controls required for construction**

Control	Control type	Function	Requirements	Risks
<b>Avoid</b>				
Construction fencing	Access	Limits access to areas of sensitivity or rehabilitation. Assists in the minimisation of disturbance and controls movements on site.	Fencing can take many forms and where space constraints exist can include sediment fence.	Fencing type to match the site conditions and required level of control.
Rolled erosion control products (e.g. geofabric, jute mesh, HDPE)	Erosion control	Provides quick and effective temporary stabilisation to disturbed areas. Provides protection to temporary channels and concentrated flow paths required for construction.	To be installed in accordance with requirement of supplier, Blue Book and Multiplex.	Supplier specifications can vary for similar products. Specifications of all products to be reviewed prior to their implementation on site. Products are typically a one-use only then is disposed of and adds to construction waste volumes.
Groundcover (e.g. mulch, rock, grass)	Erosion control	Stabilised areas of disturbance both in the short or long term	To be installed in accordance with requirement of supplier, Blue Book and Multiplex.	Supplier specifications can vary for similar products. Specifications of all products to be reviewed prior to their implementation on site.
Clean water diversions	Erosion control	Diverts unnecessary surface water runoff from being conveyed through areas of disturbance	Convey up to 5% AEP (~20 year ARI) peak flow	Clean water diversions require temporary stabilisation and decommissioning following construction.
Minimisation of exposed areas/number of work fronts (disturbance staging/progressive rehabilitation)	Erosion control	Planning of construction works into development and stabilisation/rehabilitation stages	Where areas require immediate stabilisation, consider the use of rolled erosion control products.	Ongoing review of disturbance activities is to be reviewed through construction duration
Limit slope	Erosion control	Avoid high erosion hazard	Where practical, limit slopes to less than 12%	Slopes greater than 12% to be designed to manage estimated flows and potential erosion.

Control	Control type	Function	Requirements	Risks
<b>Minimise</b>				
Flow breaks/reduce slope lengths in disturbance areas	Erosion control for sheet flow	Reduces the chance of concentrated flows occurring that create erosion.	Located along the contour constructed of earth (berm), proprietary products (eco-logs) or sandbags.	Earthen flow breaks can become source of sediment if not maintained.
Soil stabilisers/binders (IECA 2008)	Erosion control	Application of organic or polymer based binders to areas to form a stabilised, non-vegetated surface	Application rates vary for binder duration, type and slope. Consideration of site constraints, potential environmental harm and application need to be considered before use.	Limitations to applicable surfaces (organic based binders have low trafficability). Curing time can be minimum periods of 24 hours. Supplier specifications can vary for similar products. Specifications of all products to be reviewed prior to their implementation on site.
Check dams and level spreaders	Erosion control for concentrated flow	Mitigate energy in concentrated flow paths and act as minor sediment traps.	Construct from placed rock or proprietary products. Where concentrated clean flow proceeds from the site to the receiving environment, an energy dissipater should be nominated.	Check dams to be installed in a manner that does not allow bypass to occur around the control.



Control	Control type	Function	Requirements	Risks
<b>Treat</b>				
Straw bale filter	Sediment control	Trap sediment moving in concentrated flow paths.	Construct parallel to flow direction, minimum number bales to suit flow width. Straw bale returns at regular intervals to mitigate longitudinal bypass flow.	Limited effectiveness for fine sediment. Requires ongoing maintenance.
Sediment fence	Sediment control	Situated on the contour, to form protective barrier for sediment runoff.	Typical flow capacity 10 L/s to 20 L/s (approx.. 180 m <sup>2</sup> of catchment). Sediment fence returns at regular intervals to mitigate longitudinal bypass flow.	Limited effectiveness for fine sediment. Sediment fences not to be used across areas of concentrated flow paths. Can form access constraint.
Pit inlet controls	Sediment control	Mitigates sediment from entering existing or constructed drainage infrastructure.	Controls to suit pit inlet configuration. Controls utilise sandbags or geotextile filter fabric.	Regular maintenance to be undertaken to mitigate failure of control.
Sediment basin/ (earthen)	Sediment control	Capture water for gravity and/or chemically aided settlement.	Sized to appropriate standard and catchment area.	Maintaining drawn down water levels.
On-site detention tank/s (concrete/ brick)	Sediment control	Capture water for gravity and/or chemically aided settlement.	Sized to appropriate standard and catchment area.	Maintaining drawn down water levels.

### 4.1.1 Criteria

The criteria to be adopted as part of this SWMP is provided in Table 4-2. All structures and controls to be implemented as part of managing soil and water during construction should be compliant with this criteria. Criteria has been developed based on 'worst case' condition and hence provides a precautionary approach to erosion and sediment management.

**Table 4-2 Plan criteria**

Component	Criteria	Reference
Construction period	Dec. 19 to Mar. 21	Multiplex
Type of environment	Sensitive	GHD 2018
Soil loss volume estimate	Revised Universal Soil Loss Equation	Blue Book, Section 6.3
2 year ARI, 6 hour design rainfall intensity	9.7 mm/hour	BOM (2018)
Rainfall zone	Zone 1	Blue Book
Rainfall (R) factor	2090	Blue Book (based on 2 year ARI, 6 hour design rainfall intensity for the site)
Erodibility (K) factor	0.048	Beresfield soil landscape (be5), see Section 3.3.1.
Length and slope (LS) of construction works	Maximum longitudinal slope: Stage 1: 6% Stage 2 and 3: 3% Maximum flow length: 80 m (controlled)	Site contours and Design Drawings Blue Book Table A1
Cover (C) and Practice (P) factors	C: 1.0 (100% disturbance) P: 1.3 (compacted soil)	Blue Book, Figure A5 Blue Book, Table A2
Design rainfall event	85th percentile	Sensitive receiving environment, disturbance period longer than 6 months Blue Book, Section 6.3.4(f)
Design rainfall depth	38.9 mm	5 day 85th percentile for Newcastle, Blue Book Table 6.3a
Sediment Basin type	Type D (Blue Book)	Assumed, conservative
Volumetric runoff coefficient	0.5	Blue Book, Section F.3
Sediment storage zone factor	2 months soil loss	Blue Book, Section 6.3.4(i)
Sediment Basin spillway design criteria	5% AEP (~20 year ARI)	Industry practice

### 4.2 Discharge water quality

Where no criteria have been specified in a license or another document, the following default values are to be used for site-based discharges during construction:

- TSS: 50 mg/L (100th percentile concentration)
- pH: 6.5 – 8.5 pH units (20th and 80th percentile concentration)
- Oil and grease: no visible trace (10 mg/L, 100th percentile concentration)

If a statistical correlation is developed between turbidity (NTU) and TSS (mg/L) through the construction phase for discharge water, turbidity measurements may be used to allow discharge from sediment basins before laboratory data is available. The procedure for

completing this is to be undertaken by an appropriately qualified scientist or engineer. The use of permits prior to discharge is also recommended and is further discussed in Section 4.6.5.

#### **4.2.1 Progressive erosion and sediment control plans**

A series of progressive ESCPs are to be developed over the duration of the Stage 2 construction activities.

Where relevant the following technical information should be detailed:

- Contours and drainage paths
- Limits of disturbance
- On-site and off-site water flow paths
- Extent of earthworks
- Location of control measures
- Order of works schedule
- Specific construction details/notes
- Specific operating procedures

### **4.3 Clearing and grubbing**

Where feasible and reasonable, the area of soil exposure during construction will be minimised (i.e. not cleared all at once) and all relevant controls in place prior to clearing.

### **4.4 Earthworks**

During earthworks, there is potential for the works to increase the levels of pollutants to downstream waterways, particularly through activities such as vegetation clearance, topsoil stripping and cut and fill earthworks. The following sections detail specific controls and strategies that are to be used in specific earthworks activities.

#### **4.4.1 Bulk earthworks**

Bulk earthworks for the Project will be associated with re-grading the site for the hospital pad and surround roadways and carparks.

Fill batters will have sediment controlled using sediment fence at the top and toe. Where sediment fences cannot be installed, the disturbed face of fill batters are to be temporary stabilised with rolled erosion control product in the event that rain is forecast and work has ceased.

Where cut batters are being constructed, the diversion of clean water at the top of the batter is to be implemented using temporary measures, such as sediment fence, sandbags or minor earthworks combined with a rolled erosion control product.

If the volume of clean water being managed at the top of batter is constrained, then the conveyance of clean water can occur down the face of constructed earthworks via a temporary chute structure and energy dissipater.

#### **4.4.2 Installation of services and longitudinal drainage infrastructure**

The installation of services and drainage infrastructure, typically using open trenching, should consider the guidelines and practices defined within *Managing Urban Stormwater – Soils and*

*Construction Volume 2A. Installation of Services* (DECC 2008b) to be considered during trenching activities include:

- Temporary covers over trenches as an interim control to stop surface water from entering pits.
- Long trenches on grades greater than 2% should consider trench breaks. Trench breaks operate similar to check dams in open channels and will seek to mitigate mass movement of material in the event that a volume of surface water enters the trench.

During construction, both existing and newly constructed drainage inlet pits (kerb inlet, grated inlet and letter box) are to have sediment controls in place. Controls include:

- Utilising sandbags to divert dirty water from entering inlets on longitudinal flow paths.
- In-pit sediment traps or filters (e.g. gully pit warden).
- Sediment fence perimeters around square pit inlets. These can include a weir for water to spill into the pit if the depth of flow is sufficient to require it.
- Complete coverage/blockage of existing and constructed pit inlets at times.

It is recommended that the design drainage network not be utilised until the majority of sediment sources are stabilised. It is not recommended that the road drainage network be utilised, without controls, as a way of transferring dirty water to dedicated management locations. This management approach may result in requirements following construction to clean the drainage network as sediment will settle within pits and pipes creating potential blockages and maintenance requirements at time of commissioning.

Where necessary, temporary drainage pipes are to be utilised, either on the surface or within a shallow trench, to convey clean or dirty water to the necessary location for further management.

#### **4.4.3 Management of acid sulfate soils**

Actual or potential ASS is not expected at the site, however in the event that ASS are encountered (indicated by visual and olfactory observations), the following broad scale management approaches are to be adopted:

- Minimisation of disturbance
- Neutralisation, either in place or following excavation
- Strategic reburial (reinternment)

The following management measures are not acceptable:

- The receiving environment must not form a point of dilution or treatment area for ASS.
- Stockpiling of ASS above the groundwater table is not an acceptable long-term strategy. This includes the use of ASS material on site or the removal from site without appropriate treatment.

#### **4.4.4 Dewatering**

During construction the incidental interception of shallow groundwater may occur. This is likely to occur in low lying areas, and nearby wetlands. Surface water egress may also occur into trenches and areas of earthworks cuts through direct rainfall and longitudinal runoff.

In the event that dewatering activities are required, the following management procedures are to be considered:

- Discharge to the environment, directly (off site) must not occur. All dewatering is to be directed to a sediment basin for treatment or reuse.
- Dewatering infrastructure is to be situated above any stored sediment sitting in the base of the low point being dewatered.

## 4.5 Dust management

### 4.5.1 Safeguards and management measures

Table 4-3 identifies safeguards and management measures that will be implemented to address potential impacts of the construction on air quality.

**Table 4-3 Summary of mitigation measures for air quality**

Impact	Environmental safeguards	Responsibility	Timing
Excessive exhaust emissions arising from construction plant and equipment	Inspect the plant/equipment before the start of construction on site. Conduct routine servicing and maintenance, and subsequent inspections to ensure that the plant/equipment continues to operate efficiently.	Contractor	Pre-construction and routinely during construction
Dust emissions arising from disturbed exposed and/or non-vegetated surfaces and stockpiled materials	Stage work to minimise to the extent practical exposed areas and stockpiles. Wherever possible, avoid completing work with a high potential to results in dust during dry conditions when winds are blowing in the direction of nearby receivers (refer to Section 3.4.2). Disturbed areas, where possible, should be covered, stabilised or revegetated. Regular watering of exposed and disturbed areas and stockpiles, especially during dry weather conditions.	Contractor	Pre-construction and during construction.
Dust emissions arising during the haulage of materials and construction vehicle movements.	Ensure that loads are covered. Regularly water unsealed traffic routes. Impose speed limits along unsealed routes. Where possible, restrict movements along unsealed routes.	Contractor	During construction
Dust emissions arising from non-vegetated surfaces	Staging of work to ensure that finished areas are revegetated as soon as possible. Regular maintenance and watering of revegetation areas to aid the establishment of adequate vegetation cover (refer to Section 4.9).	Contractor	During and post construction
Dust emissions emanating beyond the proposal area	Install depositional dust gauges to monitor and measure depositional dust at one of the most potentially affected receivers to evaluate compliance with EPA criteria.	Contractor	During construction

Impact	Environmental safeguards	Responsibility	Timing
Dust emissions from compounds	The site will be constructed and supplemented as required, to provide a stable base (e.g. coarse aggregate) beneath the entire site in order to minimise dust generation.	Contractor	During construction



## 4.6 Sediment basin

Sediment basins provide treatment to construction runoff where the calculated total annual soil loss from the disturbed area is more than 150 m<sup>3</sup>/yr. This is in line with the requirement of the Blue Book, Appendix M, Clause (54) (Landcom 2004).

The criteria considered in sizing construction sediment basins are presented in Table 4-2, in Section 4.1.1. The design rainfall depth was based on the Blue Book for a Type D or F basin with a 1 to 3 year disturbance period and a standard receiving environment.

A 5-day rainfall depth can be adopted as the standard in the design of the settling zone where the soils being disturbed are Type D or Type F. This assumes that five days or less are required following a rainfall event to achieve effective flocculation if necessary, settling and subsequent discharge of the supernatant stormwater. The sedimentation basin should be managed so as to draw down the volume of water to the sediment storage zone in readiness for the design storm event.

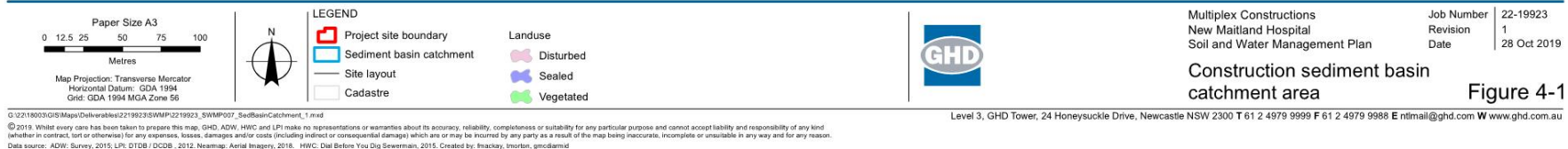
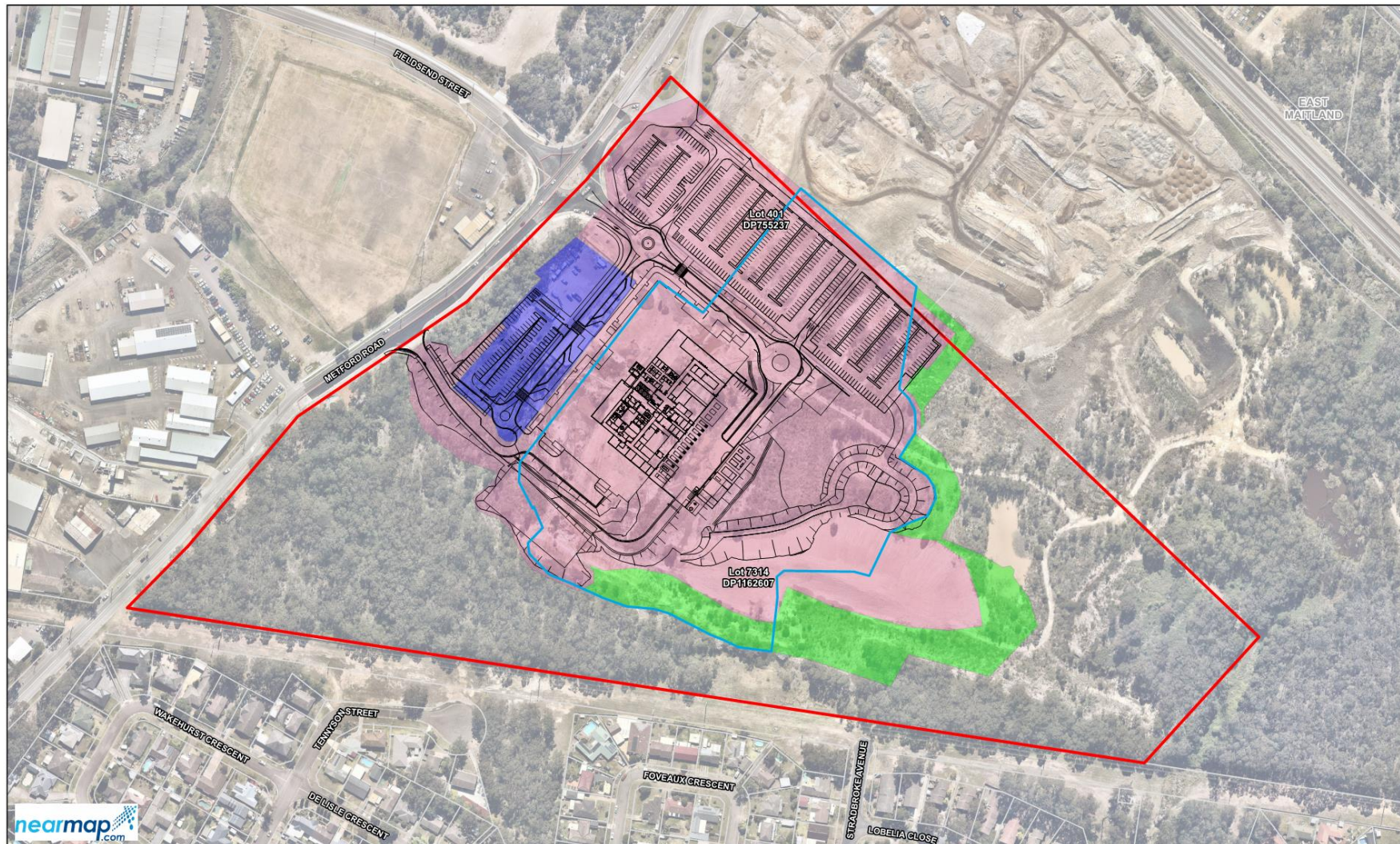
There is one permanent operational water quality basin proposed for the Project. During construction this basin will also be utilised as a construction sediment basin. Water from sediment basins would be utilised for construction purposes such as dust suppression, where feasible.

Key details of the construction sediment basin include:

- Total storage volume is 1.2 ML (minimum allowance of 0.3 m freeboard to the embankment crest should be allowed for above the estimated volume).
- Sediment storage volume 0.04 ML
- Spillway trapezoidal broad crest weir approximately 5 m wide.
- Excavation of storage works to remain above groundwater level (8 m AHD).

Catchment area to the basin is shown in Figure 4-1. Assessment of the adequacy of the sediment basin volume are provided in Appendix B. If additional basins are required by the contractor, then these can be designed based on the criteria and methodology adopted within this SWMP.

**Figure 4-1 Construction Sediment Basin catchment area**





#### **4.6.1 Basin area constraints**

Where disturbed catchment areas exceed the sediment basin threshold determined for the Project (i.e. predicted sediment losses greater than 150 m<sup>3</sup>/year), alternative management approaches can be considered where the area for a sediment basins is constrained and not possible. These include:

- Temporary stabilisation of the works in between periods of works, such as using rolled erosion control products or soil binders.
- Reduce the effective flow length or slope of the catchment where disturbance activities are occurring.
- Sediment capture infrastructure that can be mobilised and relocated as required, such as “Siltbuster” or equivalent.

#### **4.6.2 Management of pH**

In the event that pH correction of water stored in construction sediment basins is required, the following procedure should be considered:

- Lime to be added if pH below 6.5 pH units.
- Hydrochloric acid (32% muriatic) to be added if pH above 8.5 pH units.
- Determine water volume held within basin.
- Determine the percentage of lime or acid by using a 10 L sample of basin water and adding a known amount of lime or acid. If the pH is still not acceptable, vary the amount of lime or acid until the appropriate correction is achieved.
- Given the determined required percentage of lime or acid correction, using the volume of water stored, the total volume of pH correction solution can be determined.
- Correction solution shall be well mixed through the volume.
- pH correction should occur prior to treatment procedures required for TSS.

#### **4.6.3 Management of total suspended solids**

Where required, a gypsum flocculent would be applied to sediment basins as early as possible so that early mixing of flocculants occurs. An alternative flocculent should not be used without prior approval from HI and EPA (or other appropriate government agency).

The use of flocculants can aid effectively managing TSS below 50 mg/L. Jar testing should be undertaken for an initial assessment of flocculent dosing rates prior to applying to any construction sediment basin. Jar testing standard procedures can be referenced in ASTM D2035 – 13 Standard Practice for Coagulation-Flocculation Jar Test of Water.

#### **4.6.4 Management of oils and greases**

If oil and grease is visually evident in water held within construction sediment basins (e.g. odour, sheen or discolouration) then oil absorbent pads may be used over the surface area of the basin to extract contamination from the surface. Alternatives may include the use of an absorbent boom device. Following the use of any absorption devices, they are to be disposed of through a licensed waste contractor.

#### **4.6.5 Discharge procedure**

In the event that reuse strategies of water captured within sediment basins do not sufficiently drawdown volumes, discharges to the environment may be required. Prior to discharges occurring, a review is to be undertaken.

The development of a discharge permit is recommended to manage the process and record discharges required during construction. A template of a typical permit is provided in Appendix D. Further management and monitoring requirements are discussed in Section 5.

Minimum pump rates for each sediment basin to achieve dewatering within the required management period has been estimated at least 5 L/s.

The construction sediment basin discharge point is shown in Figure 5-1, and in the ESCP/s in Appendix A.

Points of discharge may require areas of energy dissipation (e.g. placed rock).

#### **4.6.6 Construction water use**

Where water will be required, this will be sourced from construction sediment basins as a first preference. In the event that this water is not available, then water will be sourced from an agreed source (which may include potable water). Construction water is not to be sourced from unlicensed sources from either the surface or groundwater environment.

### **4.7 Contaminated soils**

Contaminated soils will be managed in accordance with the Contamination Management Plan (Multiplex, 2019).

### **4.8 Hydrocarbon management**

Fuels and oils are to be stored in purpose built facilities, in accordance with AS 1940-2004, within the construction compounds where appropriate bunding and firefighting provisions are allowed for. Diesel is to be stored in above ground bunded tanks from where it can be used for machinery. A licensed contractor is to be engaged to remove and recycle and/or dispose of used oil and grease products at licensed facilities as required during construction period of the Project.

### **4.9 Rehabilitation**

Sites will be progressively revegetated, rehabilitated or stabilised following completion and/or suspension of construction activities. Prior to carrying of concentrated flows, drainage lines are to have either adequate vegetation cover, armouring or lining equivalent to a maximum C-factor of 0.05 (70% groundcover equivalent). Following 20 working days of inactivity, all lands (drainage lines, batters, stockpiles) are to be protected so that the maximum C-factor is 0.15 (50% groundcover equivalent).

Permanent rehabilitation of sites will aim to achieve a C-factor of 0.05 over a period of 60 days following completion of disturbance works. A combination of hydro-mulching, hydro-seeding and hand seeding of cut and fill batters will form a major part of the strategy to achieve permanent rehabilitation.

Undertake soil sampling within key zones of the site, where revegetation is required, to determine the need for ameliorants and/or fertilisers prior to hydro-mulching or other rehabilitation. Where hydro-mulching is to be undertaken, quality assurance checks are to be undertaken on the contractor and application to ensure success.

The criteria to be adopted in the rehabilitation or stabilised is summarised in Table 4-4 based on the Blue Book guidelines.

**Table 4-4 Criteria for rehabilitation/stabilisation**

Lands	Maximum C Factor/ Groundcover percentage	Comment
Waterways and other areas subjected to concentrated flows – post construction	0.05/70%	Applies after 10 working days from completion of earthworks and before allowed to convey concentrated flows
Stockpiles – during construction	0.10/60%	Applies after 10 working days from completion of stockpile
All lands including waterways and stockpiles – during construction	0.15/50%	Applies after 20 working days of inactivity even though works might continue later

## 5. Monitoring, maintenance and decommissioning

### 5.1 Site inspections and control maintenance

Site inspections of erosion and sediment controls will be undertaken by the Site Work Health Safety and Environment (WHS&E) Coordinator fortnightly at a minimum and following rainfall events that exceed 20 mm in 24 hours. All water management and erosion and sediment control measures will be inspected for capacity, structural integrity and effectiveness. The condition of each control in place will be recorded, with maintenance of any structures undertaken as required. An example of an inspection checklist is provided in Appendix D.

### 5.2 Weather monitoring

Weather forecasts are to be considered prior to and during construction to reduce risk.

In the event of large rain events, disturbed areas of high erosion risk areas (such as flow paths under construction, steep batters and exposed erodible soil) are to be lined with a rolled erosion control product (e.g. Jute Mesh) as an interim protective measure and/or additional flow breaks added. Temporary stockpiles should be relocated into dedicated stockpile areas.

### 5.3 Water quality monitoring

Background environment and site-based discharge water quality monitoring has been undertaken prior to construction. This has included sampling of locations inferred as upstream and downstream of the construction works. Future sampling is recommended to assess the ongoing water quality of receiving surface water environments that could potentially be impacted by the Project. Discharge water quality monitoring is to be undertaken prior to any release of water from sediment basins, this is further discussed in Section 4.6.

Sampling locations and monitoring methodology is to be in accordance with Section 7.2 of the Surface Water and Groundwater Assessment (GHD 2018) as summarised below.

All water quality monitoring is to be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (EPA 2004).

A water level logger is proposed to be implemented as part of the water monitoring program. This will assist in understanding the potential proportion of interaction between the surface and groundwater environments.



The surface water monitoring program is summarised in Table 5-1.

**Table 5-1 Surface water monitoring program**

Monitoring location	Frequency	Parameters
SW401 and SW402 (location dependent upon water availability), and at the sediment basin discharge point.	Quarterly recommended. Minimum of completion of bulk earth works for each of Lot 7314 and Part Lot 401, and completion of the Project.	Field: temperature, pH, EC, DO, redox, flow.  Cations/anions: bicarbonate alkalinity as CaCO <sub>3</sub> , fluoride, sulfate as SO <sub>4</sub> , calcium, chloride, magnesium, potassium, sodium.  Total and filtered metals: arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, vanadium, zinc.

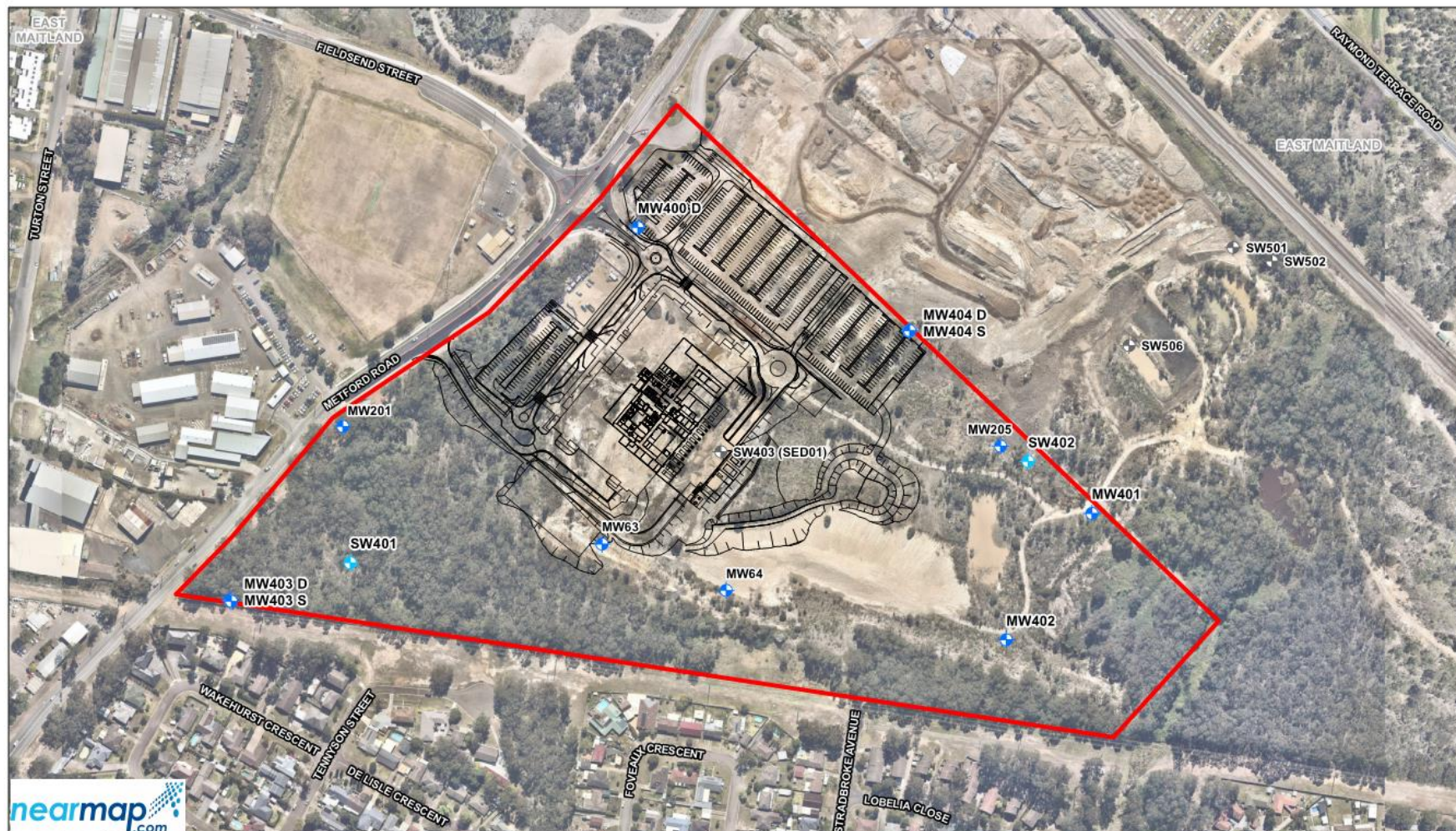
The groundwater monitoring program is summarised in Table 5-2.

**Table 5-2 Groundwater monitoring program**

Monitoring location	Frequency	Parameters
MW404D, MW404S, MW403D, MW403S, MW402, MW401, MW400D, MW63, MW64, MW201 and MW205.	Quarterly recommended. Minimum of completion of bulk earth works for each of Lot 7314 and Part Lot 401, and completion of the Project.	Field: temperature, pH, EC, DO, redox, groundwater level.  Cations/anions: bicarbonate alkalinity as CaCO <sub>3</sub> , fluoride, sulfate as SO <sub>4</sub> , calcium, chloride, magnesium, potassium, sodium.  Total and filtered metals: arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, vanadium, zinc.

Monitoring locations from Table 5-1 and Table 5-2 are shown in Figure 5-1.

**Figure 5-1 Water monitoring locations**



Paper Size A4  
0 12.525 50 75 100  
Metres  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 56



**LEGEND**

- ▬ Project site boundary
- ▬ Site layout
- Groundwater monitoring location

- Surface water monitoring location
- Previous surface water monitoring location



Multiplex Constructions  
New Maitland Hospital  
Soil and Water Management Plan

Job Number | 22-19923  
Revision | 1  
Date | 28 Oct 2019

Water monitoring locations

**Figure 5-1**

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Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 T 61 2 4979 9999 F 61 2 4979 9988 E ntmail@ghd.com W www.ghd.com.au

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Data source: LPI: DTDB / DCDB, 2012. NearMap: PhotoMap, Extracted 20171214. Created by: fmackay, lmorton, gmcdiamid, kpsroba



In the absence of adequate reference site monitoring data, a list of the DGVs recommended by ANZECC (2000) to assess water quality is presented in Table 5-3. It should be noted that there have been no hardness correction factors applied to the guideline values presented.

**Table 5-3 Default guideline values for assessment of water quality**

Parameter	Units	Guideline value	Comments (reference within ANZECC)
<b>Physicochemical parameters</b>			
Electrical conductivity (EC)	µS/cm	300	NSW lowland river (Table 8.2.8)
pH	pH units	6.5-9.0	NSW lowland river (Table 8.2.9)
Dissolved oxygen (DO)	%	60 - 120	NSW lowland river (Table 8.2.10)
Total suspended solids (TSS)	mg/L	50	NSW lowland river (Table 8.2.12)
Turbidity	NTU	50	NSW lowland river (Table 8.2.11)
<b>Nutrients</b>			
Ammonia as N	mg/L	0.9	Freshwater guideline for 95% species protection (Table 3.4.1)
Total nitrogen	mg/L	0.60	NSW lowland river (Table 8.2.2)
Total phosphorus	mg/L	0.05	NSW lowland river (Table 8.2.3)
<b>Dissolved metals</b>			
Arsenic	mg/L	0.013	Freshwater guideline for 95% species protection for As(V) (Table 3.4.1)
Boron	mg/L	0.37	Freshwater guideline for 95% species protection (Table 3.4.1).
Cadmium	mg/L	0.0002	Freshwater guideline for 95% species protection (Table 3.4.1).
Chromium (III + VI)	mg/L	0.001	Freshwater guideline for 95% species protection (Table 3.4.1).
Cobalt	mg/L	0.0025	Canadian guideline value.
Copper	mg/L	0.0014	Freshwater guideline for 95% species protection (Table 3.4.1).
Lead	mg/L	0.0034	Freshwater guideline for 95% species protection (Table 3.4.1).
Manganese	mg/L	1.9	Freshwater guideline for 95% species protection (Table 3.4.1).
Mercury	mg/L	0.0006	Freshwater guideline for 99% species protection (Table 3.4.1).
Nickel	mg/L	0.011	Freshwater guideline for 95% species protection (Table 3.4.1).
Selenium	mg/L	0.011	Freshwater guideline for 99% species protection (Table 3.4.1). Applied to total concentrations.
Zinc	mg/L	0.008	Freshwater guideline for 95% species protection (Table 3.4.1).

Where monitoring indicates a water quality exceedance in discharges off site, an investigation will be undertaken and a notification to the EPA shall be undertaken as soon as practicable.

Following construction, the operational treatment devices that have been sized during the design process will seek to meet the above guideline values, the defined water quality objectives and load-based design criteria. These criteria would apply to all surface areas where runoff has been concentrated into defined outlet points of the drainage system.

## **5.4 Sediment basin**

When sediment accumulation has reached approximately 30% of the basin's total sediment capacity, sediment is to be removed and appropriately disposed of.

Gypsum, or an appropriate equivalent, is to be used as the flocculent in the event that the basin settlement process requires expatriation.

Records regarding water quality and functionality of erosion and sediment control devices are to be maintained, including details of rain events, use of flocculants, discharge, sediment removal and dewatering activities. These recording requirements are in line with the checklist templates provided in Appendix D.

As the Project is subject to an EPL, specific monitoring requirements have been provided by the EPA. These requirements include the use of laboratory analysis and the approved testing methods. Alternative approaches to water quality monitoring may include calibrated comparison samples, turbidity tubes, portable probe analysis, or indicator strips, but will require EPA approval.

## **5.5 Stockpile management**

Dedicated stockpile areas have not been delineated in the plans provided in Appendix A, however in the event that interim stockpiles are required during construction, they are to be managed in accordance with the CEMP, including the following general requirements:

- No materials will be stockpiled if they are classified as hazardous, restricted solid, special or liquid waste as defined in the POEO Act.
- Perimeter of stockpiles will be delineated with an earth/riprap bund (or sediment fence).
- Located at least 5 m from existing remnant vegetation, minor flow lines and hazard areas.
- Topsoil stockpiles are to be constructed less than 2 m in height where available space allows to maintain soil viability, with a maximum 2H:1V slope.
- Stockpiles are to be protected upslope by earth diversion banks (or sediment fence) to divert run-on water and downslope by sediment fence (or similar).
- Where stockpiles are to remain in place for more than 10 days, they are to be protected by vegetation or alternative interim cover such as rolled erosion control product or hydro-mulch.
- Stockpile sites are to be checked regularly to ensure that implemented controls are all in order.
- Dust emissions to be managed in accordance with the controls outlined in Section 4.5.1.

## **5.6 Control decommissioning**

Erosion and sediment controls are only to be removed following with the stabilisation of all disturbance activities or rehabilitation in accordance with the criteria defined in Section 4.9.

## 6. Compliance management

### 6.1 Roles and responsibilities

The key Contractor responsibilities for soil and water management are as follows:

#### Project Manager

- Ensuring appropriate resources are available for the implementation and maintenance soil and water management measures.

#### Site Manager

- Liaising with the WHS&E Coordinator to ensure effective soil and water management.
- Liaising with the site team to ensure appropriate corrective and preventative actions are developed and implemented in accordance with this SWMP.

#### WHS&E Coordinator

- Ensuring that soil and water related management controls (including erosion and sediment controls) are implemented and assessing the effectiveness of these controls.
- Providing assistance and advice to all personnel to fulfil the requirements of this SWMP.
- Undertaking inspections and monitoring through the weekly environmental checklist and reporting findings to the Construction Manager.
- Undertaking daily visual inspections to ensure that construction impacts on environmentally sensitive areas (including exclusion fencing around retained vegetation and riparian areas) are minimised.
- Providing Project-wide advice to ensure consistent approach and outcomes are achieved.
- Reviewing ESCPs to ensure compliance with this SWMP.
- Approving the discharge of water from sediment basins to receiving waters.
- Ensuring training for construction personnel covering soil, water management, spoil, fill and contaminated land management.
- Liaising with relevant authorities and organisations as necessary.

#### Project Engineers

- Ensuring that appropriate soil, water, spoil and fill management measures are implemented and maintained on site.
- In the event of identified potential or actual breaches, implementing appropriate corrective or preventative actions to fulfil the requirements of this SWMP.
- Developing ESCPs to manage soil and water quality impacts for each work area prior to construction.

#### Construction personnel

- Following mitigation measures as directed by construction manager, environmental site representative, supervisors and engineers, or as defined within work method statements when undertaking site work.
- Informing the supervisor of any soil and water management issues as they arise.

## **6.2 Training**

### **6.2.1 Site induction**

Site inductions and toolbox talks will highlight the specific environmental requirements and activities being undertaken at each worksite. These will be based on the measures outlined in the specific contractor EWMS and/or CEMP. All construction personnel will undergo a general Project induction prior to commencing work. This will include a soil and water component to reinforce the importance of management and the measures that will be implemented to protect soil and water.

Construction site inductions will include:

- Basic erosion and sediment control principles
- 'Clean' and 'dirty' water on the Project site
- Spill response

### **6.2.2 Toolbox training**

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

- Sediment basin construction
- Sediment basin maintenance
- Working near or in drainage lines and creeks
- Emergency response measures in high rainfall events
- Spill response
- Erosion and sediment control
- Stockpile location criteria
- Identification of potentially contaminated spoil and fill material
- The Project's waste minimisation hierarchy principles of avoid, reduce, reuse, recycle or dispose and how they will apply to all aspects of the Project

## **6.3 Auditing**

Internal audits will be undertaken in accordance with the CEMP to assess compliance against this SWMP as well as approvals and other relevant licences should be undertaken during the construction period. This will include an audit of the worksite and subcontractors to assess compliance with this.



## **6.4 Review and improvement**

Investigation and implementation of ways to improve the environmental performance of soil and water management measures will be undertaken. Continual improvement of environmental performance shall be achieved through:

- Environmental monitoring
- Risk assessments
- Compliance audits
- Site inspections
- Implementation of corrective and preventative actions

The SWMP will be reviewed and revised as necessary following:

- Any amendments to permits or approvals
- Any non-compliance or reportable incident relating to the performance of soil and water management

## 7. References

ANZECC (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand.

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Pitt & Sherry (2018) *Environmental Impact Statement*, June 2018.

State of NSW and Office of Environment and Heritage [OEH] (2018) Residual landscapes: Beresfield. Retrieved via eSPADE from

<https://www.environment.nsw.gov.au/Salisapp/resources/spade/reports/9232be.pdf>

## 8. Limitations

This SWMP “document” has been prepared by GHD for Multiplex and may only be used and relied on by Multiplex for the purpose agreed between GHD and the Multiplex as set out in Section 1.3 of this document.

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# Appendices

## **Appendix A** – Erosion and Sediment Control Plans

## Appendix B – Calculations

### Soil loss calculations and sediment basin sizing

The proposed disturbance area has been split into three areas. The soil loss for the disturbed area were estimated according to RUSLE, as summarised in Table B-1.

**Table B-1 Soil loss estimates**

Area	Soil loss (t/ha/year)	Soil loss class	Soil Loss from disturbed area (m <sup>3</sup> /ha/year)	Disturbed catchment area (ha)	Soil Loss from disturbed area (m <sup>3</sup> /year)
Inside sediment basin catchment	67.9	1	52.2	5.5	289
Outside sediment basin catchment	69.7	1	52.2	2.5	130

Table B-1 shows the estimate soil loss from the areas that cannot be practically be directed to the Sediment Basin is less than 150 m<sup>3</sup>/year. Therefore, an additional sediment basin is not considered necessary, as per Section 6.3.2 of the Blue Book.

The required sizing of Sediment Basin is summarised in Table B-2, based on the design criteria summarised in Table 4-2.

**Table B-2 Sediment basin sizing**

Catchment area (ha)	Design rainfall depth (mm)	Volumetric runoff coefficient	Settling zone volume (ML)	Sediment storage zone volume (ML)	Required volume (ML)
5.9	38.9	0.5	1.2	0.05	1.25

Table B-2 shows that a sediment basin with total volume of 1.25 ML would be required to detain and treat the runoff from the catchment. The existing Sediment Basin has a design capacity of 1.5 ML, which satisfies the requirement of the adopted criteria.

The Sediment Basin has a spillway with a freeboard allowance of 300 mm, and width of 5 m. This spillway is adequate to safely convey the estimated 20% AEP design peak flow of 1.1 m<sup>3</sup>/s.





## **Appendix C** – Existing water quality monitoring data



## **Appendix D** – Checklist templates



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79152/[https://projects.ghd.com/oc/Newcastle2/nmhenvconsultancyfor/Delivery/Documents/2219923-REP\\_NMH\\_Construction\\_SWMP.docx](https://projects.ghd.com/oc/Newcastle2/nmhenvconsultancyfor/Delivery/Documents/2219923-REP_NMH_Construction_SWMP.docx)

#### Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
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1	J Simkus	M Kiejda		I Gregson		29/10/2019
2	J Simkus	M Kiejda		I Gregson		16/11/2019





## 15.10 Appendix 10: Contamination Management Plan



# CONTAMINATION MANAGEMENT PLAN

New Maitland Hospital  
Main Works  
Rev 5 – 16 November 2019

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# MULTIPLEX

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## 1. Introduction

### 1.1 Context

This Contamination Management Plan (CMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Main Works phase of the New Maitland Hospital (the Project).

This CMP has been prepared to address the requirements of the Stage 2 Conditions of Approval, Contractual requirements established between Health Infrastructure and Multiplex, the Multiplex EMS and all applicable legislation and guidelines.

### 1.2 Environmental management systems overview

The overall Environmental Management System for the Project is described in the Construction Environmental Management Plan (CEMP).

The CMP is part of Multiplex's environmental management framework for the Project, as described in Section 2.2 of the CEMP. Management measures identified in this Plan will be incorporated into site or activity specific Environmental Work Method Statements (EWMS).

Where required, EWMS will be developed and signed off by environment and management representatives prior to associated works and construction personnel will be required to undertake works in accordance with the identified mitigation and management measures.

Used together, the CMP, the CEMP, strategies, procedures and EWMS form management guides that clearly identify required environmental management actions for reference by Multiplex personnel and sub-contractors.

The review and document control processes for this Plan are described in Section 3.3 of the CEMP.

## 2. Purpose and objectives

### 2.1 Purpose

The purpose of this Plan is to describe how uncovered previously undetected contaminated materials will be managed during construction of the Project.

### 2.2 Objectives

The key objective of the CMP is to ensure that previously undetected contaminated materials uncovered throughout the delivery of the Project are managed appropriately. To achieve this objective, the following will be undertaken:

- All environmental safeguards outlined the GC21 MW Contract are implemented during the Project;
- All unexpected contaminated soils and/or groundwater will be identified and managed according to the process outlined in the GC21 MW Contract, including the use of the 'Contaminated Material Notice' protocol to formally notify Health Infrastructure of any discovery of contaminated materials on the site;
- Ensure appropriate controls and procedures are implemented to protect the public, Project staff and the environment from any uncovered contaminated materials, in accordance with the Environmental Mitigation and Management Measures outlined in Section 6.1 below; and
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 and 3.2 of this Plan.

### 2.3 Targets

The following targets have been established for the management of previously undetected contaminated materials during the Project:

- Ensure full compliance with the relevant legislative requirements;
- Follow correct procedure and ensure notification of any contaminated materials uncovered during construction;
- Ensure that HI can administer its obligations under the Surrender Deed with CSR and vice versa for CSR; and
- Ensure Project staff are suitably informed to enable the identification of potentially contaminated materials.

## 3. Environmental requirements

### 3.1 Relevant legislation and guidelines

#### 3.1.1 Legislation

Legislation relevant to contaminated land management includes:

- Work Health and Safety Act 2011;
- Workplace Health and Safety Regulation 2017;
- Contaminated Land Management Act 1997;
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Waste) Regulation 2014

#### 3.1.2 Guidelines

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

- National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (NEPC, 2013);
- SafeWork NSW Code of Practice – How to manage and control asbestos in the workplace 2016;
- SafeWork NSW Code of Practice – How to safely removal asbestos 2016;
- Landcom – Managing Urban Stormwater: Soils and construction;
- NSW EPA Waste Classification Guidelines 2014: Parts 1 to 4



## 3.2 Environmental Safeguards under the Contract

Under the MW Contract, Multiplex is obligated to adhere to the Contamination framework. The framework provides direction for the treatment of newly uncovered contaminated materials on-site and includes the preparation of a Contamination Management Plan, identification of contamination, contamination register, inspection of contaminated material, dealings with contaminated material, and treating contaminated material.

## 4. Existing environment

### 4.1 Contaminated materials previously identified at the site

The following documents were reviewed as part of the background study for the CMP (and summarised in the following sections):

- GHD 2015: Phase 2 Environmental Site Assessment. December 2015.
- GHD 2016: Remedial Action Plan / Contamination Management Plan (Lot 7314). July 2016.
- GHD 2017: Lot 7314 site condition inspection, October 2017.
- GHD 2018: Part Lot 401 site inspection and addendum to contamination investigations, and Lot 7314 site condition inspection – 4 April 2018.
- GHD 2019: Site Investigation Report (Part Lot 401). October 2019.
- GHD 2019: Remedial Action Plan / Contamination Management Plan (Part Lot 401). October 2019.

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## 4.1.1 GHD 2015

The primary objective of the Phase 2 Environmental Site Assessment (ESA) was to provide HI with a high level of confidence that the site contamination characteristics were sufficiently understood to determine the remediation required to make the site suitable for the final land use; and with sufficient confidence and reliance that there will be no foreseeable contamination issues which may affect handing the site over to contractors to undertake redevelopment and construction works on the site.

With respect to asbestos contamination, the results of the investigation included:

- The site has predominantly been used as a quarry and for stockpiling of material, with the exception of perimeter areas towards the west, south and east which appear to be largely undisturbed.
- PACM was observed on the surface in three locations:
  - Area 1 (in the western portion of the site) – in the vicinity of HA402 and associated with dumped waste building materials.
  - Area 2 (in the southern portion of the site) – an isolated fragment on the surface in the vicinity of TP414 on the top of the high wall.
  - Area 4 (in the eastern portion of the site) – in the vicinity of MW401 and associated with several small stockpiles containing waste building materials and excavated soil.
- All PACM fragments appeared to be in sound (bonded) condition.
- All soil samples submitted for asbestos analysis (during the ESA) returned negative results for the presence of asbestos, including two samples of soil collected beneath the identified PACM materials and samples from TP414.
- The observed PACM was considered to present a low risk to human health, provided it was not disturbed. However, given the nature of vegetation coverage across the site, there may be other areas that contain PACM.

## 4.1.2 GHD 2016

GHD prepared a Remedial Action Plan (RAP) / Contamination Management Plan based on previous environmental investigations (completed by others) and the ESA (GHD, 2015).

The following remediation methods were considered appropriate for the types of contaminants identified at the site (primarily TRH, PAH, asbestos-containing materials and aesthetic impacts):

- Physical removal and disposal of asbestos-containing materials that may be disturbed by the site works is the preferred initial remediation strategy and is consistent with regulatory requirements for PACM. Further, it is understood that CSR [the former occupier of the site] has committed to removal of any identified areas of ACM prior to bulk excavation works commencing. Any further remediation of ACM should be limited to “unexpected finds”.
- Visual screening and segregation of unacceptable materials (foreign inclusions, aesthetic impacts, PACM, hydrocarbon contaminated materials, potentially combustible materials) to address contamination impacts within stockpiles and across the general site area.
- Capping and containment as a conservative soil management option for segregated materials (as above) where contamination will not be subject to exposure under normal foreseeable use of the site (e.g. burial at depths greater than 2 m below design structure levels or beneath permanent infrastructure as part of the redevelopment).
- Re-use of uncontaminated materials (VENM, screened overburden and fill) for bulk fill subject to geotechnical requirements or constraints.

The particular methods to be used must be agreed with HI and their designers for the development, in conjunction with finalisation of design; however GHD consider that the site can be made suitable for the proposed use subject to implementation of this RAP during earthworks undertaken for development of the site (i.e. the Early Works).

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## 4.1.3 GHD 2017

GHD undertook a site inspection October 2017, to confirm whether there were any significant changes to the site condition since the previous inspections and fieldwork undertaken in October 2015 (associated with the ESA). Particular emphasis was given to checking if any materials had been moved onto the site (illegal dumping). The comparison of previous and current site condition was supported by reference to aerial photographs and previous site photographs.

The site was largely unchanged since October 2015, with the exception that the PACM previously observed in Area 1 (in the western portion of the site) appeared to have been removed (though access was restricted due to dense bush/scrub). It was understood that the site management contractor at the time (Catalyst) had arranged the removal of this material and a consultant (DLA) had provided an asbestos clearance certificate for this work.

The PACM observed in the stockpiles near MW401 (in the eastern portion of the site) still remained, however in its current state presented a low risk to human health, provided it was not disturbed (prior to disposal).

No further PACM was identified in the surrounding area during the inspection.

## 4.1.4 GHD 2018

Following the incorporation of Part Lot 401 DP 755237 into the site in February 2018, GHD completed a site inspection and brief document review to supplement the ESA (GHD, 2015) and RAP (GHD, 2016), both of which related solely to Lot 7314 DP 1162607, and to confirm whether there were any significant changes to the site since the previous inspections undertaken in October 2017 (GHD, 2017).

Part Lot 401 comprises the southwest corner of Lot 401, within an inset area adjoining the northern portion of Lot 7314. The rectangular area comprising Part Lot 401 is approximately 2 ha.

GHD understands that the area may be used by CSR for storage of contaminated material (if any) found during the development of Lot 7314, and that no significant development works will be undertaken within Lot 401 associated with NMH. GHD noted that Part Lot 401 was separated from Lot 7314 by a security fence (with lockable gates) along the southern boundary and a wire fence along the eastern boundary.

A review of previous investigations for Part Lot 401 identified a large pit (Pit 2) adjacent to / immediately north of Part Lot 401, filled by several large stockpiles containing ACM, ash-like material and foreign materials (concrete, steel and timber). The conclusions from this previous investigation stated that "It is important to note that this investigation involved excavation into three pits within the greater Pit 2 area... It is likely that contamination remains within the unexcavated areas of Pit 2. Additionally, the widespread nature of contamination at the Site, the heterogeneous distribution of contamination and the uncontrolled history of filling at the Site infer that chemical, asbestos and aesthetic impact is likely to remain at the Site, requiring both future delineation and possibly management".

While the presence of ACM fragments in various samples was reported, including an instance where "the ACM was observed to have broken into small fragments amongst heavy wet clay", it was also reported that "No Asbestos Fines / Fibrous Asbestos (AF/FA) was detected in any of the samples submitted for asbestos analysis".

GHD undertook a site inspection in February 2018. The property owner (CSR) was active on Part Lot 401, predominantly using the area for storage and management of excavated fill material from the remediation works in the northern portion of Lot 401. The following observations were made with regard to the presence of asbestos in Part Lot 401:

- Central portion of Part Lot 401 contained various stockpiles from Lot 401 remediation, predominantly fill material awaiting screening.
- Western portion of Part Lot 401 contained waste stockpiles including vegetation, soils and concrete.
- Eastern portion of Part Lot 401 contained fill stockpiles, believed to be from previous site works (not specifically associated with Lot 401 remediation).
- No significant changes were observed for Lot 7314 since the previous inspections (October 2015 and 2017).

In the context of this AMP, it is considered that the potential for asbestos-containing materials applies equally to Part Lot 401 as to Lot 7314. However, it is understood that the proposed use of Part Lot 401 is only as a storage area, with no significant development, and that management of Part Lot 401 would be the responsibility of the current land owner (CSR).

## 4.1.5 GHD 2019

GHD was engaged by Multiplex Construction Pty Ltd Multiplex to prepare a Remediation Action Plan (RAP) / Contamination Management Plan (CMP) for Part Lot 401 DP 755237, Metford Road, Metford, NSW. Part Lot 401 forms a portion of the overall development area for the New Maitland Hospital (NMH), and is proposed to be developed as a car park.

The RAP provides discussion of remediation or management methods to address potential contamination scenarios at the site including:

- Isolated instances of asbestos-containing material (ACM)
- Areas of anthropogenic wastes
- Presence of natural carbonaceous materials
- Potential for “unexpected finds” of contamination to occur during earth works

## 5. Environmental aspects and impacts

### 5.1 Construction activities

Key aspects of the Project that could result in the discovery of previously undetected contaminated materials include:

- Initial clearing and/or grubbing of existing vegetation;
- Initial removal of topsoil;
- Bulk excavation and earthworks;
- Excavation and trenching of temporary and permanent services; and
- Piling works.

Potential impacts attributable to construction might include:

- Detriment to surrounding environment from contaminated material runoff;
- Increase in the volume of contaminated material through inappropriate management of impacted soil;
- Illegal disposal of contaminated material at unlicensed waste facilities; and
- Disturbance of unidentified contaminated materials.

## 6. Contamination mitigation and management measures

There are a number of mitigation and management measures that have been proposed within this Section to ensure that previously undetected contaminated materials uncovered throughout the delivery of the Project are managed appropriately. Table 6.1 below details these measures along with the timing and ownership associated with them.

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**Table 6.1: Contamination mitigation and management measures**

No.	Contamination mitigation and management measures	When to implement	Responsibility
01	<p><b><u>Remedial Action Plans (RAPs)</u></b></p> <p>GHD was engaged by Health Infrastructure (HI) to prepare a Remedial Action Plans for both Lot 7314 and Part Lot 401 at the former CSR/PGH clay mine and brickworks on Metford Road, Metford, NSW.</p> <p>Both RAPs provide a summary of identified site contamination issues, and description of the proposed remediation and soil management programs, procedures and standards which are to be followed during the course of the redevelopment, to ensure the successful remediation of the site and consequently the protection of the environment and human health, so that the site can be made suitable for the nominated land uses by implementation of these RAPs.</p>	Prior to commencement	Health Infrastructure/ HI's Environmental Consultant
02	<p><b><u>Independent EPA-approved Site Auditor</u></b></p> <p>Andrew Lau of JBS&amp;G has been engaged by Health Infrastructure to conduct a site audit of the site (including both Lot 7314 and Part Lot 401). RAPs for the site have been reviewed by the auditor and formed the basis of SAS and SAR issued by Andrew Lau. Conclusions drawn by the auditor, a part of the abovementioned SAS and SAR stated that the remediation strategy proposed for the site was considered appropriate for the site given the identified contamination issues, and able to make the site suitable for the proposed health care facility uses, commercial/industrial uses and parks/open space uses, subject to the following:</p> <ul style="list-style-type: none"> <li>• All of the sub-plans required under the RAP must be reviewed and accepted by site auditor prior to commencement of remediation works;</li> <li>• A Material Tracking Plan (MTP) is required to be reviewed and accepted by a site auditor prior to commencement of any remediation or civil works; and</li> <li>• The validation report and long term environmental management plan (LTEMP) must be reviewed and accepted by a site auditor prior to occupation.</li> </ul>	Prior to commencement	Health Infrastructure/ HI's Independent Environmental Site Auditor
03	<p><b><u>Enabling Works Handover Documentation</u></b></p> <p>A Materials Tracking Plan (MTP) has been developed by the Enabling Works Contractor detailing the material in the stockpiles on site. Multiplex will request and obtain a copy of the Enabling Works MTP prior to commencing works on-site.</p>	Prior to commencement	Health Infrastructure/ Enabling Works Contractor



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No.	Contamination mitigation and management measures	When to implement	Responsibility
04	<p><b><u>Contamination Management Plan</u></b></p> <p>This Contamination Management Plan has been developed to describe how previously undetected contaminated materials will be managed during construction of the Project. The key objective of the CMP is to ensure that previously undetected contaminated materials uncovered throughout the delivery of the Project are managed appropriately.</p>	Prior to commencement	Multiplex/ Environmental Consultant
05	<p><b><u>Training</u></b></p> <p>In accordance with Section 7.1 of the CEMP, Multiplex is committed to achieving and maintaining high standards in training and development throughout the Project's development. Asbestos awareness training will be provided for anyone whose normal work duties present a reasonable likelihood of disturbing or coming into contact with asbestos.</p>	Prior to commencement	Multiplex/ Civil Sub-Contractor
06	<p><b><u>Environmental Consultant by Contractor</u></b></p> <p>Multiplex have engaged GHD as an Environmental Consultant to provide environmental guidance with the environmental legislation and requirements imposed throughout the Project.</p>	Prior to commencement	Multiplex/ Environmental Consultant
07	<p><b><u>Unexpected Finds Protocol</u></b></p> <p>A project-specific Unexpected Finds Protocol, which is included in Appendix 1 below, has been developed to guide the actions of the Multiplex Site Supervisors and Sub-Contractors in situations where previously undetected contaminated materials are exposed on-site. The Unexpected Finds Protocol has also been developed to ensure that HI can administer its obligations under the existing Surrender Deed with CSR and vice versa.</p>	Prior to commencement	Multiplex/ All Sub-Contractors
08	<p><b><u>Material Tracking Plan (MTP)</u></b></p> <p>A site-specific Material Tracking Plan will be developed, in consultation with the Independent Site Auditor, to track all material from source to final placement (including interim movements), and included details such as material descriptions, volumes, dates, locations/movements (from/to), and material verification records.</p>	Prior to commencement/ during construction	Multiplex / HI's Independent Environmental Site Auditor

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No.	Contamination mitigation and management measures	When to implement	Responsibility
9	<p><b><u>Asbestos Management Plan (AMP)</u></b></p> <p>An Asbestos Management Plan has been developed in line with the current NSW WHS Act and Regulation, NEPC (2013), and relevant Codes of Practice as a means to comply with asbestos regulation and prevent (so far as is reasonably practicable) or minimise exposure to hazards including airborne asbestos.</p> <p>Where previously undetected areas of asbestos are located on-site, all practicable steps will be taken to ensure that workers, subcontractors and visitors to the site are not unnecessarily exposed. It also is intended to ensure that asbestos work is restricted to areas accessible only to persons who are adequately protected.</p> <p>The purpose of this AMP is therefore to provide guidance on the identification, management and remediation/removal (if required) of any asbestos identified at the site, aid in the provision of a healthy and safe environment for workers and subcontractors during the Main Works (including related activities that may disturb asbestos contaminated soil) at the site and address legal obligations under the WHS Act relating to the presence of asbestos at the site.</p>	Prior to commencement/ during construction	Multiplex/ Environmental Consultant
10	<p><b><u>Soil and Water Management Plan (SWMP)</u></b></p> <p>A site-specific SWMP has been developed for the Project and forms part of the Multiplex's Construction Environmental Management Plan (CEMP). The Plan incorporates the Erosion and Sediment Control Plans (ESCPs) for all Main Works Stages. The purpose of the SWMP is to describe how potential impacts to soil and water associated with the Main Works of the Project can be managed and controlled, with the objectives of preventing water pollution, minimising soil erosion and controlling sedimentation on site.</p> <p>The SWMP includes a description of the existing environment, details on erosion control, management of sedimentation, spoil management, groundwater-related impacts, and water quality management (including site wastewater and contamination issues).</p>	Prior to commencement/ during construction	Multiplex/ Environmental Consultant
11	<p><b><u>Project Start-up Environmental Risk Workshop and Register</u></b></p> <p>In accordance with Section 3.2 of the CEMP, Multiplex will conduct an environmental risk workshop within 2 months of project commencement. These workshops are intended to familiarise Multiplex staff, supervisors, consultants and sub-contractors with the environmental issues associated with the Project, as well as the mitigation and management measures proposed to control them.</p> <p>The workshop will facilitate the development of a project-specific Environmental Risk Register which formally documents all of the environmental risks and environmental controls anticipated on the Project.</p>	Site establishment	Multiplex/ Health Infrastructure/ Environmental Consultant/ HI's Environmental Auditor / Civil Sub- Contractor

# MULTIPLEX

No.	Contamination mitigation and management measures	When to implement	Responsibility
12	<p><b><u>Environmental Work Method Statements (EWMS)</u></b></p> <p>In accordance with Section 5.2 of the CEMP, where a subcontractor is determined to be working in an area identified as high risk for potential impact to the environment, additional management controls will be put in place. These may include the submission of a dedicated EMP / EWMS to address the specific work package(s) awarded and be submitted for review to Multiplex prior to commencement of work on site. Comments resulting from the review by Multiplex will be issued to the subcontractor for action and where required, re-submission. The EMP / EWMS must assess the level of environmental risk and implement appropriate management controls for the subcontractor's full scope of work.</p> <p>EWMSs are aimed specifically for use by foremen and construction workers, and are reviewed by each member of the work team before they commence work. This review provides an opportunity for the work team to contribute to environmental controls, and ensure that the work team is trained in environmental methods. Changes to EWMSs are documented and communicated to workers prior to commencing changed methods.</p>	Site establishment	Multiplex/ All Sub-Contractors
13	<p><b><u>Site inductions</u></b></p> <p>In accordance with Section 7.2 of the CEMP, Multiplex has developed an induction program for all personnel undertaking works on the site. The project induction outlines key environmental issues. All personnel directly or indirectly working on the Project, including sub-contractors, are required to complete the induction prior to starting work, and will be provided with identification to show they have been inducted. The environmental induction will be periodically reviewed for adequacy.</p>	Site establishment	Multiplex/ All Sub-Contractors
14	<p><b><u>On-site sediment control measures</u></b></p> <p>On-site sediment control measures, including siltation fencing, temp. construction exits, hay bale sediment filters, etc., will be documented within the Soil and Water Management Plan and implemented on the site to prevent sand, soil, cement, other building materials and or contaminated materials from reaching waterways. The objectives of sediment control are to divert uncontaminated water away from the work area, minimise erosion by minimising site disturbance and stabilising disturbed surfaces, prevent material stockpiles from collecting or discharging sediment.</p>	Site establishment	Multiplex/ All Sub-Contractors
15	<p><b><u>Environmental Site Inspections</u></b></p> <p>In accordance with Section 9.1 of the CEMP, to ensure compliance with both regulatory requirements environmental inspections will be implemented in accordance with Procedure BU AUS IMS P DIV 070 – Inspection Testing and Monitoring. The outcomes and status of inspection activities will be recorded in inspection reports and issued to the persons delegated with responsibility for rectifying the impact. The onsite WHS&amp;E Coordinator will be responsible for tracking actions resulting from all inspections.</p>	During construction	Multiplex/ All Sub-Contractors

# MULTIPLEX

No.	Contamination mitigation and management measures	When to implement	Responsibility
16	<p><b><u>Environmental Management System audits</u></b></p> <p>In accordance with Section 10.1 of the CEMP, an EMS auditing programme will be established and implemented to assess compliance, identify trends, drive continual improvement and provide assurance that management processes are being effectively implemented and that performance objectives are being met.</p> <p>Audit results will be recorded and an action plan developed identifying the observations and corrective action required against each of the findings in the audit report. Details of any non-conformance reports will be issued in accordance with Procedure BU AUS IMS P DIV 080 – Control of Non Conformances.</p> <p>A follow-up audit will be carried out, as deemed necessary by the auditor, in order to verify and record the implementation and effectiveness of the corrective action taken. Implementation and effectiveness of the corrective actions will be verified and recorded during follow-up. Audits will be closed out in a timely manner.</p>	During construction	Multiplex
17	<p><b><u>Emergency spill kit</u></b></p> <p>Spill kits will be established at locations adjacent to where chemical spills have the potential to occur. The spill kits will be maintained and readily available in the event of a spill to effectively respond to any oil, chemical or general fluid spill on site, land and water.</p>	During construction	Multiplex/ All Sub-Contractors
18	<p><b><u>Material Certification (for materials brought onto the site)</u></b></p> <p>Multiplex will ensure that material to be imported onto the site, including fill material, is accompanied by a clearance certificate provided by the supplier to verify the required characteristics of the material. Multiplex will undertake and provide the Principal with further testing (conducted by an independent person) when the material arrives on site, and before using or incorporation into the Works, to verify that it is free of contaminants.</p>	During construction	Multiplex/ Civil Sub-Contractor
19	<p><b><u>Licensing and qualifications</u></b></p> <p>If, under the MW Contract, Health Infrastructure elects to instruct Multiplex to remove and dispose of any contaminated materials (the subject of a Contaminated Materials Notice), then only suitably qualified and licensed asbestos removalists will be engaged to perform these works. All contaminated materials removed from site will be disposed of at appropriately licensed waste management facilities and records of such deposits recorded within a Contamination Register.</p>	During construction	Multiplex/ Waste Removalist Sub-Contractor
20	<p><b><u>Acid Sulphate Soils review</u></b></p> <p>Douglas Partners' Report on Geotechnical Investigation indicates that the whole of the site is outside the mapped areas of potential acid sulphate soils. However, coal and other materials with high carbon content can also contain sulphide ores which may lead to acid generation upon oxidation. Generally, this is not an issue when the carbonaceous materials are thoroughly blended with other soils. Subsequently, Multiplex will engage a Geotechnical Engineer to periodically review the condition of the excavated materials to ensure that it is free of acid sulphate soils.</p>	During construction	Multiplex/ Geotechnical Engineer

# MULTIPLEX

No.	Contamination mitigation and management measures	When to implement	Responsibility
21	<p><b><u>Long Term Site Management Plan (LTSMP)</u></b></p> <p>A Long Term Site Management Plan (LTSMP) is required following completion of the development earthworks, to record the placement of any contaminated or combustible material on site, and provide procedures to be used in the event that it should be disturbed. The LTSMP will also address any combustion risk management requirements remaining at the site.</p> <p>Multiplex will be required to provide the necessary advice, input, supportive strategies and site records to satisfy the requirements of a LTSMP for Lot 7314 and Part Lot 401. This includes but is not limited to the preparation of a 'Materials Tracking Plan' (MTP) by Multiplex in consultation with the Site Auditor, prior to commencing works.</p> <p>Health Infrastructure will also engage an independent Site Auditor to provide the required validations and certifications at the end of Stage 2 Main Works (in particular completion of the bulk excavation and site clearing) and on completion of all the Works as required to also inform the LTSMP as necessary.</p>	Post construction	Health Infrastructure
22	<p><b><u>Validation of the RAP</u></b></p> <p>Where remedial action has been carried out, the site must be 'validated' to ensure that the objectives stated in the RAP have been achieved. A report detailing the results of the site validation is required. Validation must confirm statistically that the remediated site complies with the clean-up criteria set for the site. As noted above, Health Infrastructure will engage an independent Site Auditor to provide the required validations and certifications at the end of Stage 2 Main Works and on completion of all the Works.</p>	Post construction	Health Infrastructure

## 7. Compliance management

### 7.1 Roles and responsibilities

The Multiplex Project team's organisational structure and overall roles and responsibilities are outlined in Sections 3.4 and 3.5 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Table 6-1 above.

### 7.2 Training

All employees and sub-contractors working on site will undergo site induction training relating to contaminated materials management issues. The induction training will address elements related to contaminated materials management including:

- Existence and requirements of this Plan;
- Relevant legislation;
- Roles and responsibilities for unexpected contaminated material finds, including the Unexpected Finds Protocol to be followed in the event of unexpected contaminated material findings during construction works (refer Appendix A); and
- The contamination management and protection measures detailed with Section 6 of this Plan.

Further details regarding staff induction and training are outlined in Section 7.2 of the CEMP.

### 7.3 Monitoring and inspections

Informal inspections of sensitive areas and activities with the potential to uncover contaminated materials will occur for the duration of the Project. Specific monitoring requirements in relation to some items have been documented in Table 6-1.

The management and protection measures established to control previously undetected contaminated materials will be undertaken as part of the fortnightly environmental inspections.

Requirements and responsibilities in relation to monitoring and inspections are documented in Section 9.1 of the CEMP.

### 7.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls and the compliance of this Plan with the relevant legislation, Consent Conditions, licensing requirements and guidelines.

Audit requirements are detailed in Section 10.1 of the CEMP.



# MULTIPLEX

## 7.5 Reporting

In the event that suspected contamination is uncovered during delivery of the Project, the following reporting would occur:

- Health Infrastructure will be formally notified under the 'Contaminated Material Notice' protocol detailed in the GC21 MW Contract; and
- Depending on the level and type of contaminated material discovery, SafeWork NSW may need to be notified where the degree of exposure could be classified as a 'notifiable incident' under the relevant legislation.

## 8. Review and improvement

### 8.1 Continuous improvement

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

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

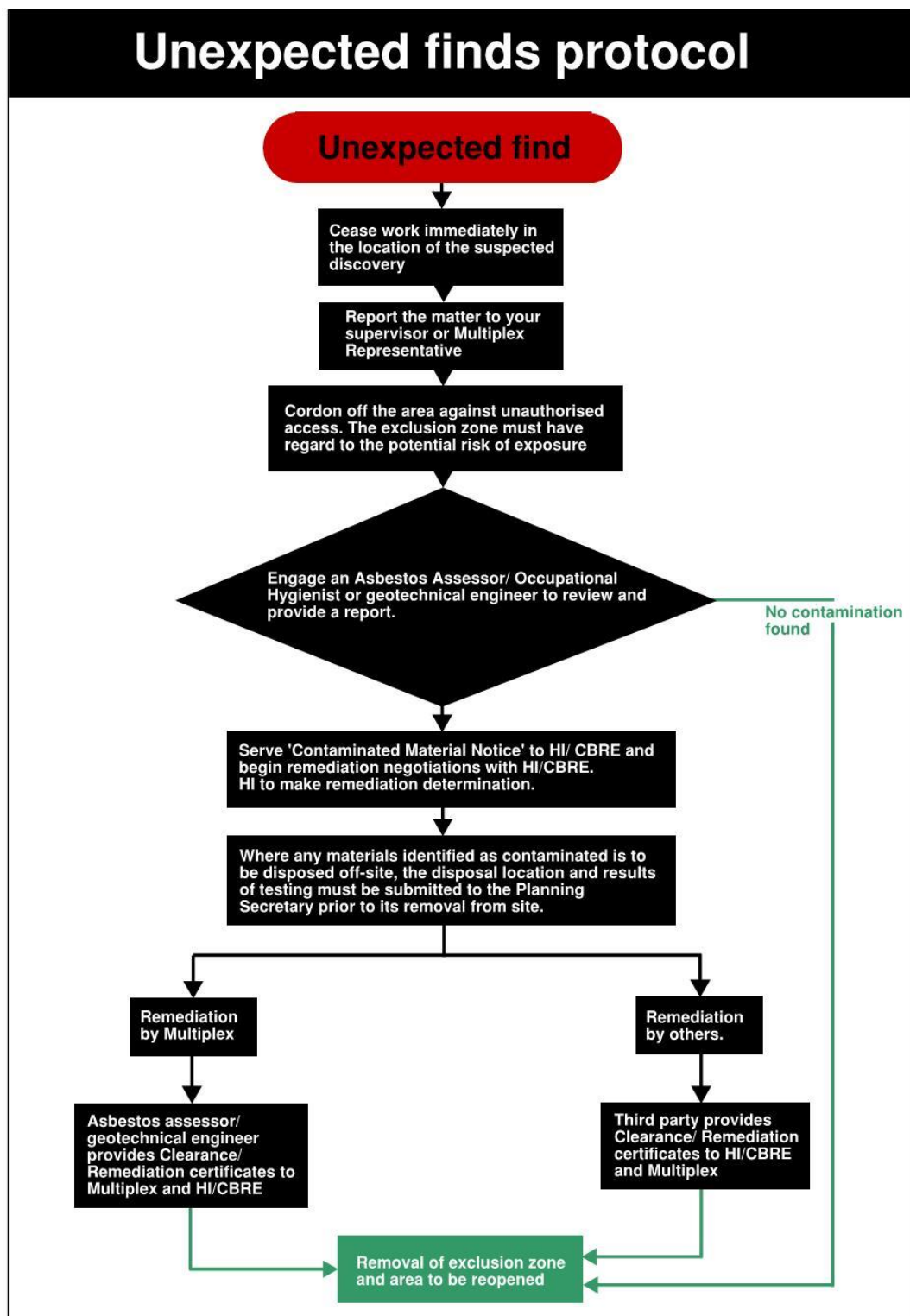
### 8.2 CMP update and amendment

The processes described in Sections 10 and 11 of the CEMP may result in the need to update or revise this Plan. This will occur as needed.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 11 of the CEMP.

## 9. Appendices

### 9.1 Appendix 1: Unexpected Finds Procedure

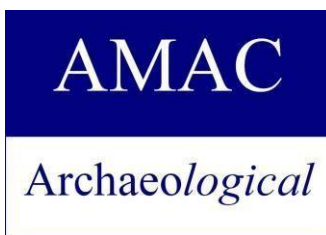


## 15.11 Appendix 11-A: Aboriginal Cultural Heritage Management Sub-Plan

# **ABORIGINAL CULTURAL HERITAGE MANAGEMENT SUB PLAN: SURFACE COLLECTION METHODOLOGY**

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**New Maitland Hospital  
Early Works  
Metford NSW  
(Maitland City Council LGA)**



**Benjamin Streat**

Archaeological Management and Consulting Group  
& Streat Archaeological Services

**for  
Multiplex**

**Version 4  
December 2018**

*Disclaimer*

*The veracity of this report is not guaranteed unless it is a complete and original copy.*

*This report may be inaccurate, incomplete, not original, or modified, if it appears in monochrome form and the signature below is a copy.*



*Benjamin Streat  
Director of Aboriginal Archaeology*



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**Cover Image**

Aerial of study area

Study area outlined in red. Six Maps, LPI Online (Accessed 7.11.18)

## **ACKNOWLEDGEMENT OF COUNTRY**

Multiplex would like to acknowledge the Traditional Custodians of the Maitland/Cessnock Area– the Wonaruah peoples– and pay respect to their cultural heritage, beliefs and continuing relationship with the land.

Multiplex would also like to acknowledge the post contact experiences of Aboriginal peoples who have attachment to the Hunter area.

“We pay our respect to the Elders – past, present and future – for they hold the memories, traditions, culture and hopes of Aboriginal Peoples in the area.”

Multiplex recognises the role of the registered Aboriginal parties in the management of the Aboriginal cultural heritage sites, landscape features and values of this project.

Multiplex would like to thank the Registered Aboriginal Parties for their participation in this project and for their valuable contribution to this Aboriginal Cultural Heritage Sub Plan which has been enriched by their willingness to share valuable aspects of their cultural knowledge especially in respect of Caring for Country

## DOCUMENT REVIEW HISTORY

Date	Document Status	Reviewed by
06/11/2018	Initial Draft draft completed by B . Streat	MPX
21/11/2018	Client comments reviewed and incorporated into report	MPX
28/11/2018	Amended with comments and acknowledgements	MPX
7/12/2018	Amended with further comments	MPX



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## EXECUTIVE SUMMARY

### **Introduction**

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Multiplex in October 2018, to prepare an Aboriginal Cultural Heritage Management Sub Plan including surface collection methodology for registered Aboriginal Heritage Information Management System (AHIMS) Site#. 38-4-1684, as part of the proposed New Maitland Hospital located at Lot 7314 DP 1162607 and part of Lot 401 DP 755237 at the consolidated address of Metford Road near East Maitland (Figure 1.1-1.2)

This sub management plan is in response to the recommendations outlined in Umwelt (2018) *Aboriginal Cultural Heritage Assessment Report; New Maitland Hospital, Metford, NSW*. This Aboriginal Cultural Heritage Management Sub Plan (ACHMP) has been compiled in consultation with the relevant Registered Aboriginal Parties (RAPs).

An Aboriginal Heritage Impact Permit (AHIP) and associated documentation is not needed as part of this development and its status as a State Significant Infrastructure. All such conditions and procedures which were of the domain of an AHIP have now been replaced by this ACHMP as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999) and endorsed by the recommendations of the Aboriginal Cultural Heritage Assessment Report (Umwelt 2018).

### **Aboriginal Consultation**

Consultation, where possible, for this report has been undertaken in accordance with the Office of Environment and Heritage (OEH) and National Parks and Wildlife Act 1974: Part 6; *National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

An Aboriginal Cultural Heritage Assessment was prepared by Umwelt 2018 where full Aboriginal consultation has taken place as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Consultation has continued with registered stakeholders during the preparation of this ACHMP and its recommendations. All registered stakeholders will have the opportunity to review and comment on this document. All comments will be incorporated into the final version of this report.

### **Recommendations**

In order to further understand the nature of the study area - further recording as part of a surface collection of AHIMS# 38-4-1684 has been recommended and formulated after consultation, where possible, with RAPs, the proponent and the OEH.

The following plan of action aim to manage the archaeological and cultural heritage values of the study area;

- Consultation, where possible, with the Registered Aboriginal Parties (RAPs) should continue throughout the duration of the proposed development and given the opportunity to review and comment on this report, with all comments being incorporated into the final version;

- AHIMS#38-4-1684 was not located during a recent archaeological survey conducted by Umwelt (2018). However, SSI 9022 condition B17 requires measures to locate, document and salvage the previously identified artefact associated with AHIMS#38-4-1684. This should be undertaken in full consultation, where possible, with the registered stakeholders. This surface collection is seen as stage one of the further works program – see 5.3.1;
- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve multiple site registrations in order to accurately record the study area as a complex multi-layered site.
- Before any ground disturbance takes place as part of the construction all development staff, contractors and workers should be briefed as to the heritage status of the area and their responsibilities in ensuring preservation of the said area. This brief should take place prior to works commencing on site. They should also be informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development.

**Should any Aboriginal archaeological deposits or objects be located during the development;**

- all excavation in the vicinity of any objects and/or deposits shall cease immediately and the area secured;
- OEH and a suitably qualified archaeologist should be notified so the significance of the said deposits or objects can be evaluated and presented in a report and the study area recorded as an archaeological site;
- the archaeological deposits or objects will require the production of an Aboriginal Cultural Heritage Management Plan, of which the way forward will be subject to the recommendations of this report in consultation with OEH, prior to the development continuing.

**In the event of human skeletal remains being uncovered at any stage;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately and the area secured;
- The NSW Police and OEH's Enviroline are to be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and Mindaribba Local Aboriginal Land Council (MLALC) will identify the appropriate course of action.

## CONTACT DETAILS

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Yinarr Cultural Services	Kathleen Steward Kinchela	yinarrculturalservices@gmail.com



## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Multiplex in October 2018, to prepare an Aboriginal Cultural Heritage Sub Plan including surface collection methodology for registered AHIMS site No. 38-4-1684, as part of the proposed New Maitland Hospital located at Lot 7314 DP 1162607 and part of Lot 401 DP 755237 at the consolidated address of Metford Road near East Maitland (Figure 1.1-1.2)

This Aboriginal Cultural Heritage Management Sub Plan (ACHMP) has been compiled in consultation with the relevant Registered Aboriginal Parties (RAPs).

An Aboriginal Heritage Impact Permit (AHIP) and associated documentation is not needed as part of this development and its status as a State Significant Infrastructure. All such conditions and procedures which were in the domain of an AHIP have now been replaced by this ACHMP as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999) and endorsed by the recommendations of the Aboriginal Cultural Heritage Assessment Report (Umwelt 2018).

### 1.2 STUDY AREA

The study site is that piece of land known as Lot 7314 DP 1162607 as well as incorporating part of lot 4041 DP 755237. The study site is located along Metford Road, Metford, New South Wales, of the Parish of Maitland, County of Northumberland.

Lot	Deposited Plan
7314	1162607
401	755237

The development area is located within the south-western portion of the “Metford Triangle” site comprising of the old brickworks and quarry which consists of the following lots; Lot 7314 DP 1162607, Part Lot 3 DP 1091727 and Lots 266 and 401 DP 755237.

### 1.3 SCOPE

The aims of this ACHMP are to facilitate in the implementation of mitigation and conservation strategies for the study area. The proposed development will impact on *in tact* soil profiles and Aboriginal archaeological deposits and objects and as such this document outlines the processes that have been set in place to manage this impact on the Aboriginal cultural heritage of the site prior to the proposed development taking place.

Sections 7 consists of the plan of action, which outlines the further works program as well as containing information on the appropriate course of action to manage the discovery of any human remains or previously unidentified Aboriginal objects on site, including the contact details of OEH, NSW Police, the archaeologist and all RAPs.

## **1.4 AUTHOR IDENTIFICATION**

The analysis of the archaeological background and the reporting were undertaken by Mr. Benjamin Streat (BA, Grad Dip Arch Her, Grad Dip App Sc), archaeologist and Director of Streat Archaeological Services Pty Ltd in association with Ms. Yolanda Pavincich (B. Arch, Grad Dip Cul Her) and under the guidance of Mr. Martin Carney archaeologist and Managing Director of AMAC Group.

## **1.5 ACKNOWLEDGEMENTS**

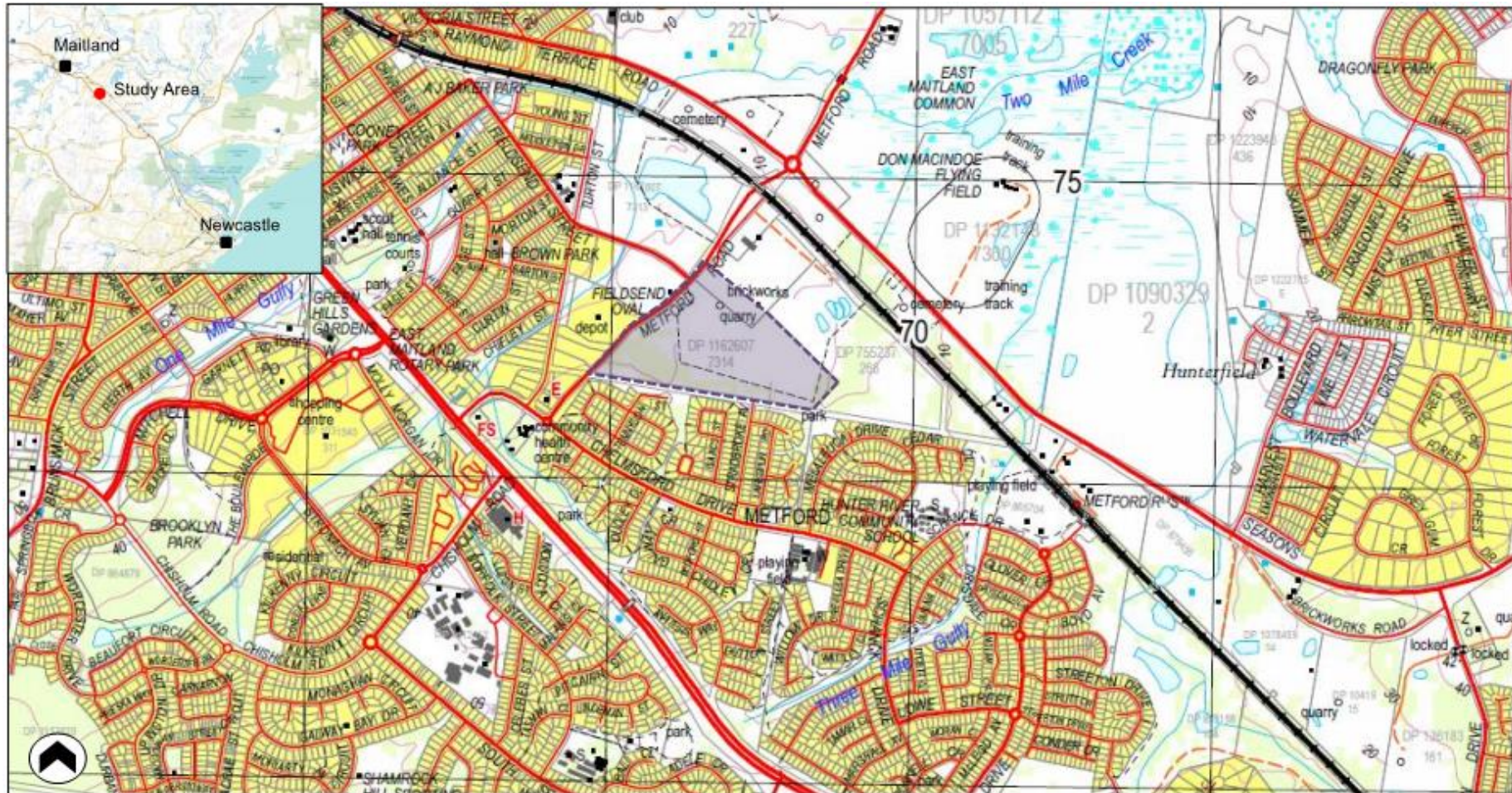
The author would like to thank the following for advice and/or input into this assessment:

- Mr James Smyth of Multiplex



**Figure 1.1 Aerial with site mark-up**  
Site mark-up in red. Six Maps, LPI Online (Accessed 07/11/18).





**Figure 1.2** Topographic map with site location.  
Site mark-up in purple. Six Maps, LPI Online, (accessed 07/11/2018).

## **2.0 LEGISLATIVE CONTEXT AND STATUTORY CONTROLS**

This section of the report provides a brief outline of the relevant legislation and statutory instruments that protect Aboriginal archaeological and cultural heritage sites within the state of New South Wales. Some of the legislation and statutory instruments operate at a federal or local level and as such are applicable to Aboriginal archaeological and cultural heritage sites in New South Wales. This material is not legal advice and is based purely on the author's understanding of the legislation and statutory instruments. This document seeks to meet the requirements of the legislation and statutory instruments set out within this section of the report.

### **2.1 COMMONWEALTH HERITAGE LEGISLATION AND LISTS**

One piece of legislation and two statutory lists and one non-statutory list are maintained and were consulted as part of this report: The National Heritage List and the Commonwealth Heritage List.

#### **2.1.1 Environmental Protection and Biodiversity Conservation Act 1999**

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) offers provisions to protect matters of national environmental significance. This act establishes the National Heritage List and the Commonwealth Heritage List which can include natural, Indigenous and historic places of value to the nation. This Act helps ensure that the natural, Aboriginal and historic heritage values of places under Commonwealth ownership or control are identified, protected and managed (Australian Government 1999).

#### **2.1.2 National Heritage List**

The National Heritage List is a list which contains places, items and areas of outstanding heritage value to Australia; this can include places, items and areas overseas as well as items of Aboriginal significance and origin. These places are protected under the Australian Government's EPBC Act.

#### **2.1.3 Commonwealth Heritage List**

The Commonwealth Heritage List can include natural, Indigenous and historic places of value to the nation. Items on this list are under Commonwealth ownership or control and as such are identified, protected and managed by the Federal Government.

### **2.2 NEW SOUTH WALES STATE HERITAGE LEGISLATION AND LISTS**

The state (NSW) based legislation that is of relevance to this assessment comes in the form of the acts which are outlined below.

#### **2.2.1 National Parks and Wildlife Act 1974**

The NSW National Parks and Wildlife Act 1974 (as amended) defines Aboriginal objects and provides protection to any and all material remains which may be evidence of the Aboriginal occupation of lands continued within the state of New South Wales. The relevant sections of the Act are sections 84, 86, 87 and 90.

An Aboriginal object, formerly known as a relic is defined as:

*'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'* (NSW Government, 1974).

It is an offence to harm or desecrate an Aboriginal object or places under Part 6, Section 86 of the NPW Act:

Part 6, Division 1, Section 86: Harming or desecrating Aboriginal objects and Aboriginal places:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*
- (b) *in the case of a corporation—2,000 penalty units.*

- (3) *For the purposes of this section, **circumstances of aggravation** are:*

- (a) *that the offence was committed in the course of carrying out a commercial activity, or*
- (b) *that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.*

*This subsection does not apply unless the circumstances of aggravation were identified in the court attendance notice or summons for the offence.*

- (4) *A person must not harm or desecrate an Aboriginal place.*

*Maximum penalty:*

- (a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*
- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*
- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*
- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*
- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*



### 2.2.2 Environmental Planning & Assessment Act 1979

*The Environmental Planning and Assessment Act 1979 (EP&A Act)* states that environmental impacts of proposed developments must be considered in land use planning procedures. Four parts of this act relate to Aboriginal cultural heritage.

- Part 3, divisions 3, 4 and 4A refer to Regional Environmental Plans (REP) and Local Environmental Plans (LEP) which are environmental planning instruments and call for the assessment of Aboriginal heritage among other requirements.
- Part 4 determines what developments require consent and what developments do not require consent. Section 79C calls for the evaluation of  
*The likely impacts of that development, including environmental impacts on both the natural and built environments and the social and economic impacts in the locality (NSW Government 1979).*
- Part 5 of this Act requires that impacts on a locality which may have an impact on the aesthetic, anthropological, architectural, cultural, historic, scientific, recreational or scenic value are considered as part of the development application process (NSW Government, 1979).

### 2.2.3 The Aboriginal Land Rights Act 1983

The NSW *Aboriginal Land Rights Act 1983* (ALR Act), administered by the NSW Department of Aboriginal Affairs, established the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). The ALR Act requires these bodies to:

- take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law;
- promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

These requirements recognise and acknowledge the statutory role and responsibilities of New South Wales Aboriginal Land Council and Local Aboriginal Land Councils. The ALR Act also establishes the Office of the Registrar whose functions include but are not limited to, maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners.

Under the ALR Act the Office of the Registrar is to give priority to the entry in the Register of the names of Aboriginal persons who have a cultural association with:

- lands listed in Schedule 14 to the NPW Act;
- lands to which section 36A of the ALR Act applies (NSW Government, 1974 & DECCW 2010).

### 2.2.4 The Native Title Act 1993

The *Native Title Act 1993* (NTA) provides the legislative framework to:

- recognise and protect native title;
- establish ways in which future dealings affecting native title may proceed, and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title;
- establish a mechanism for determining claims to native title;



- provide for, or permit, the validation of past acts invalidated because of the existence of native title.

The National Native Title Tribunal has a number of functions under the NTA including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims (NSW Government, 1974 & DECCW 2010).

### **2.2.5 New South Wales Heritage Register and Inventory 1999**

The State Heritage Register is a list of places and objects of particular importance to the people of NSW. The register lists a diverse range of over 1,500 items, in both private and public ownership. Places can be nominated by any person to be considered to be listed on the Heritage register. To be placed an item must be significant for the whole of NSW. The State Heritage Inventory lists items that are listed in local council's local environmental plan (LEP) or in a regional environmental plan (REP) and are of local significance.

### **2.2.6 Register of Declared Aboriginal Places 1999**

The NPW Act protects areas of land that have recognised values of significance to Aboriginal people. These areas may or may not contain Aboriginal objects (i.e. any physical evidence of Aboriginal occupation or use). Places can be nominated by any person to be considered for Aboriginal Place gazettal. Once nominated, a recommendation can be made to EPA/OEH for consideration by the Minister. The Minister declares an area to be an 'Aboriginal place' if the Minister believes that the place is or was of special significance to Aboriginal culture. An area can have spiritual, natural resource usage, historical, social, educational or other type of significance. Under section 86 of the NPW Act it is an offence to harm or desecrate a declared Aboriginal place. Harm includes destroying, defacing or damaging an Aboriginal place. The potential impacts of the development on an Aboriginal place must be assessed if the development will be in the vicinity of an Aboriginal place (DECCW 2010).

## **2.3 LOCAL PLANNING INSTRUMENTS**

### **2.3.1 Maitland Local Environmental Plan 2011**

The Maitland Local Environmental Plan was prepared by Maitland City Council in 2011. Section 5.10 deals with Heritage Conservation. The plan states in Clause 1:

*The objectives of this clause are as follows:*

- (a) to conserve the environmental heritage of Maitland,*
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
- (c) to conserve archaeological sites, and*
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.*

*It is subsections c and d of this clause which are of relevance to this development.*

*The plan states in Clause 2, that consent is required when:*

- (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):*
  - (i) a heritage item,*

- (ii) *an Aboriginal object,*
  - (iii) *a building, work, relic or tree within a heritage conservation area.*
- (b) *altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item.*
- (c) *disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) *disturbing or excavating an Aboriginal place of heritage significance.*
- (e) *erecting a building on land:*
  - (i) *on which a heritage item is located or that is within a heritage conservation area, or;*
  - (ii) *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*
- (f) *subdividing land:*
  - (i) *on which a heritage item is located or that is within a heritage conservation area, or;*
  - (ii) *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*

*In addition to this Clause 8 states:*

*The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:*

- (a) *consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and*
- (b) *notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration.*

*This report is fulfilling section 8 (a) of this clause.*

### **2.3.2 Maitland Development Control Plan 2011**

The Maitland Development Control Plan was prepared by Maitland City Council in 2011. Part F – Urban Release Plans -Section 1.7 deals with Aboriginal Heritage. The plan states;

#### **1.7 Aboriginal Heritage**

##### **Objectives**

1. *Heritage items, buildings with heritage significance and conservation areas are protected.*

##### **Development controls**

1. *Development Applications shall be supported by appropriate Aboriginal Heritage Impact Studies to determine the presence and locations of any Aboriginal artefacts or sites of significance, including methods for providing any necessary buffers within the site. Reference should also be made to the Indigenous Archaeological*

*Due Diligence Assessment completed by McCardle Cultural Heritage Pty Ltd, which informed the rezoning of the Farley URA.*

2. Development Applications shall be referred to NSW Office of Environment and Heritage, Mindaribba LALC and Lower Hunter Wonnarua LALC for comment as part of the public and government agency exhibition process for assessing Development Applications.

## **2.4 DUE DILIGENCE CODE OF PRACTICE FOR THE PROTECTION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES**

This assessment conforms to the parameters set out in *the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* states that if;

- a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely, then further archaeological investigation and impact assessment is necessary.

## **2.5 CODE OF PRACTICE FOR ARCHAEOLOGICAL INVESTIGATION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES**

Any further work resulting from recommendations should be carried out conforming to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

## **2.6 GUIDELINES**

This report has been carried out in consultation with the following documents which advocate best practice in New South Wales:

- Aboriginal Archaeological Survey, Guidelines for Archaeological Survey Reporting (NSW NPWS 1998);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999);
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).

## 2.7 UMWELT ABORIGINAL CULTURAL HERITAGE ASSESSMENT RECOMMENDATION SUMMARY (2018)

This sub management plan is in response to the recommendations outlined in Umwelt (2018) *Aboriginal Cultural Heritage Assessment Report; New Maitland Hospital, Metford, NSW* as well as below;

- *Should the project be approved, HI, in consultation with the registered Aboriginal parties, should develop an Aboriginal Cultural Heritage Management Plan for the project that is prepared with reference to the below requirements and includes provision for the long-term management of Aboriginal objects that may be salvaged from the project area.*
- *HI should advise relevant employees and contractors that it is an offence under Section 86 of the NPW Act to harm or desecrate an Aboriginal object.*
- *Prior to the commencement of Stage 1 works, surface collection should be conducted at site AHIMS#38-4-1684. The surface collection of 38-4-1684 would involve revisiting the site location to see if the potential post depositional location of the artefact can be identified. If identified, a hand held differential GPS would be used to record the location of the isolated find. A photographic record of the area and the location of the isolated find, if present, would also be undertaken and the artefact would be collected and recorded in accordance with the OEH requirements. Once the site has been salvaged and the isolated find has been analysed, HI should submit an Aboriginal Site Impact Recording Form (ASIR Form) in accordance with the OEH requirements.*
- *Should potential Aboriginal objects (other than the discussed in this assessment) be identified, works would cease within 10 metres of the potential object and the area would be cordoned off for 10 meters from the object/s. The object/s should be assessed by an appropriately qualified person to determine whether it is an Aboriginal object. If it is not an Aboriginal object, works may proceed. If it is an Aboriginal object (excluding skeletal remains), it should be subject to surface collection as described above.*
- *Should suspected human skeletal material be identified at any time during the project works within the immediate vicinity of the skeletal material should cease and the area would be cordoned off for 10 meters from all edges of the skeletal material. The skeletal material should be inspected to determine whether it is human or animal. If necessary, advice would be sought from a forensic specialist. If the skeletal material is human, the NSW Police and OEH would be contacted. No excavation will proceed until an appropriate course of action has been determined in consultation with NSW Police, OEH and the Aboriginal parties. If the skeletal material is not human, works may proceed.*

## 2.8 SSI REQUIREMENTS

The conditions that relate to the forthcoming Aboriginal Cultural Heritage Management Sub Plan and the accompanying Aboriginal Cultural Heritage Management Sub Plan: Surface Collection Methodology (this document) are set out below. This document seeks to fulfil conditions B17. (a), (b), (c) and (d) the remainder will be fulfilled by the accompanying Aboriginal Cultural Heritage Management Sub Plan.

B17. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:

- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;
- (b) be submitted to the Planning Secretary prior to construction of any part of the development;
- (c) measures to locate, document and salvage the previously identified artefact;
- (d) procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works;
- (e) protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations;
- (f) a requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project; and
- (g) a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long term management of Aboriginal objects.

### 3.0 DEVELOPMENT ACTIVITY

The proposed development is for a new hospital which will encompass the northern corner of the site, fronting Metford Road (Figure 3.1). The new building will be seven storeys and will include a lower ground level. It will consist of a number of facilities including a helipad towards the eastern end of the building as well as spaces catering for the following departments;

- Emergency services, Emergency Short Stay Unit (ESSU) and Psychiatric Emergency Care;
- Intensive Care and Critical Care units;
- Enhanced medical and surgical inpatient services;
- Peri operative suite, including enhanced day surgery;
- Maternity services and delivery suites, including assessment rooms;
- Paediatric and adolescent services;
- Expanded imaging and support services, including a cardiac catheterization lab;
- Day chemotherapy;
- Mental Health, including an acute inpatient unit;
- Rehabilitation; and;
- Ambulatory care and outpatient clinics.

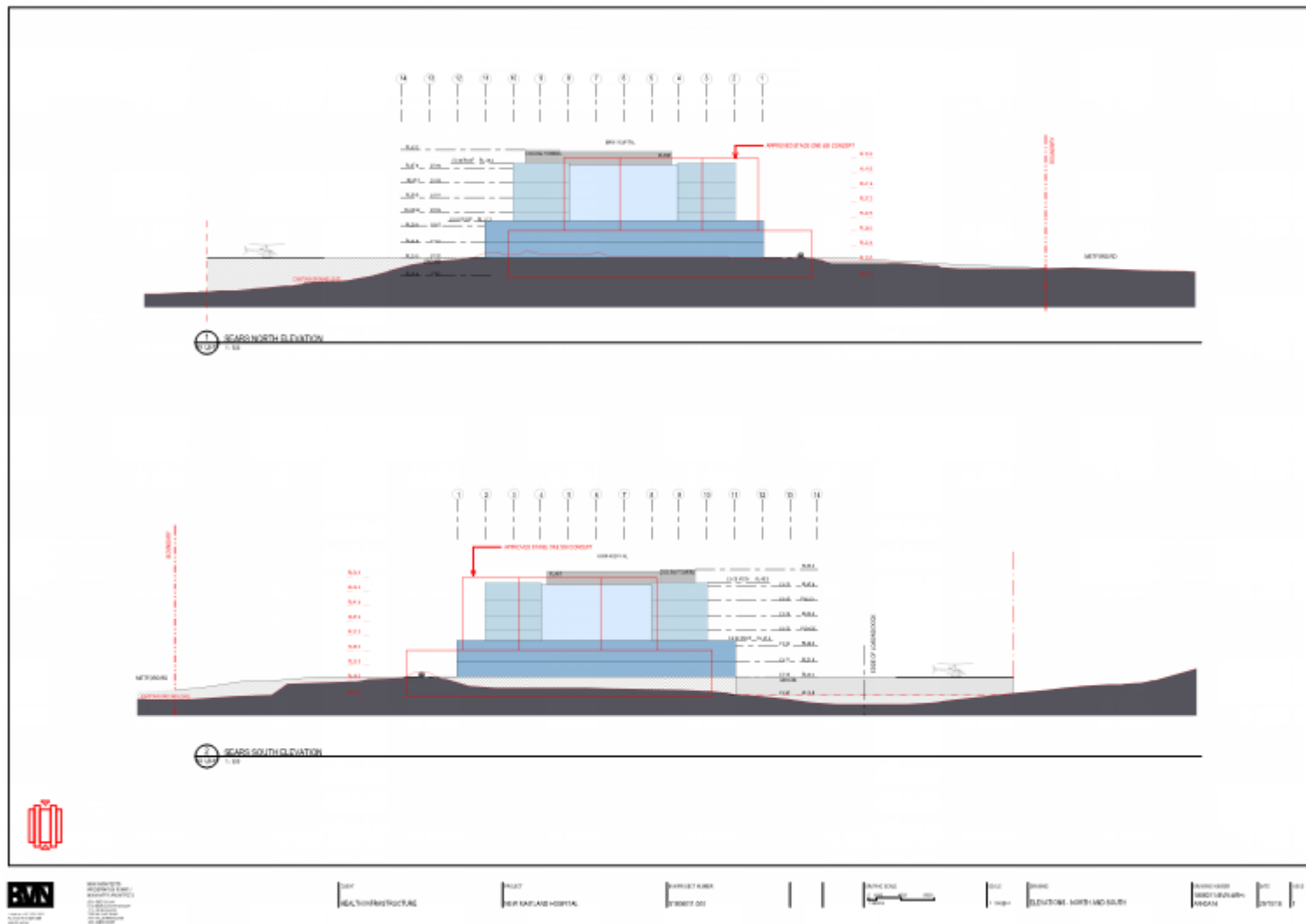
Due to the undulated and sloped nature of the landscape as an old brickworks and quarry site, significant grounds work will be required in areas to accommodate the lower ground (RL 14.8). The ground level sitting at RL19.3 (Figures 3.2-3.3).

The proposed development zone and its influence has the potential to impact isolated Aboriginal artefact AHIMS# 38-4-1648 which is located towards the southern end of the site. The proposed development will disturb the ground surface.

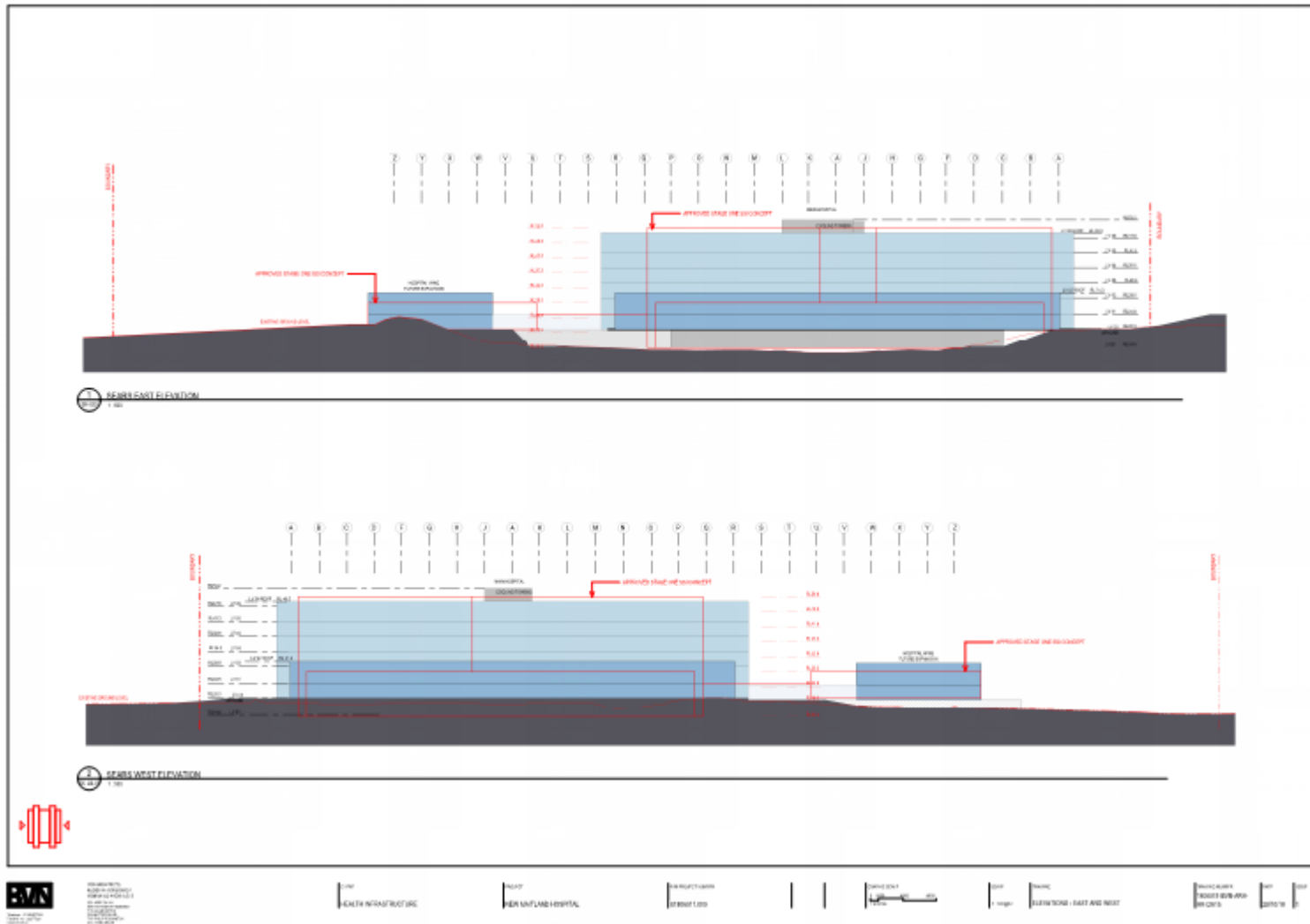




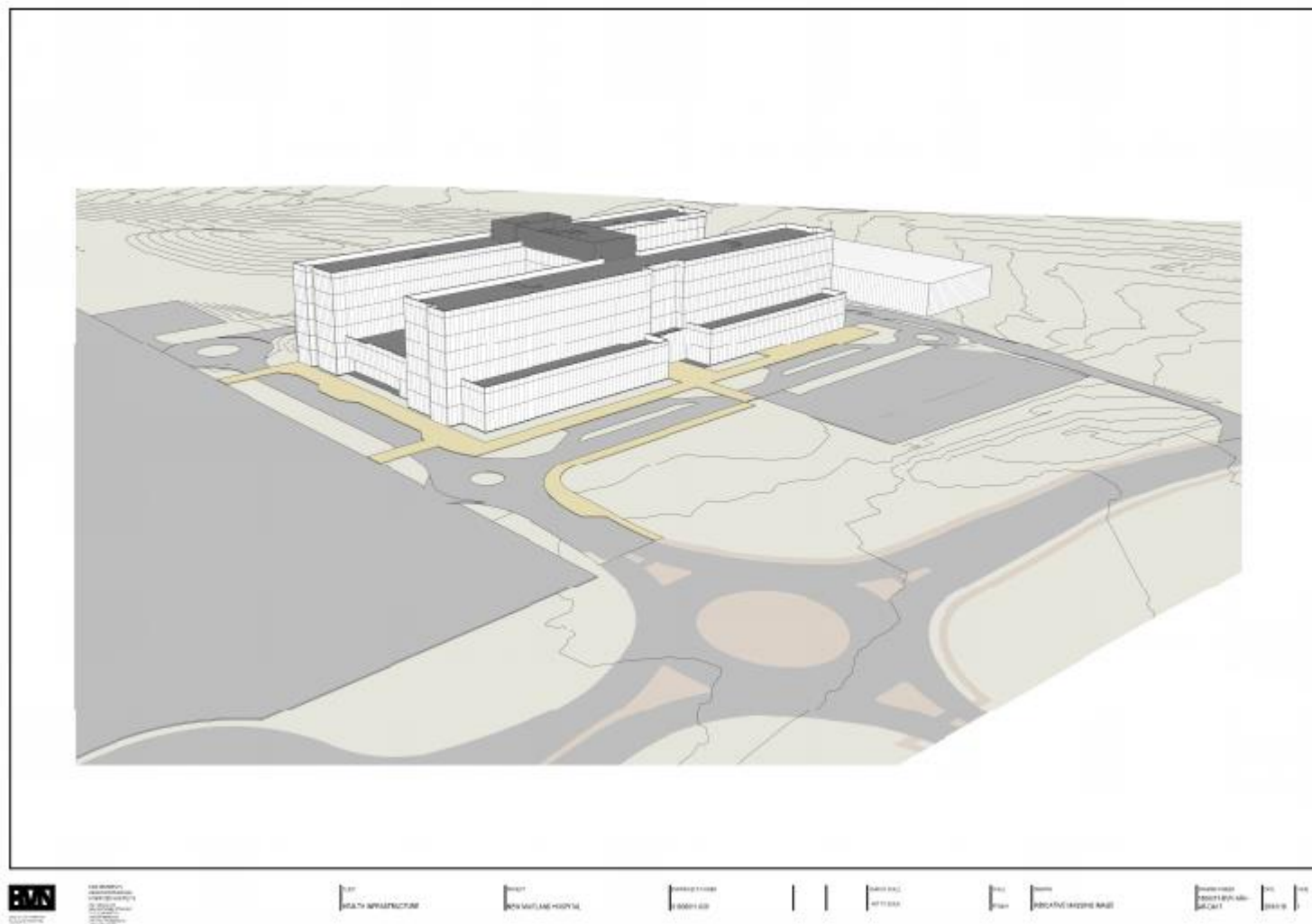
**Figure 3.1** Proposed Site Plan  
Fitzpatrick & Partners (June 2018) Drawing No. 0010 Issue 02



**Figure 3.2 Proposed Elevations (North and South)**  
Fitzpatrick & Partners (June 2018) Drawing No. 0060 Issue 02



**Figure 3.3 Proposed Elevations (East & West)**  
Fitzpatrick & Partners (June 2018) Drawing No. 0061 Issue 02



**Figure 3.4** Proposed Sections  
Fitzpatrick & Partners (June 2018) Drawing No. 0070 Issue 02

## 4.0 ABORIGINAL CONSULTATION

Consultation, where possible, for this document was undertaken in accordance within the *Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). However, some deviation from these guidelines has occurred as a result of the implementation of Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI 90022, (Umwelt 2018).

### 4.1 OVERVIEW OF ABORIGINAL COMMUNITY CONSULTATION

Consultation, where possible, for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; *National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

An Aboriginal Cultural Heritage Assessment was prepared by Umwelt (2018) where full Aboriginal consultation has taken place as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Consultation has continued with registered stakeholders during the preparation of this collection plan and its recommendations. All registered stakeholders will have the opportunity to review and comment on this document. All comments will be incorporated into the final version of this report.

## 5.0 PLAN OF ACTION

The objectives of the further works program are to systematically record and recover artefact(s) and information relating to the soil landscape. The resulting data will aid in our understanding of the landscape patterning and its relationship with the archaeological record.

### 5.1 GENERAL ACHMP PARAMETERS

- The proposed development has approved status as a State Significant Infrastructure (SSI 9022) and therefore any recommendations of collection will be in compliance with the requirements of the Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI9022.
- All parties (Multiplex, AMAC, SAS Pty Ltd, RAP's) have been informed and understand that an Aboriginal Heritage Impact Permit (AHIP) is not needed as part of this development. All such conditions and procedures which were of the domain of an AHIP have now been replaced by this ACHMP as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI 9022.
- This ACHMP sets out clear procedures for the archaeological collection, recording, reporting and management of all expected and unexpected Aboriginal archaeological/cultural objects and deposits.
- All participants shall follow Safe Operating Procedures (SOPs) as agreed to as part of the site induction process if required.
- All RAPs and archaeologists shall provide relevant, adequate and up to date insurance documents.

### 5.2 RECOMMENDATIONS

In order to further understand the nature of the study area - further recording as part of a surface collection of AHIMS# 38-4-1684 has been recommended and formulated after consultation, where possible, with RAPs, the proponent and the OEH.

The following plan of action aim to manage the archaeological and cultural heritage values of the study area;

- Consultation, where possible, with the Registered Aboriginal Parties (RAPs) should continue throughout the duration of the proposed development and given the opportunity to review and comment on this report, with applicable comments being incorporated into the final version;
- AHIMS#38-4-1684 was not located during a recent archaeological survey conducted by Umwelt (2018). However, SSI 9022 condition B17 requires measures to locate, document and salvage the previously identified artefact associated with AHIMS#38-4-1684. This should be undertaken in full consultation, where possible, with the registered stakeholders. This surface collection is seen as stage one of the further works program – see 5.3.1;
- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve



multiple site registrations in order to accurately record the study area as a complex multi-layered site.

- Before any ground disturbance takes place as part of the construction all development staff, contractors and workers should be briefed as to the heritage status of the area and their responsibilities in ensuring preservation of the said area. This brief should take place prior to works commencing on site. They should also be informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development.

**Should any Aboriginal archaeological deposits or objects be located during the development;**

- all excavation in the vicinity of any objects and/or deposits shall cease immediately and the area secured;
- OEH and a suitably qualified archaeologist should be notified so the significance of the said deposits or objects can be evaluated and presented in a report and the study area recorded as an archaeological site;
- the archaeological deposits or objects will require the production of an Aboriginal Cultural Heritage Management Plan, of which the way forward will be subject to the recommendations of this report in consultation with OEH, prior to the development continuing.

**In the event of human skeletal remains being uncovered at any stage;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately and the area secured;
- The NSW Police and OEH's Enviroline are to be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and Metropolitan Local Aboriginal Land Council (MLALC) will identify the appropriate course of action.

The archaeological and cultural heritage significance of the study area carries with it implications for the development and management of the study area. The following vision statement captures the vision and aims of the conservation policies for the study area that arise from the development of the study area, its archaeological and cultural heritage significance, and relevant constraints and opportunities.

A background analysis of the environmental and cultural context revealed that the study area does contain items or areas of Aboriginal archaeological and cultural significance.

This area contains resources which may have been utilised by Aboriginal occupants and contains an isolated find AHIMS # 38-4-1684 which was not located as a result of the survey conducted by Umwelt (2018). The archaeological or cultural material will to be the subject of mitigative strategies (AMAC 2018).

The following mitigative strategies outlined in this section have been formulated in consultation with RAPs and designed in accordance with OEH requirements and policies. The policies are sufficiently flexible in recognising both operational constraints and requirements, while enabling as much as is possible of the archaeological and cultural resource of the study area to be recovered.

### 5.3 STAGED PROGRAM FOR FURTHER WORKS

Due to the varied nature of the proposed further works and specific order of timing that will be required in line with the proposed development plan. All recommended further works as endorsed through this document have been placed into stages.

This aims to effectively and efficiently conduct these investigations with minimal disturbance to the stratigraphic integrity and data and ensuring there are controls in place in collecting a suitable sample for research content as well aiming to provide an opportunity for the Aboriginal community to salvage prior to the full impact of the study site.

#### 5.3.1 Stage 1: Surface Collection

The SSI 9022 condition B17 requires measures to locate, document and salvage the previously identified artefact (AHIMS# 38-4-1648) to be carried out. This involves investigating and the manual collection of any Aboriginal cultural surface material associated with AHIMS# 38-4-1648. This is to be undertaken by a qualified archaeologist in consultation and participation of the RAPs in accordance with the SSI conditions.

#### **Methodology**

The following collection parameters are proposed:

- The location of AHIMS#38-4-1648 will be traversed on foot from the site sheds. Investigations will then commence in a 10m radius of coordinates E369170 N6374453. Refer to figure 5.2. This will be undertaken and supervised by a qualified archaeologist and participating RAPs;
- Once the artefacts have been collected, they will be placed within a secure zip lock bag and labelled with the site number, date and status as being surface collected then placed in a larger zip lock bag for processing;
- If archaeological and cultural material is found which does not belong to the registered site. An AHIMS Aboriginal Site Card Form will be completed and submitted to the AHIMS Registrar as soon as practicable;
- All collected material will undergo processing by a qualified archaeologist. This will include recording methods as outlined in section 3.2 of the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (DECCW, 2010), which will include, but not limited to photography of the assemblage and artefact count, with this data being included in the final open area salvage report;
- Any archaeological/cultural material that is, in the opinion of the archaeologist and the stakeholders, to not be of similar educational, scientific, representative, and cultural significance, should be subject to a further assessment and review with the final open area salvage report;
- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve multiple site registrations in order to accurately record the study area as a complex multi-layered site. This is to be completed in accordance with the *Guide to completing the AHIMS Site Recording Form*;

#### 5.3.1.1 AHIMS Site# 38-4-1648 information

Site NMH1 is an isolated find located within an exposure measuring 1m by 3m at the following coordinates;

Zone	Easting	Northing
GDA 56	369170	6374453

The exposure where the artefact is located is the result of erosion within the area, from which soil has been removed. The site subject to collection consists of a single fragment of heat shattered silcrete. There is the potential for additional artefacts to be located within the same context however based on the predictive model, it is likely to consist of a low-density scatter.



**Figure 5.1** Current condition of location of potential artefact.  
Umwelt 2018





- Legend**
- Project Area
  - Proposed Hospital Area of Influence
  - Artefact Scatter
  - Isolated Find
  - PAD

FIGURE 4.1  
AHIMS Search Results

Figure 5.2 AHIMS Site# 38-4-1648 proximity to proposed development influence  
Umwelt (2018)

### 5.3 2 Care and Control and Interpretation

If any archaeological material is recovered it shall be subject to a care and control Agreement established after the nature and significance of the archaeological or cultural material is understood as per requirement 26 of the *Code of Conduct for the investigation of Archaeological objects in NSW*.

A secure temporary storage location in accordance with requirement 26 of the *Code of Conduct for the investigation of Archaeological objects in NSW*, shall be established (AMAC Office, Wallsend), pending any agreement being reached as to the long-term management of the salvaged Aboriginal object(s).

Once a custodian has been arranged in consultation with the Aboriginal community, an Application for the transfer of Aboriginal objects for safekeeping as per Section 85A (1) (c) of the *National Parks and Wildlife Act 1974* will need to be completed between the temporary holder and the proposed custodian. This document along with the proposed agreement and supporting documentation will need to be submitted to OEH for approval.

The director is responsible for ensuring that procedures are put in place so that Aboriginal objects are not harmed during temporary storage. The location of the secure temporary storage location will be submitted to AHIMS with a site update record card for the site(s) in question.

For Aboriginal objects kept or returned to the location they originated from:

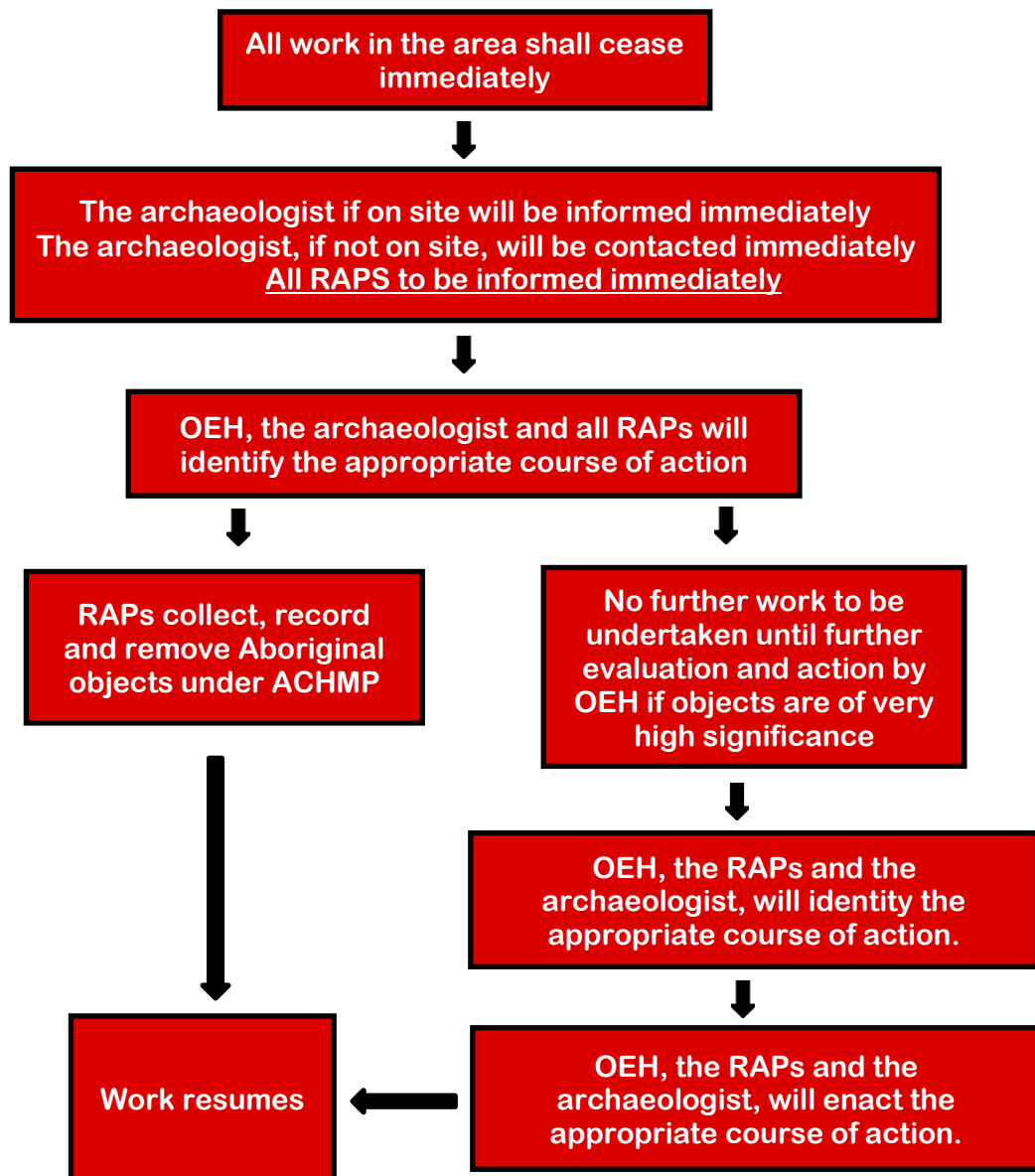
- A full catalogue, including photographic and drawn records for diagnostic stone artefacts, must be made.
- The catalogue must be in printed form but may also include an electronic database in the form of a table containing all records.
- All stone artefacts must be either individually bagged or bagged in appropriate and identifiable units (e.g. excavation or collection units) that can be referenced back to the catalogue.
- The stone artefacts must be stored in good quality, double-bagged plastic zip-lock bags.
- The bags must be externally labelled using permanent marker, and an 'independent' label on robust material (e.g. Tyvek) written with permanent marker must be placed inside each bag.
- The collection must be placed in a suitable impervious and permanent container, which must be labelled as above, or engraved.
- A full record of the final location of the collection must be made, including:
  - grid coordinates derived as set out in Requirement 8
  - a site plan or mud map referring to permanent features
  - depth of burial, if buried
  - full photographic record of the disposition.
- The record must be submitted to AHIMS with a site update record card for the site(s) in question.

If long term management of any objects recovered has not been decided in a timely fashion, the objects will be lodged with the Australian Museum as per the *Australian Museum Protocols for the Deposition of Archaeological Material* (Australian Museum, 2012).

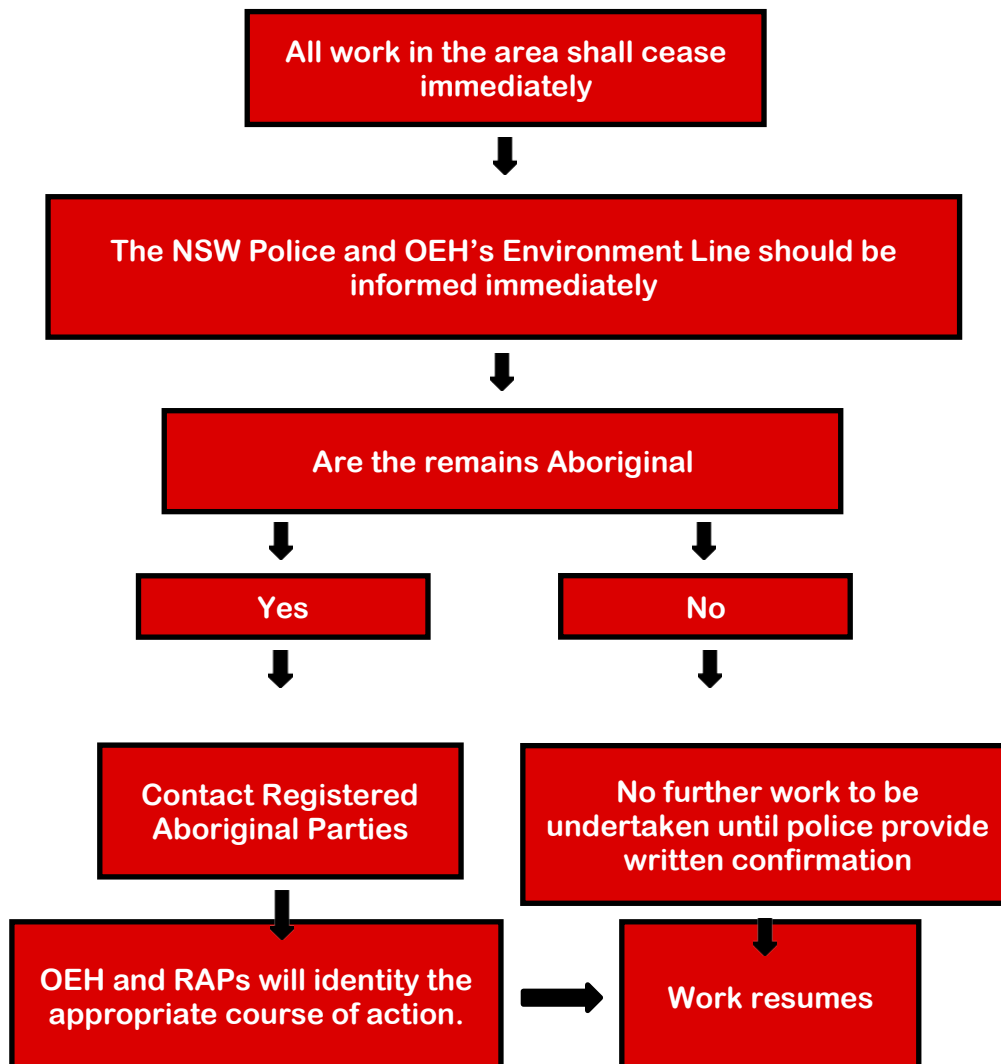
## 5.4 FLOW CHARTS

The following are flow charts for the course of action for the listed potential archaeological constraints that all signatories to the ACHMP, have read, understood and agreed to.

### 5.4.1 Flow Chart for the Discovery of Unexpected Aboriginal Archaeological Material



#### 5.4.2 Flow Chart for the Procedure for the Discovery of Human Remains





## 5.5 CONTACT DETAILS

The contact details for the following archaeologist, NSW Police, OEH and Registered Aboriginal Parties are as follows:

Organisation	Contact	Contact Details
NSW Environment Line		131 555
NSW Maitland Police Area Command		LAC Office: 3 Caroline Place Maitland 2320 Phone: 02 4934 0200 Fax: 02 4934 0311
Archaeological Management & Consulting Group Pty Ltd	Mr. Benjamin Streat or Mr. Martin Carney	122c-d Percival Road Stanmore NSW 2048 Ph:(02) 9568 6093 Fax:(02) 9568 6093 Mob: 0405 455 869 Mob: 0411 727 395 benjaminstreat@archaeological.com.au
Office of Environment & Heritage NSW Department of Planning and Environment	Archaeologist – Newcastle Regional office	PO Box 1002 Dangar NSW 2309 Ph: (02) 4927 3119 rog.hcc@environment.nsw.gov.au
A1 Indigenous Services	Carolyn Hickey	cazadirect@live.com
AGA Services	Ashley Sampson	Cacatua4service@tpg.com.au
Amanda Hickey Cultural Services	Amanda Hickey	amandahickey@live.com.au
Awabakal Descendants Traditional Owners	Pete Leven	Peterleven@y7mail.com
Awabakal Traditional Owners Aboriginal Corp.	Kerrie Brauer	Kerrie@awabakal.com.au
Cacatua General Services	George Sampson	Cacatua4service@tpg.com.au
Culturally Aware	Tracey Skene	anigunya@hotmail.com
DFTV Enterprises	Derrick Vale	5 Mountbatten Cl, Rutherford NSW 2320
Divine Diggers Aboriginal Cultural Consultants	Deirdre Perkins	divinediggers@bigpond.com
Gidawaa Walang Cultural Heritage Consultancy	Ann Hickey	gidawaa.walang@hotmail.com
Hunter Traditional Owner	Paulette Ryan	(02) 65744906

Organisation	Contact	Contact Details
Jarban & Murgrebea	Les Atkinson	les.atkinson@hotmail.com
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	jtmanagement@live.com.au
Kawul Cultural Services	Vicky Slater	kawul-cultural-services@hotmail.com
Kevin Duncan	Kevin Duncan	Kevin.duncan@bigpond.com
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball	tn.miller@southernphone.com.au; lea-anne.ball@bigpond.com
Luke Hickey (Care of Hunter Traditional Owner)	Luke Hickey	hvcs@bigpond.com
Mindaribba Local Aboriginal Land Council	Steve Campbell	(02) 4934 8511 (02) 4934 8544
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson	murrabidgeemullangari@yahoo.com.au
Wallagen Cultural Services	Maree Waugh	mareewaugh30@hotmail.com
Widescope Group	Steven Hickey	widescope.group@live.com
Wonnarua Nation Aboriginal Corporation	Laurie Perry	wonnarua@bigpond.com.au
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarrculturalservices@gmail.com

## 6.0 SITE WORKS

Site works will be carried out by the RAPs nominated in Appendix: A Surface Collection Report. Site workers are to be chosen via a tender system currently underway which runs contemporary to the review of this document

All RAPs have provided relevant insurance and fee details to AMAC (The Contracted Archaeologists)

If mediation is required AMAC are to be contacted

Organisation	Contact	Contact Details
Archaeological Management & Consulting Group Pty Ltd	Mr. Benjamin Streat or Mr. Martin Carney	122c-d Percival Road Stanmore NSW 2048 Ph:(02) 9568 6093 Fax:(02) 9568 6093 Mob: 0405 455 869 Mob: 0411 727 395 <a href="mailto:benjaminstreat@archaeological.com.au">benjaminstreat@archaeological.com.au</a>

## 7.0 REVIEW PROCEDURES

Once this ACHMP has been agreed to by all parties. No alteration of procedures shall take place without the involvement of all parties. All RAP individuals and organisations shall be informed in writing of the proposed review and all parties and their respective organisations will be given appropriate time frames to respond to changes.

## APPENDICES

### APPENDIX ONE: SSI 9022.

#### Infrastructure Approval

##### *Section 5.19 of the Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 11 October 2017, I approve the State significant infrastructure application referred to in Schedule 1, subject to the conditions specified in Schedules 2 and 3.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.



David Gainsford  
Executive Director  
Priority Projects

Sydney 7th November 2018

#### SCHEDULE 1

<b>Application Number:</b>	SSI 9022
<b>Proponent:</b>	Health Administration Corporation
<b>Approval Authority:</b>	Minister for Planning
<b>Site:</b>	Metford Road, Metford (Lot 7314 DP 1162607 and Part Lot 401 DP 755237)
<b>Development:</b>	New Maitland Hospital, comprising: <ul style="list-style-type: none"><li>• concept proposal for the development of a new hospital with approximately 60,000sqm of floorspace on the subject site, including a nine storey building envelope and site access arrangements.</li><li>• Stage 1 site clearance and preparatory works, including: bulk earthworks; utility connections; in-ground infrastructure works; vegetation removal; building foundations; drainage infrastructure; and construction of temporary roads, temporary car parking area, temporary fencing and site office/compound.</li></ul>

## DEFINITIONS

<b>Aboriginal object</b>	Has the same meaning as the definition of the term in section 5 of the <i>National Parks and Wildlife Act 1974</i>
<b>Advisory Notes</b>	Advisory information relating to the approval but do not form a part of this approval
<b>BAR</b>	Biodiversity Assessment Report
<b>BCA</b>	Building Code of Australia
<b>BOS</b>	Biodiversity Offset Strategy
<b>CEMP</b>	Construction Environmental Management Plan
<b>Certification of Crown building work</b>	Certification under section 109R of the EP&A Act
<b>Certifying Authority</b>	Professionals that are accredited by the Building Professionals Board to issue construction, occupation, subdivision, strata, compliance and complying development certificates under the EP&A Act, <i>Strata Schemes (Freehold Development) Act 1973</i> and <i>Strata Schemes (Leasehold Development) Act 1986</i> or in the case of Crown development, a person qualified to conduct a Certification of Crown Building works.
<b>Conditions of this approval</b>	Conditions contained in Schedule 2 of this document
<b>Construction</b>	All physical works, including but not limited to the carrying out of works for the purposes of the development, including bulk earthworks and erection of infrastructure permitted by this approval, but excluding the following: <ul style="list-style-type: none"> <li>• building and road dilapidation surveys;</li> <li>• investigative drilling, investigative excavation or Archaeological Salvage;</li> <li>• establishing temporary site offices (in locations identified by the conditions of this approval); and</li> <li>• installation of environmental impact mitigation measures, fencing, enabling works.</li> </ul>
<b>Council</b>	Maitland City Council
<b>Day</b>	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
<b>Demolition</b>	The deconstruction and removal of buildings, sheds and other structures on the site
<b>Department</b>	NSW Department of Planning and Environment
<b>Development</b>	The development described in the EIS and Response to Submissions, including the works and activities comprising Stage 1 site clearance and preparatory, as modified by the conditions of this approval.
<b>Earthworks</b>	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
<b>EIS</b>	The Environmental Impact Statement titled <i>New Maitland Hospital Stage 1 (Concept Design and Early Works) Environmental Impact Statement</i> , prepared by pitt&sherry dated 7 June 2018, submitted with the application for approval for the development, including any additional information provided by the Proponent in support of the application
<b>ENM</b>	Excavated Natural Material
<b>Environment</b>	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
<b>EPA</b>	NSW Environment Protection Authority
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>EP&amp;A Regulation</b>	<i>Environmental Planning and Assessment Regulation 2000</i>

<b>Evening</b>	The period from 6pm to 10pm.
<b>Feasible</b>	Means what is possible and practical in the circumstances
<b>Incident</b>	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 <i>Note: "material harm" is defined in this approval</i>
<b>Land</b>	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
<b>Management and mitigation measures</b>	The management and mitigation measures set out in the EIS.
<b>Material harm</b>	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
<b>Minister</b>	NSW Minister for Planning (or delegate)
<b>Mitigation</b>	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
<b>Monitoring</b>	Any monitoring required under this approval must be undertaken in accordance with section 9.40 of the EP&A Act
<b>Night</b>	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
<b>NMH</b>	New Maitland Hospital
<b>Non-compliance</b>	An occurrence, set of circumstances or development that is a breach of this approval
<b>NSW RFS</b>	New South Wales Rural Fire Service
<b>OEH</b>	NSW Office of Environment and Heritage
<b>Operation</b>	The carrying out of the approved purpose of the development upon completion of construction.
<b>PA</b>	Means a planning agreement within the meaning of the term in section 7.4 of the EP&A Act.
<b>Planning Secretary</b>	Planning Secretary under the EP&A Act, or nominee
<b>POEO Act</b>	<i>Protection of the Environment Operations Act 1997</i>
<b>Proponent</b>	Health Administration Corporation, or any person carrying out any development to which this approval applies
<b>Reasonable</b>	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
<b>Rehabilitation</b>	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting.
<b>Response to submissions</b>	The Proponent's response to issues raised in submissions received in relation to the application for approval for the development under the EP&A Act, including the <i>New Maitland Hospital Stage 1 (Concept Design and Early Works) SSI 9022 Response to Submissions</i> , prepared by pitt&sherry dated 17 August 2018 and additional information submitted by Health Infrastructure on 30 August 2018.
<b>RMS</b>	NSW Roads and Maritime Services
<b>Sensitive receivers</b>	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area.

<b>Site</b>	The land defined in Schedule 1.
<b>Site Auditor</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Report</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Statement</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>TfNSW</b>	Transport for New South Wales
<b>Waste</b>	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
<b>Year</b>	A period of 12 consecutive months



**SCHEDULE 2**  
**CONDITIONS OF APPROVAL FOR CONCEPT PROPOSAL**  
**PART A ADMINISTRATIVE CONDITIONS**

**Obligation to Minimise Harm to the Environment**

- A1. In addition to meeting the specific performance measures and criteria in this approval, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development.

**Terms of Approval**

- A2. The development may only be carried out:
- (a) in compliance with the conditions of this approval;
  - (b) in accordance with all written directions of the Planning Secretary;
  - (c) generally in accordance with the EIS and Response to Submissions;
  - (d) generally in accordance with the approved plans in the table below:

Drawings prepared by fitzpatrick+partners			
Dwg No.	Issue	Name of Plan	Date
DA07	10	CONCEPT PLAN	6/06/2018
DA08	10	CONCEPT PLAN – LANDSCAPE ZONAL PLAN	6/06/2018
DA09	10	CONCEPT PLAN – APZ	6/06/2018
DA10	10	AREA OF INFLUENCE – BUILDING FOOTPRINT	6/06/2018
DA11	10	AREA OF INFLUENCE – AERIAL OVERLAY	6/06/2018
DA12	10	CONCEPT PLAN – VEHICULAR CIRCULATION	6/06/2018
DA13	10	CONCEPT PLAN – PEDESTRIAN CIRCULATION	6/06/2018
DA14	10	ELEVATIONS – NORTH & SOUTH	6/06/2018
DA15	10	ELEVATIONS – EAST & WEST	6/06/2018
DA22	10	CONCEPT PLAN – SETBACKS	6/06/2018

- A3. Consistent with the requirements in this approval, the Planning Secretary may make written directions to the Proponent in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and
  - (b) the implementation of any actions or measures contained in any such document referred to in (a) above.
- A4. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

**Vegetative Buffer**

- A5. A vegetation buffer of a minimum depth of five metres must be provided along the southern boundary outside of any Asset Protection Zone. Revised plans must be submitted to the Planning Secretary demonstrating the provision of the vegetative buffer, any associated amendments reconfiguring the southern building envelope and the Asset Protection Zone.

**Limits of Approval**

- A6. This approval lapses five years after the date of approval unless the works associated with the development have physically commenced.

**Planning Secretary as Moderator**

- A7. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

**Legal Notices**

- A8. Any advice or notice to the approval authority must be served on the Planning Secretary.

**ADVISORY NOTES**

- AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this approval removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

## PART B REQUIREMENTS FOR FUTURE STAGES

### Built Form and Urban Design

- B1. To ensure that a high quality urban design and architectural response is achieved, the site layout and architectural design of the NMH must have regard to, and be generally consistent with, the concept proposal and the Architectural Design Statement prepared by Fitzpatrick + Partners in the EIS, and the following:
- demonstrating the primary objectives as set out in the Architectural Design Statement are incorporated into the design.
  - integrating local indigenous identity and culture in the design.
  - incorporating measures to reduce water and energy usage.
  - the suitability of the offset distances between east and west wings of the hospital building.
  - safe pedestrian circulation.
  - incorporating the natural setting in the design.
  - integrating landscaping with car parking areas.
  - connectivity between the hospital building and landscaped areas for patients, staff and visitors.
  - heritage interpretation.

### Biodiversity

- B2. The SSI application(s) for the detailed design and construction of the NMH must demonstrate that the proposal is consistent with the endorsed Biodiversity Assessment Report (BAR) and Biodiversity Offset Strategy (BOS).

### Traffic and Transport

- B3. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a detailed assessment of the traffic and transport impacts associated with the NMH on the surrounding road network and intersection capacity, and must detail provisions demonstrating that sufficient access and car parking has been provided having regard to RMS's Guide to Traffic Generating Developments, and details to promote non-car travel modes. The traffic and transport impact assessment must also have specific regard to:
- cumulative traffic impacts, in particular the Stockland Green Hills Shopping Centre development, and undertaking additional analysis of New England Highway between Mitchell Road and Chisholm Road (inclusive of the New England Highway/Chelmsford Road intersection).
  - the scope and timing of required road and intersection upgrades within the surrounding road network, including but not limited to the Chelmsford Drive/Metford Road and Raymond Terrace Road/Metford Road intersections.
  - preparing a pedestrian access plan, including from Victoria Street Railway Station and nearest bus stops.
  - the design of the proposed on-site car parking and on-street car parking impacts from any parking fee structure system, through detailed parking analysis of similar hospital sites.
  - potential traffic impacts on businesses fronting Metford Road, between Fieldsend Street and Chelmsford Drive.

### Residential Amenity Impacts

- B4. Details are to be provided in the SSI application(s) for the detailed design and construction of the NMH demonstrating that consideration has been given to the protection and minimisation of potential amenity impacts on adjoining sensitive land uses, including, but not limited to visual amenity, privacy and lighting.

### Noise and Vibration

- B5. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a detailed noise and vibration impact assessment prepared by a suitably qualified person, which details the main construction and operational noise and vibration

sources and activities, including future mechanical plant. Details are also to be included outlining all feasible and reasonable noise and vibration mitigation and management measures.

- B6. The noise and vibration impact assessment, as required by condition B5 of Schedule 2, must demonstrate that the location and operation of the helipad has been designed to minimise noise impacts on sensitive land uses.

#### **Landscaping**

- B7. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a landscape plan for the future hospital campus, including incorporating the vegetative buffer required by condition A5 of Schedule 2.

#### **Bushfire Protection**

- B8. The design of the NMH, including all Asset Protection Zones and other bushfire protection measures, must demonstrate satisfactory compliance with the relevant provisions of Planning for Bushfire Protection 2006.

#### **Ecologically Sustainable Development**

- B9. The SSI application(s) for the detailed design and construction of the NMH development must demonstrate how the principles of ESD have been incorporated into the design, construction and on-going operation of the hospital.
- B10. The SSI application(s) for the detailed design and construction of the NMH development must include a framework for how the future development will be designed to consider and reflect national best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy.
- B11. The SSI application(s) for the detailed design and construction of the NMH development must include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance.
- B12. The SSI application(s) for the detailed design and construction of the NMH development must provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically:
- (a) hotter days and more frequent heatwave events;
  - (b) extended drought periods;
  - (c) more extreme rainfall events;
  - (d) gustier wind conditions; and
  - (e) how these will inform landscape design, material selection and social equity aspects (respite/shelter areas).

**SCHEDULE 3**  
**CONDITIONS OF APPROVAL FOR STAGE 1 SITE CLEARANCE AND PREPARATORY WORKS**  
**PART A ADMINISTRATIVE CONDITIONS**

**Obligation to Minimise Harm to the Environment**

- A1. In addition to meeting the specific performance measures and criteria in this approval, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development.

**Terms of Approval**

- A2. The development may only be carried out:
- (a) in compliance with the conditions of this approval;
  - (b) in accordance with all written directions of the Planning Secretary;
  - (c) generally in accordance with the EIS and Response to Submissions;
  - (d) generally in accordance with the approved plans in the table below:

Drawing prepared by <i>fitzpatrick+partners</i>			
Dwg No.	Issue	Name of Plan	Date
DA21	10	STAGE 1 EARLY WORKS SITE PLAN	6/06/2018
Drawing prepared by <i>Wood &amp; Grieve Engineers</i>			
Dwg No.	Rev	Name of Plan	Date
CI-100-002	A	EARLYWORKS PLAN – GENERAL ARRANGEMENT	24.04.18

- A3. Consistent with the requirements in this approval, the Planning Secretary may make written directions to the Proponent in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and
  - (b) the implementation of any actions or measures contained in any such document referred to in (a) above.
- A4. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

**Limits of Approval**

- A5. This approval lapses five years after the date of approval unless the works associated with the development have physically commenced.

**Planning Secretary as Moderator**

- A6. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

**Long Service Levy**

- A7. For work costing \$25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation Helpline on 131 441.

**Legal Notices**

- A8. Any advice or notice to the approval authority must be served on the Planning Secretary.

#### Evidence of Consultation

- A9. Where conditions of this approval require consultation with an identified party, the Proponent must:
- (a) consult with the relevant party prior to submitting the subject document to the Certifying Authority for approval; and
  - (b) provide details of the consultation undertaken including:
    - (i) the outcome of that consultation, matters resolved and unresolved; and
    - (ii) details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.

#### Staging, Combining and Updating Strategies, Plans or Programs

- A10. With the approval of the Planning Secretary, the Proponent may:
- (a) prepare and submit any strategy, plan or program required by this approval on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
  - (b) combine any strategy, plan or program required by this approval (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
  - (c) update any strategy, plan or program required by this approval (to ensure the strategies, plans and programs required under this approval are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).
- A11. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this approval.
- A12. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

#### Structural Adequacy

- A13. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

#### Notes:

- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

#### Design and Construction for Bush Fire

- A14. Water, electricity and gas are to comply with sections 4.1.3 and 4.2.7 of *Planning for Bush Fire Protection 2006*.

#### Applicability of Guidelines

- A15. References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.

However, consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Planning Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

#### Monitoring and Environmental Audits

- A16. Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act.



This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

*Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the approval or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the approval or the environmental management or impact of the development.*

#### Access to Information

A17. At least 48 hours before the commencement of construction until the completion of all works under this approval, or such other time as agreed by the Planning Secretary, the Proponent must:

- (a) make the following information and documents (as they are obtained or approved) publicly available on its website:
  - (i) the documents referred to in condition A2 of this approval;
  - (ii) all current statutory approvals for the development;
  - (iii) all approved strategies, plans and programs required under the conditions of this approval;
  - (iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval;
  - (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
  - (vi) a summary of the current stage and progress of the development;
  - (vii) contact details to enquire about the development or to make a complaint;
  - (viii) a complaints register, updated monthly;
  - (ix) audit reports prepared as part of any independent environmental audit of the development and the Proponent's response to the recommendations in any audit report;
  - (x) any other matter required by the Planning Secretary; and
- (b) keep such information up to date, to the satisfaction of the Planning Secretary.

#### Compliance

A18. The Proponent must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the development.

#### ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this approval removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

## PART B PRIOR TO COMMENCEMENT OF CONSTRUCTION

### Notification of Commencement

- B1. The Department must be notified in writing of the dates of commencement of physical work at least 48 hours before those dates.

If the construction of the development is to be staged, the Department must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

### Certified Drawings

- B2. Prior to the commencement of construction, the Proponent must submit to the satisfaction of the Certifying Authority structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with:

- (a) the relevant clauses of the BCA; and
- (b) this approval.

### Biodiversity

- B3. Prior to the removal of any vegetation, a revised BAR and BOS must be submitted and approved by the Planning Secretary, addressing the vegetative buffer requirements in condition A5 of Schedule 2. The revised BAR and BOS must be prepared in accordance with the OEH's *Framework for Biodiversity Assessment (FBA)* and the *Biobanking Assessment Methodology 2014 (BBAM)*.
- B4. Within 12 months of commencement of the vegetation clearance works, unless otherwise approved by the Planning Secretary, the Proponent must submit evidence that the BOS has been implemented.

### Protection of Public Infrastructure

- B5. Before the commencement of construction, the Proponent must:
- (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;
  - (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
  - (c) submit a copy of the dilapidation report to the Planning Secretary, Certifying Authority and Council.

### Site Contamination

- B6. Prior to the commencement of construction, the Proponent must submit to the satisfaction of the Certifying Authority a Site Audit Report and Section A Site Audit Statement for the relevant part of the site prepared by a NSW EPA accredited Site Auditor verifying the relevant part of the site is suitable for the hospital land use.

### Unexpected Contamination Procedure

- B7. Prior to the commencement of earthworks, the Proponent must prepare an unexpected contamination procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with condition B11 and where any material identified as contaminated is to be disposed off-site, the disposal location and results of testing must be submitted to the Planning Secretary prior to its removal from the site.

### Utilities and Services

- B8. Before the construction of any utility works associated with the development, the Proponent must obtain relevant approvals from service providers.

### Community Communication Strategy

- B9. A Community Communication Strategy must be prepared to provide mechanisms to facilitate communication between the Proponent, the relevant Council and the community (including

adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.

The Community Communication Strategy must:

- (a) identify people to be consulted during the design and construction phases;
- (b) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development;
- (c) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development;
- (d) set out procedures and mechanisms:
  - (i) through which the community can discuss or provide feedback to the Proponent;
  - (ii) through which the Proponent will respond to enquiries or feedback from the community; and
  - (iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.

The Community Communication Strategy must be submitted to the Planning Secretary for approval no later than two weeks before the commencement of any work.

Work for the purposes of the development must not commence until the Community Communication Strategy has been approved by the Planning Secretary, or within another timeframe agreed with the Planning Secretary.

#### **Outdoor Lighting**

- B10. Prior to commencement of construction, all outdoor lighting within the site must comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-1997 Control of the obtrusive effects of outdoor lighting. Details demonstrating compliance with these requirements must be submitted to the satisfaction of the Certifying Authority.

#### **Construction Environmental Management Plan**

- B11. Prior to commencement of construction, the Proponent must prepare a Construction Environmental Management Plan (CEMP) and it must include, but not be limited to, the following:

- (a) details of:
  - (i) hours of work;
  - (ii) 24-hour contact details of site manager;
  - (iii) management of dust and odour to protect the amenity of the neighbourhood;
  - (iv) stormwater control and discharge;
  - (v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;
  - (vi) groundwater management plan including measures to prevent groundwater contamination;
  - (vii) external lighting in compliance with AS 4282-1997 Control of the obtrusive effects of outdoor lighting;
  - (viii) community consultation and complaints handling;
- (b) Construction Traffic and Pedestrian Management Sub-Plan (see Condition B13);
- (c) Construction Noise and Vibration Management Sub-Plan (see Condition B14);
- (d) Construction Waste Management Sub-Plan (see Condition B15);
- (e) Construction Soil and Water Management Sub-Plan (see Condition B16);
- (f) Aboriginal Cultural Heritage Management Sub-Plan (see Condition B17);
- (g) Biodiversity Management Sub-Plan (see Condition B18);

- (h) an unexpected finds protocol for contamination and associated communications procedure;
  - (i) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;
  - (j) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site.
- B12. The Proponent must not commence construction of the development until the CEMP is approved by the Certifying Authority and a copy submitted to the Planning Secretary.
- B13. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced person(s);
  - (b) be prepared in consultation with Council, RMS and TfNSW;
  - (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services;
  - (d) detail heavy vehicle routes, access and parking arrangements;
  - (e) include a Driver Code of Conduct to:
    - (i) minimise the impacts of earthworks and construction on the local and regional road network;
    - (ii) minimise conflicts with other road users;
    - (iii) minimise road traffic noise; and
    - (iv) ensure truck drivers use specified routes;
  - (f) include a program to monitor the effectiveness of these measures; and
  - (g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.
- B14. The Construction Noise and Vibration Management Sub-Plan (CNVMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced noise expert;
  - (b) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009);
  - (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
  - (d) include strategies that have been developed with the community, including all noise sensitive receivers where construction noise levels are predicted to exceed the noise management level, for managing high noise generating works;
  - (e) describe the community consultation undertaken to develop the strategies in condition B14(d);
  - (f) include a complaints management system that would be implemented for the duration of the construction.
- B15. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following:
- (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations;
  - (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of any building works.

- B16. The Construction Soil and Water Management Plan (CSWMSP) must address, but not be limited to the following:
- (a) be prepared by a suitably qualified expert, in consultation with Council;
  - (b) describe all erosion and sediment controls to be implemented during construction;
  - (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);
  - (d) detail all off-Site flows from the Site; and
  - (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI).
- B17. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;
  - (b) be submitted to the Planning Secretary prior to construction of any part of the development;
  - (c) measures to locate, document and salvage the previously identified artefact;
  - (d) procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works;
  - (e) protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations;
  - (f) a requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project; and
  - (g) a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long term management of Aboriginal objects.
- B18. The Biodiversity Management Sub-Plan (BMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced ecologist;
  - (b) engagement of an appropriately qualified ecologist with experience in capturing native wildlife to be on site for all vegetation removal activities;
  - (c) clearing protocol;
  - (d) measures to minimise the loss of key fauna habitat, including tree hollows;
  - (e) measures to minimise the impacts on fauna on site, including conducting fauna pre-clearance surveys prior to vegetation clearing;
  - (f) controlling weeds and feral pests;
  - (g) measures to ensure biodiversity values not intended to be impacted are protected, including barriers and mapping of protected/ 'no-go' areas; and
  - (h) a program to monitor the effectiveness of the measures in the BMSP.

#### Construction Parking

- B19. Prior to the commencement of construction, the Proponent must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.

**Construction and Demolition Waste Management**

- B20. The Proponent must notify the RMS Traffic Management Centre of the truck route(s) to be followed by trucks transporting waste material from the site, prior to the commencement of the removal of any waste material from the site.

**Compliance Reporting**

- B21. No later than two weeks before the date notified for the commencement of construction, a Compliance Monitoring and Reporting Program prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018) must be submitted to the Department and the Certifying Authority.

Compliance Reports of the project must be carried out in accordance with the Compliance Reporting Post Approval Requirements (Department 2018).

The Proponent must make each Compliance Report publicly available 60 days after submitting it to the Department and notify the Department and the Certifying Authority in writing at least seven days before this is done.

**Independent Environmental Audit**

- B22. No later than two weeks before the date notified for the commencement of construction, an Independent Audit Program prepared in accordance with the Independent Audit Post Approval Requirements (Department 2018) must be submitted to the Department and the Certifying Authority.

- B23. Independent Audits of the development must be carried out in accordance with:

- (a) the Independent Audit Program submitted to the Department and the Certifying Authority under condition B22 of this approval; and
- (b) the requirements for an Independent Audit Methodology and Independent Audit Report in the Independent Audit Post Approval Requirements (Department 2018).

- B24. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2018), the Proponent must:

- (a) review and respond to each Independent Audit Report prepared under condition B23 of this approval;
- (b) submit the response to the Department and the Certifying Authority; and
- (c) make each Independent Audit Report and response to it publicly available within 60 days after submission to the Department and notify the Department and the Certifying Authority in writing when this has been done.

## PART C DURING CONSTRUCTION

### Approved Plans to be On-site

- C1. A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification must be kept on the Site at all times and must be readily available for perusal by any officer of the Department, Council or the Certifying Authority.

### Site Notice

- C2. A site notice(s):
- (a) must be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifying Authority and Structural Engineer.
  - (b) is to satisfy all but not be limited to, the following requirements:
    - (i) minimum dimensions of the notice must measure 841 mm x 594 mm (A1) with any text on the notice to be a minimum of 30-point type size;
    - (ii) the notice is to be durable and weatherproof and is to be displayed throughout the works period;
    - (iii) the approved hours of work, the name of the site/ project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and
    - (iv) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.

### Operation of Plant and Equipment

- C3. All plant and equipment used on site, or to monitor the performance of the development must be:
- a) maintained in a proper and efficient condition; and
  - b) operated in a proper and efficient manner.

### Construction Hours

- C4. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
  - (b) between 8am and 1pm, Saturdays.
- No work may be carried out on Sundays or public holidays.
- C5. Activities may be undertaken outside of the hours in Condition C4 if required:
- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or
  - (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
  - (c) where works are inaudible at the nearest sensitive receivers; or
  - (d) where a variation is approved in advance in writing by the Secretary or her nominee and sufficient justification is provided for the works.

Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

- C6. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- (a) 9am to 12pm, Monday to Friday;
  - (b) 2pm to 5pm Monday to Friday; and
  - (c) 9am to 12pm, Saturday.



#### Implementation of Management Plans

- C7. The Proponent must carry out the construction of the development in accordance with the most recent version of the approved CEMP (including Sub-Plans).

#### Construction Traffic

- C8. All construction vehicles (excluding worker vehicles) are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site before stopping.

#### Road Occupancy Licence

- C9. A Road Occupancy Licence must be obtained from the relevant road authority for any works that impact on traffic flows during construction activities.

#### SafeWork Requirements

- C10. To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements.

#### Hoarding Requirements

- C11. The following hoarding requirements must be complied with:
- (a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing;
  - (b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application; and
  - (c) the Proponent must submit a hoarding application to Council for the installation of any hoardings over Council footways or road reserve.

#### No Obstruction of Public Way

- C12. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, unless there is prior approval from the relevant authority. Non-compliance with this requirement will result in the issue of a notice by the relevant Authority to stop all works on site.

#### Construction Noise Limits

- C13. The development must be constructed to achieve the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.
- C14. The Proponent must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of work outlined under Condition C4.
- C15. The Proponent must implement, where practicable and without compromising the safety of construction staff or members of the public, the use audible movement alarms of a type that would minimise noise impacts on surrounding noise sensitive receivers.
- C16. Any noise generated during construction of the development must not be offensive noise within the meaning of the *Protection of the Environment Operations Act 1997* or exceed approved noise limits for the site.

#### Vibration Criteria

- C17. Vibration caused by construction at any residence or structure outside the site must be limited to:
- (a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

- (b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

- C18. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C17.
- C19. The limits in conditions C17 and C18 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B14 of this approval.

#### **Tree Protection**

- C20. For the duration of the construction works:
  - (a) all trees on the site that are not approved for removal must be suitably protected during construction; and
  - (b) if access to the area within any protective barrier is required to undertake the works, it must be carried out under the supervision of a qualified arborist. Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a qualified arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater.

#### **Dust Minimisation**

- C21. The Proponent must take all reasonable steps to minimise dust generated during all works authorised by this approval.
- C22. During construction, the Proponent must ensure that:
  - (a) exposed surfaces and stockpiles are suppressed by regular watering;
  - (b) all trucks entering or leaving the site with loads have their loads covered;
  - (c) trucks associated with the development do not track dirt onto the public road network;
  - (d) public roads used by these trucks are kept clean; and
  - (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

#### **Erosion and Sediment Control**

- C23. All erosion and sediment control measures, must be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works have been stabilised and rehabilitated so that it no longer acts as a source of sediment.

#### **Imported Soil**

- C24. The Proponent must:
  - (a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;
  - (b) keep accurate records of the volume and type of fill to be used; and
  - (c) make these records available to the Department or Certifying Authority upon request.

#### **Disposal of Seepage and Stormwater**

- C25. Any seepage or rainwater collected on-site during construction or groundwater must not be pumped to the street stormwater system unless separate prior approval is given in writing by the EPA in accordance with the *Protection of the Environment Operations Act 1997*.

#### **Unexpected Finds Protocol – Aboriginal Heritage**

- C26. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of

the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by OEH and the management outcome for the site included in the information provided to AHIMS. The Proponent must consult with the Aboriginal community representatives, the archaeologists and OEH to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of OEH.

#### Unexpected Finds Protocol – Historic Heritage

- C27. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the OEH Heritage Division contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of Heritage Division of the OEH.

#### Waste Storage and Processing

- C28. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.
- C29. All waste generated during construction must be assessed, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).
- C30. The body of any vehicle or trailer used to transport waste or excavation spoil must be covered before leaving the premises to prevent any spillage or escape of any dust, waste of spoil. Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site must be removed before leaving the premises.
- C31. The Proponent must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.

#### Incident Notification, Reporting and Response

- C32. The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.

Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix 1.

#### Non-Compliance Notification

- C33. The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of any non-compliance. The Certifying Authority must also notify the Department in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after they identify any non-compliance.

The notification must identify the development and the application number for it, set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

#### Revision of Strategies, Plans and Programs

- C34. Within three months of:
- (a) the submission of a compliance report under condition B21;
  - (b) the submission of an incident report under condition C32;
  - (c) the submission of an Independent Audit under condition B22;
  - (d) the issue of a direction of the Planning Secretary under condition A2 which requires a review,

the strategies, plans and programs required under this approval must be reviewed, and the Department and the Certifying Authority must be notified in writing that a review is being carried out.

- C35. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this approval must be revised, to the satisfaction of the Certifying Authority. Where revisions are required, the revised document must be submitted to the Certifying Authority for approval within six weeks of the review.

*Note:* This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.

## APPENDIX 1 WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

### Written Incident Notification Requirements

1. A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under condition C32 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
  - a. identify the development and application number;
  - b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
  - c. identify how the incident was detected;
  - d. identify when the Proponent became aware of the incident;
  - e. identify any actual or potential non-compliance with conditions of approval;
  - f. describe what immediate steps were taken in relation to the incident;
  - g. identify further action(s) that will be taken in relation to the incident; and
  - h. identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Proponent must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
  - a. a summary of the incident;
  - b. outcomes of an incident investigation, including identification of the cause of the incident;
  - c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
  - d. details of any communication with other stakeholders regarding the incident.

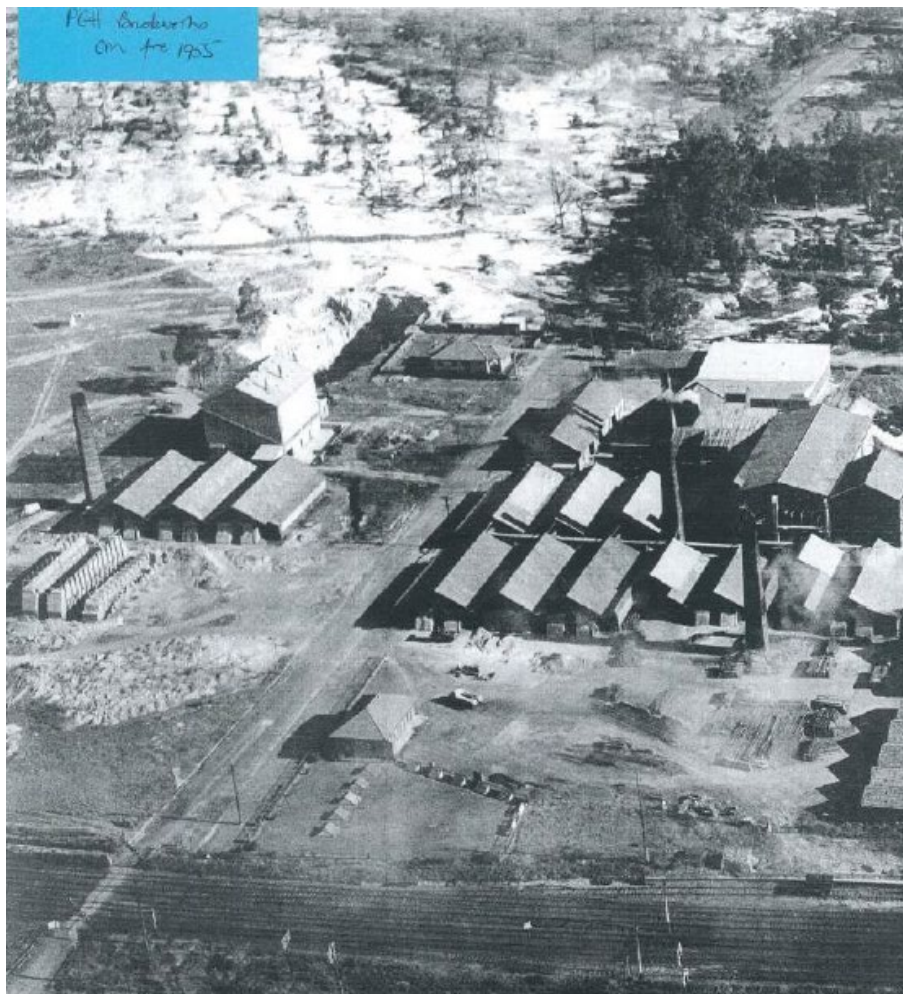
## 15.12 Appendix 11-B: Heritage Impact Statement



# HERITAGE IMPACT STATEMENT ADJUCNT TO UMWELT 2018 HERITAGE STUDY

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**New Maitland Hospital,  
Metford NSW  
2323**



**Martin Carney**

*Archaeological* Management & Consulting Group

**for**

**Multiplex Australasia**

**April 2019**



*Disclaimer*

*The veracity of this report is not guaranteed unless it is a complete and original copy.*

*This report may be inaccurate, incomplete, not original, or modified, if it appears in monochrome form and the signature below is a copy.*

*Martin Carney  
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***Cover Image:***

***Pre 1955 photograph of nearby brickworks.***

The vacant area forming the top portion of the photograph (near the blue label) and south of the brickworks forms the current study area.  
Plate 3.3 in Umwelt (2018).

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## GLOSSARY AND ABBREVIATIONS

The following definition of terms have mostly derived from the glossary provided in Heritage Office Department of Urban Affairs and Planning (1996) *Archaeological Assessments*.

Term	Definition
AMAC	Archaeological Management and Consulting Group
Archaeological feature	Any physical evidence of past human activity. Archaeological features include buildings, works, relics, structures, foundations, deposits, cultural landscapes and shipwrecks. On archaeological excavations the term 'feature' may be used in a specific sense to refer to any item that is not a structure, a layer or an artefact (for example, a post hole).
Artefacts	An object produced by human activity. In historical archaeology the term usually refers to small object contained within occupation deposits. The term may encompass food or plant remains and ecological features (for example, pollen).
Heritage Division	Formerly known as the Heritage Branch
Historical Archaeology	The study of the human past using both material evidence and documentary sources. In Australia 'historical archaeology' excludes Aboriginal archaeology prior to non-indigenous occupation but may include 'contact' sites.
Relic	Defined by the NSW Heritage Act (see Section 1.5.3) as: "any deposit, artefact, object or material evidence that: (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance"
Work	Archaeological material related to road and rail infrastructure which is not considered a relic in terms of the NSW Heritage Act 1977, though may retain archaeological significance independent of the statutory definitions. The interpretation of a 'work' has been defined in consultation with the Heritage Division

# 1.0 INTRODUCTION

## 1.1 BACKGROUND

Multiplex Australasian has requested the Archaeological Management and Consulting Group to review Umwelts (2018), Historical Heritage Assessment in conjunction with the proposed New Maitland Hospital, Metford. AMAC group has produced this report as an update to adjunct to Umwelts (2018) assessment which reviews the archaeological potential and heritage impacts of the concept design approved under the Stage 1 – State significant Infrastructure (SSI) application. The report conforms to Heritage Office Guidelines for Archaeological Assessment.<sup>1</sup>

The proposed design is consistent with the approved design, however the location of the building has moved approximately 15m to the east and has the addition of a carpark to the north of the building. AMAC Group's field collection programme identified no new relics outside those assessed in the 2018 Historical Heritage Assessment by Umwelt from Stage 1 EIS report. The CSR/PGH Brickworks former brick press building was found on Lot 401 which irrespective of the proposed design location change, does not fall within the portion of land subject to the proposed stage 2 SSI design and therefore will not be impacted by this work (see Figure 6.1). There are no definable impacts to known relics occasioned by the SSI2 design changes.

A summary of the site history and development of the study area has been extracted from the Umwelt 2018 report and reproduced here for context alongside revised plans and project area location (see Figure 6.1-Figure 6.4) as well as a summary of archaeological potential and heritage impact statement. The recommendations remain unchanged as per Umwelts 2018 assessment.

## 1.2 PROJECT DESCRIPTION

Health Infrastructure has committed to undertaking a Stages Infrastructure Application in accordance with Section 115ZD (1) of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the following works:

- Stage 1: Site clearance and preparatory works (approved under SSI9022).
- Stage 2: Design and construction of the hospital Main Works (this application SSI9775).

Stage 2 includes the design and construction work generally comprising:

- A new seven storey Acute Services Building, including:
  - Emergency services

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<sup>1</sup> Heritage Office and Department of Urban Affairs and Planning (1996).

- 
- Medical, surgical, paediatric and maternity services
  - Critical care services for adults and babies, including a special care nursery
  - Operating theatres, delivery suites and assessment rooms
  - Palliative care and rehabilitation services
  - Mental health services
  - Satellite renal dialysis
  - New chemotherapy services
  - Oral health service
  - A range of ambulatory care and outpatient clinics
- 
- Internal road network and car parking for staff, patients and visitors
  - Signage
  - Site landscaping and open space improvements
  - Tree removal
  - Utility and services connection and amplifications works.

## 2.0 BRIEF SITE HISTORY AND DEVELOPMENT

The Maitland district was likely discovered well before Governor King directed an official survey of the area. The area was suitable for timber getting and agricultural settlement. In 1804 a permanent settlement was established in Newcastle to explore the resources in the Maitland area. From 1819 onwards Governor Macquarie allowed settlement of both free and convict settlers. The agricultural prosperity of the area increased as well as industrial development in the late 19<sup>th</sup> century which helped form smaller surrounding towns (Umwelt 2018, pp. 10-20).

John Baker of F Baker and Sons Pty Ltd immigrated to Australia in 1852 and established a brick manufacturing company in East Maitland. Prior to 1870 a small yard operated by Messrs Smith and Dawson specialised in hand moulded bricks on the western side of Metford Road (not on the study site). By 1882 Frank Turton of Turton and Sons purchased the five-acre yard for £178. Turton's East Maitland (Metford) brickworks company expanded and by c.1939 had extended the property to the eastern side of Metford Road on the subject site. The area was subjected to significant disturbance as a result of these activities which included: excavating and stripping the top soil almost completely, establishment of infrastructure such as vehicle access tracks and various buildings associated with the production of clay products. However, based on historical mapping and photographs there is no evidence in the historical record that suggests that any buildings or infrastructure was constructed within the project area. The area appears to be used for public use such as quarrying and vehicle movement but predominantly remained undeveloped land (Umwelt 2018, pp. 10-20).



### 3.0 ARCHAEOLOGICAL POTENTIAL

Umwelt's Historical Heritage Assessment in 2018 evaluated and addressed the potential for buildings on the subject area stating:

“Former buildings and structures associated with the use of the overall site as a brickworks were identified in the 2003 heritage assessment as being of heritage significance. In particular, the former brick press building was identified in the 2003 assessment of being high significance..... however, none of these structures were located within the current project area; the historical record strongly suggests that all former structures associated with the brickworks were located within the western precinct on the opposite side of Metford Road (on Lot 401), or to the north of the current project area and within an established building complex..... In addition to this, all former above ground buildings have been demolished in their entirety to at least the current ground level (Umwelt 2018, pp. 30-31).”

The assessment identified that the archaeological potential of remains pertaining to the brickworks in the project area was unlikely to exist on the study site, identified as being outside of the current site boundary.

## 4.0 ARCHAEOLOGICAL HERITAGE IMPACT

Since the development was proposed in 2018, the SSI2 designs has slightly altered the location of the proposed development (see Figure 6.1-Figure 6.4). The New Maitland Hospital building complex is being moved 15 metres to the east, situated closer to the disturbed quarry area, however still not within the bounds of the brick press building location. This area was used primarily for quarrying purposes or was otherwise maintained as undeveloped land (Umwelt 2018, p. 33).

The 2018 proposal required two stages of development; first stage being concept proposal for the proposed development, site clearance and preparatory works; second stage, the construction of the New Maitland Hospital. The new SSI2 design has the same proposed impacts as the 2018 assessment and requires minor and major excavation works which will remove all top soil and any existing archaeological material, should it survive. However, there are no listed or previously identified items or elements of built heritage significance known within or in close proximity to the new SSI2 project area (Umwelt 2018, p. 33). As discussed in the archaeological potential, the former brick press building was not located within the new proposed SSI2 design as per the Umwelt Historical Heritage Assessment from the Stage 1 EIS report (see Figure 6.1).

Reuse of material from the demolished brick press building in the New Maitland Hospital Project is not proposed as the former building is not located in the vicinity of the previous project area or the current SSI2 design location. Any salvaged materials/fabrics on Lot 401 (not on the study site) however, could be considered for use as part of future development of the Metford triangle.

Therefore, there are no definable impacts to relics occasioned by the changes for SSI2 designs. The CSR/PGH Brickworks press building remains assessed in 2018 by Umwelts as not being on the allotments subject to SSI2 and thus will not be impacted by the proposed works.

## 5.0 RECOMMENDATIONS

As previously discussed, the CSR/PGH Brickworks press building is not located or in the vicinity of the SSI2 design area and thus the proposed works for the New Maitland Hospital will not impact on any heritage items of known significance. No historical heritage constraints or opportunities have been identified for the current project area.

Therefore, the recommendation for the new proposed development remains unchanged as per Umwelts (2018), Heritage Assessment Report.

Please do not hesitate to contact myself if you have any further questions.

Regards



Martin Carney

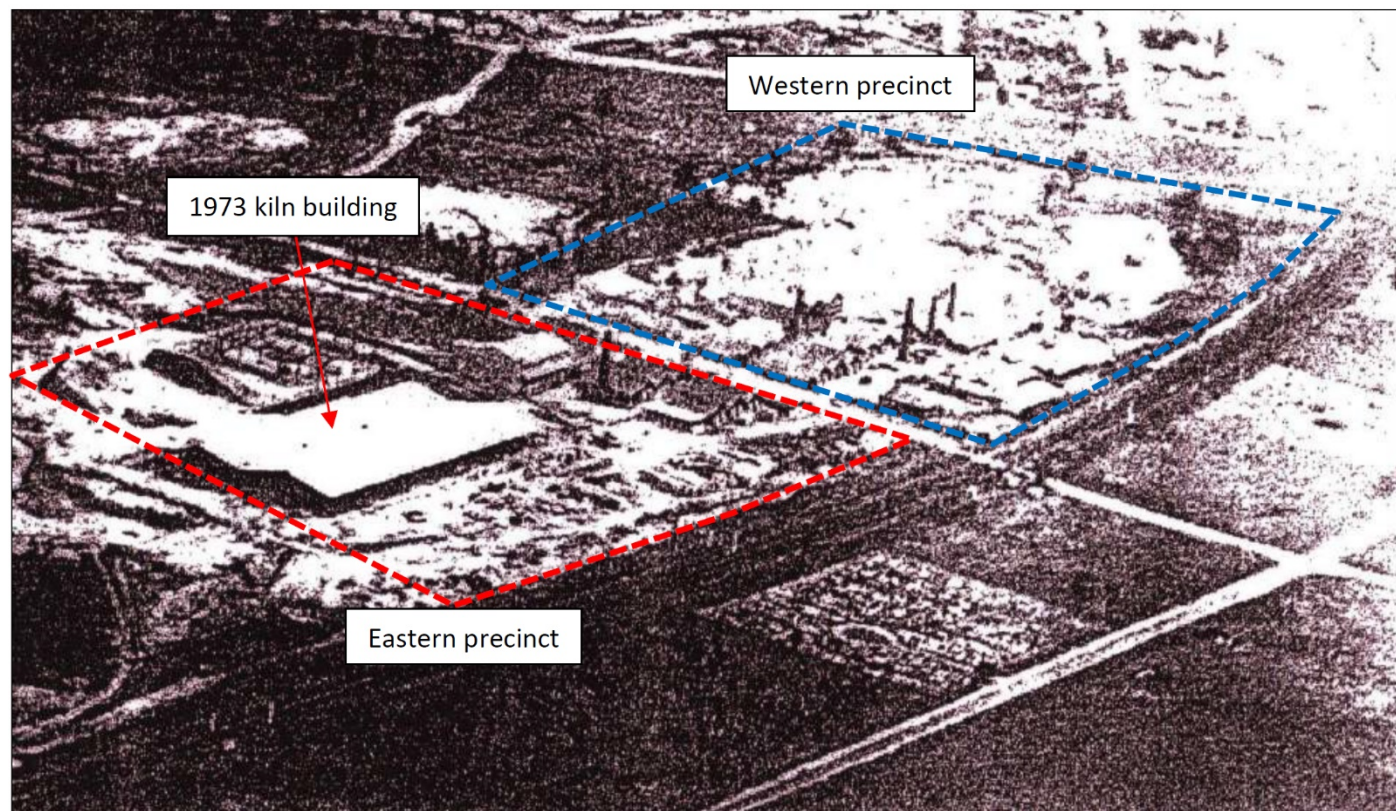
Director

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0411 727 395

## **6.0 APPENDICES**

### **6.1 EXTRACT FROM UMWELT 2018**



**Plate 3.5** View facing southwest across the buildings of Turton's Brickworks, 16 April 1973

The current project area is to the left of frame and not visible

PGH Digital Records, 16 April 1973

**Figure 6.1** Image showing original caption indicating the location of Turton's Brickworks is not on the project area.  
Umwelt (2018), p. 21





**Figure 6.2** Aerial photograph showing the approximate location of SSI 1 compared to SSI 2.  
Multiplex, 2019.





**Figure 6.3** The approved Stage 1 SS1 Concept (outlined in red) compared to the new SS12 design (outlined in blue). NSW Government, Planning & Environment, Approved Application No. SSI 9022 (07/11/2018).



## 2.5.1 SSI 9022 Approval Conditions

## Consistency with the EIS Concept Proposal and Architectural Design Statement

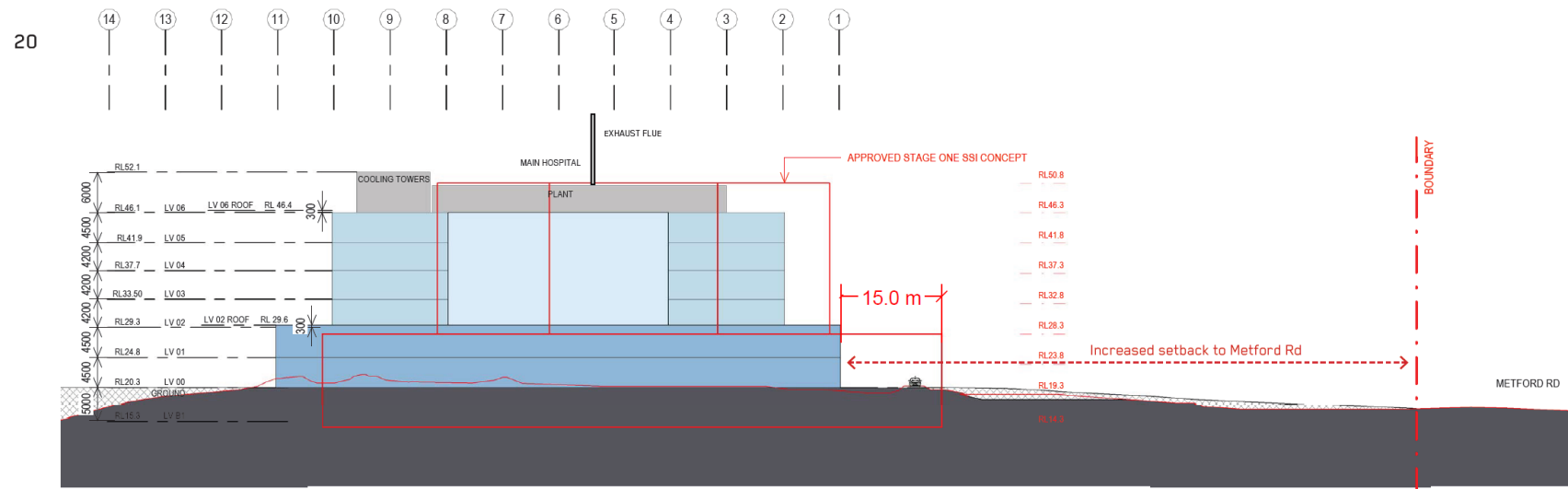
The design proposal is generally consistent with the massing described in the Concept Design and Architectural Design Statement prepared by fitzpatrick + partners in the EIS. Key developments that alter the building massing and that improve the amenity of visitors and staff are described below:

HEIGHT

Amendment of floor to floor heights and inclusion of previously excluded items from the documentation including rooftop plant

- Slight increase in the overall height of built form

## Proposed Massing North Elevation with EIS Envelope overlaid

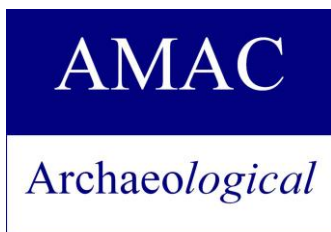


**Figure 6.4** Proposed Massing North Elevation with EIS Envelope Overlaid.  
Multiplex, 2019



## 15.13 Appendix 11-C: Surface Collection Report

**New Maitland Hospital  
Early Works  
Metford NSW  
(Maitland City Council LGA)**



**Version 3**  
**May 2019**



*Disclaimer*

*The veracity of this report is not guaranteed unless it is a complete and original copy.*

*This report may be inaccurate, incomplete, not original, or modified, if it appears in monochrome form and the signature below is a copy.*



*Benjamin Streat  
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**Cover Image**

Aerial of study area

Study area outlined in red. Six Maps, LPI Online (Accessed 7/11/18)

## **ACKNOWLEDGEMENT OF COUNTRY**

Multiplex would like to acknowledge the Traditional Custodians of the Maitland/Cessnock Area– the Wonaruah peoples– and pay respect to their cultural heritage, beliefs and continuing relationship with the land.

Multiplex would also like to acknowledge the post contact experiences of Aboriginal peoples who have attachment to the Hunter area.

“We pay our respect to the Elders – past, present and future – for they hold the memories, traditions, culture and hopes of Aboriginal Peoples in the area.”

Multiplex recognises the role of the registered Aboriginal parties in the management of the Aboriginal cultural heritage sites, landscape features and values of this project.

Multiplex would like to thank the Registered Aboriginal Parties for their participation in this project and for their valuable contribution to this Aboriginal Cultural Heritage Sub Plan which has been enriched by their willingness to share valuable aspects of their cultural knowledge especially in respect of Caring for Country

## DOCUMENT REVIEW HISTORY

Date	Document Status	Reviewed by
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12/02/2019	Comments received	MPX and CRBE
19/02/2019	Draft updated by B. Streat	Y. Pavincich
13/03/2019	Comments received	RAPs
01/05/2019	Draft Updated by S.J. Vasilakis	Y. Pavincich



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## EXECUTIVE SUMMARY

### **Introduction**

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Multiplex on behalf of Health Infrastructure NSW (HI) in October 2018, to prepare an Aboriginal Cultural Heritage Management Sub Plan including a surface collection methodology and report for registered Aboriginal Heritage Information Management System (AHIMS) site #38-4-1684, as part of the proposed New Maitland Hospital located at Lot 7314 DP 1162607 and part of Lot 401 DP 755237 at the consolidated address of Metford Road near East Maitland (Figures 1.1-1.2)

This sub management plan is in response to the recommendations outlined in Umwelt (2018) *Aboriginal Cultural Heritage Assessment Report; New Maitland Hospital, Metford, NSW*. This Aboriginal Cultural Heritage Management Sub Plan (ACHMP) has been compiled in consultation with the relevant Registered Aboriginal Parties (RAPs).

An Aboriginal Heritage Impact Permit (AHIP) and associated documentation is not needed as part of this development and its status as a State Significant Development. All such conditions and procedures which were of the domain of an AHIP have now been replaced by this ACHMP, as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999) and endorsed by the recommendations of the Aboriginal Cultural Heritage Assessment Report (Umwelt 2018).

### **Aboriginal Consultation**

Consultation, where possible, for this report has been undertaken in accordance with the Office of Environment and Heritage (OEH) and National Parks and Wildlife Act 1974: Part 6; *National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

An Aboriginal Cultural Heritage Assessment was prepared by Umwelt 2018 where full Aboriginal consultation has taken place as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Consultation has continued with registered stakeholders during the preparation of this ACHMP and its recommendations. All registered stakeholders will have the opportunity to review and comment on this document. All comments will be incorporated into the final version of this report.

### **Recommendations**

In order to further understand the nature of the study area - further recording as part of a surface collection of AHIMS site #38-4-1684 has been recommended and formulated after consultation, where possible, with RAPs, the proponent and the OEH.

The following plan of action aims to manage the archaeological and cultural heritage values of the study area;

- Consultation, where possible, with the Registered Aboriginal Parties (RAPs) should continue throughout the duration of the proposed development and be given the opportunity to review and comment on this report, with all comments being incorporated into the final version;

- AHIMS site #38-4-1684 was not located during a recent archaeological survey conducted by Umwelt (2018). However, SSI 9022 condition B17 requires measures to locate, document and salvage the previously identified artefact associated with AHIMS site #38-4-1684. This should be undertaken in full consultation, where possible, with the registered stakeholders. This surface collection is seen as Stage One of the further works program – see 5.3.1;
- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve multiple site registrations in order to accurately record the study area as a complex multi-layered site.
- Before any ground disturbance takes place as part of the construction all development staff, contractors and workers should be briefed as to the heritage status of the area and their responsibilities in ensuring preservation of the said area. This brief should take place prior to works commencing on site. They should also be informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development.

**Should any Aboriginal archaeological deposits or objects be located during the development;**

- all excavation in the vicinity of any objects and/or deposits shall cease immediately and the area secured;
- OEH and a suitably qualified archaeologist should be notified so the significance of the said deposits or objects can be evaluated and presented in a report and the study area recorded as an archaeological site;
- the archaeological deposits or objects will require the production of an Aboriginal Cultural Heritage Management Plan, of which the way forward will be subject to the recommendations of this report in consultation with OEH, prior to the development continuing.

**In the event of human skeletal remains being uncovered at any stage;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately and the area secured;
- The NSW Police and OEH's Enviroline are to be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and Mindaribba Local Aboriginal Land Council (MLALC) will identify the appropriate course of action.

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Multiplex on behalf of Health Infrastructure NSW (HI) in October 2018, to prepare an Aboriginal Cultural Heritage Sub Plan including a surface collection methodology for registered AHIMS site #38-4-1684, as part of the proposed New Maitland Hospital located at Lot 7314 DP 1162607 and part of Lot 401 DP 755237 at the consolidated address of Metford Road near East Maitland (Figure 1.1-1.2)

This Surface Collection Report (SCR) has been compiled in consultation where possible with the relevant Registered Aboriginal Parties (RAPs).

An Aboriginal Heritage Impact Permit (AHIP) and associated documentation was not required as part of this development and its status as a State Significant Development. All such conditions and procedures which were in the domain of an AHIP have now been replaced by this ACHMP as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999) and endorsed by the recommendations of the Aboriginal Cultural Heritage Assessment Report (Umwelt 2018).

### 1.2 STUDY AREA

The study site is that piece of land known as Lot 7314 DP 1162607 as well as incorporating part of lot 4041 DP 755237. The study site is located along Metford Road, Metford, New South Wales, of the Parish of Maitland, County of Northumberland.

Lot	Deposited Plan
7314	1162607
401	755237

The development area is located within the south-western portion of the “Metford Triangle” site comprising of the old brickworks and quarry which consists of the following lots; Lot 7314 DP 1162607, Part Lot 3 DP 1091727 and Lots 266 and 401 DP 755237.

### 1.3 SCOPE

The aims of this SCR is to fulfil part of condition B17 (g) of SSI 9022.

B17 (g):

*a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long-term management of Aboriginal objects.*

### 1.4 AUTHOR IDENTIFICATION

The analysis of the archaeological background and the reporting were undertaken by Mr. Benjamin Streat (BA, Grad Dip Arch Her, Grad Dip App Sc), archaeologist and Director of Streat Archaeological Services Pty Ltd in association with Ms. Yolanda Pavincich (B.



Arch, Grad Dip Cul Her) and Steven J. Vasilakis (B. Arch. Hons.), under the guidance of Mr. Martin Carney archaeologist and Managing Director of AMAC Group.

## **1.5 ACKNOWLEDGEMENTS**

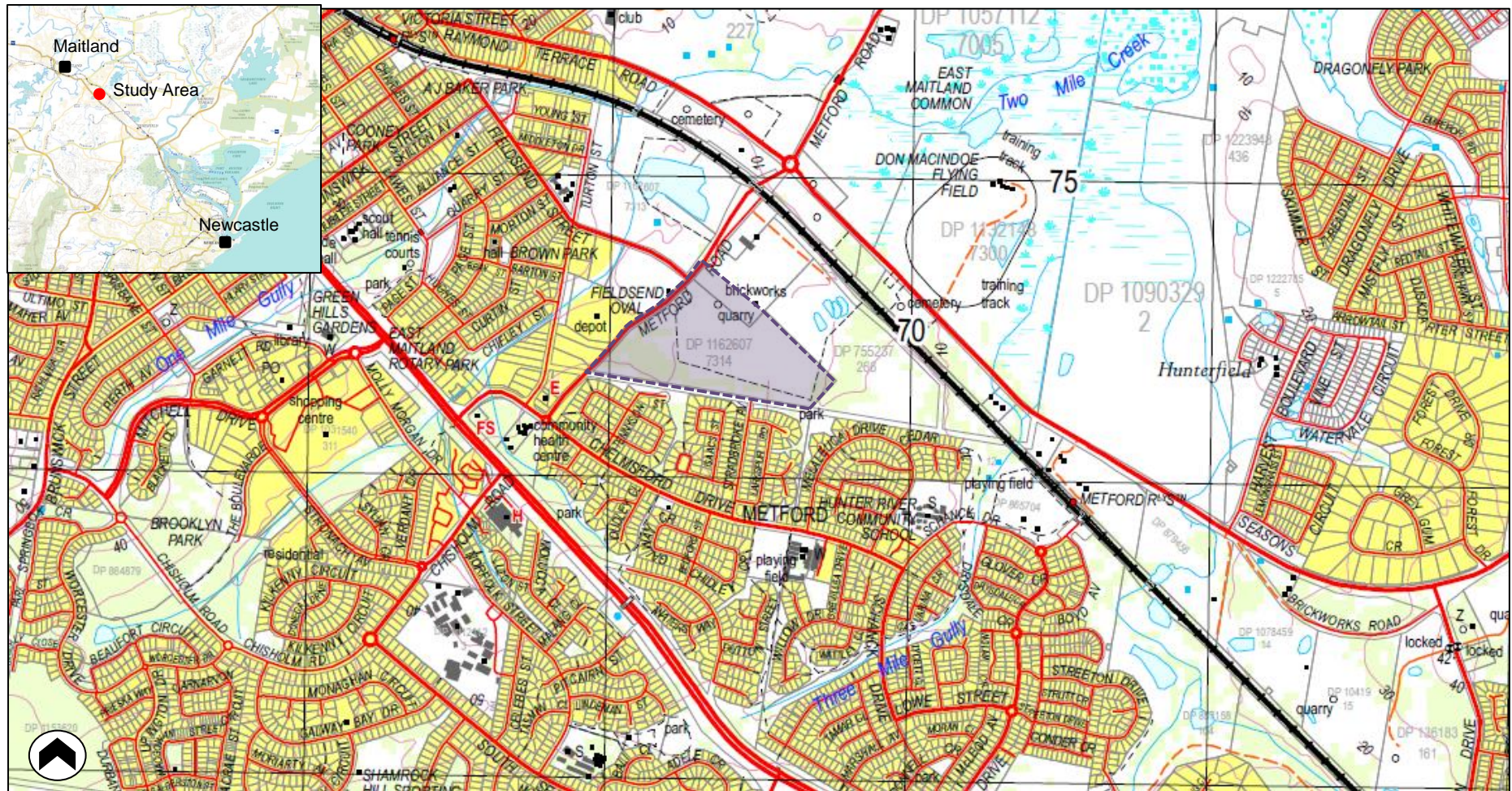
The author would like to thank the following for advice and/or input into this assessment:

- Mr. James Smyth of Multiplex
- A1 Indigenous Services
- AGA Services
- Amanda Hickey Cultural Services
- Awabakal Descendants Traditional Owners
- Awabakal Traditional Owners Aboriginal Corp.
- Cacatua General Services
- Culturally Aware
- DFTV Enterprises
- Divine Diggers Aboriginal Cultural Consultants
- Gidawaa Walang Cultural Heritage Consultancy
- Hunter Traditional Owner
- Jarban & Murgrebea
- Jumbunna Traffic Management Group Pty Ltd
- Kawul Cultural Services
- Mr. Kevin Duncan
- Lower Hunter Aboriginal Incorporated
- Lower Hunter Wonnarua Cultural Services
- Mr. Luke Hickey
- Mindaribba Local Aboriginal Land Council
- Murra Bidgee Mullangari Aboriginal Corporation
- Wallagen Cultural Services
- Widescope Group
- Wonnarua Nation Aboriginal Corporation
- Yinarr Cultural Services



**Figure 1.1** Aerial with site mark-up.  
Site mark-up in red. Six Maps, LPI Online (Accessed 07/11/18).





**Figure 1.2** Topographic map with site location.  
Site mark-up in purple. Six Maps, LPI Online, (accessed 07/11/2018).

## **2.0 LEGISLATIVE CONTEXT AND STATUTORY CONTROLS**

This section of the report provides a brief outline of the relevant legislation and statutory instruments that protect Aboriginal archaeological and cultural heritage sites within the state of New South Wales. Some of the legislation and statutory instruments operate at a federal or local level and as such are applicable to Aboriginal archaeological and cultural heritage sites in New South Wales. This material is not legal advice and is based purely on the author's understanding of the legislation and statutory instruments. This document seeks to meet the requirements of the legislation and statutory instruments set out within this section of the report.

### **2.1 COMMONWEALTH HERITAGE LEGISLATION AND LISTS**

One piece of legislation and two statutory lists and one non-statutory list are maintained and were consulted as part of this report: The National Heritage List and the Commonwealth Heritage List.

#### **2.1.1 Environmental Protection and Biodiversity Conservation Act 1999**

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) offers provisions to protect matters of national environmental significance. This act establishes the National Heritage List and the Commonwealth Heritage List which can include natural, Indigenous and historic places of value to the nation. This Act helps ensure that the natural, Aboriginal and historic heritage values of places under Commonwealth ownership or control are identified, protected and managed (Australian Government 1999).

#### **2.1.2 National Heritage List**

The National Heritage List is a list which contains places, items and areas of outstanding heritage value to Australia; this can include places, items and areas overseas as well as items of Aboriginal significance and origin. These places are protected under the Australian Government's EPBC Act.

#### **2.1.3 Commonwealth Heritage List**

The Commonwealth Heritage List can include natural, Indigenous and historic places of value to the nation. Items on this list are under Commonwealth ownership or control and as such are identified, protected and managed by the Federal Government.

### **2.2 NEW SOUTH WALES STATE HERITAGE LEGISLATION AND LISTS**

The state (NSW) based legislation that is of relevance to this assessment comes in the form of the acts which are outlined below.

#### **2.2.1 National Parks and Wildlife Act 1974**

The NSW National Parks and Wildlife Act 1974 (as amended) defines Aboriginal objects and provides protection to any and all material remains which may be evidence of the Aboriginal occupation of lands continued within the state of New South Wales. The relevant sections of the Act are sections 84, 86, 87 and 90.



An Aboriginal object, formerly known as a relic is defined as:

*‘any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’* (NSW Government, 1974).

It is an offence to harm or desecrate an Aboriginal object or places under Part 6, Section 86 of the NPW Act:

Part 6, Division 1, Section 86: Harming or desecrating Aboriginal objects and Aboriginal places:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*
- (b) *in the case of a corporation—2,000 penalty units.*

- (3) *For the purposes of this section, **circumstances of aggravation** are:*

- (a) *that the offence was committed in the course of carrying out a commercial activity, or*
- (b) *that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.*

*This subsection does not apply unless the circumstances of aggravation were identified in the court attendance notice or summons for the offence.*

- (4) *A person must not harm or desecrate an Aboriginal place.*

*Maximum penalty:*

- (a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*
- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*
- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*
- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*
- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*

### 2.2.2 Environmental Planning & Assessment Act 1979

*The Environmental Planning and Assessment Act 1979 (EP&A Act)* states that environmental impacts of proposed developments must be considered in land use planning procedures. Four parts of this act relate to Aboriginal cultural heritage.

- Part 3, divisions 3, 4 and 4A refer to Regional Environmental Plans (REP) and Local Environmental Plans (LEP) which are environmental planning instruments and call for the assessment of Aboriginal heritage among other requirements.
- Part 4 determines what developments require consent and what developments do not require consent. Section 79C calls for the evaluation of

*The likely impacts of that development, including environmental impacts on both the natural and built environments and the social and economic impacts in the locality (NSW Government 1979).*

- Part 5 of this Act requires that impacts on a locality which may have an impact on the aesthetic, anthropological, architectural, cultural, historic, scientific, recreational or scenic value are considered as part of the development application process (NSW Government, 1979).

### 2.2.3 The Aboriginal Land Rights Act 1983

The NSW *Aboriginal Land Rights Act 1983* (ALR Act), administered by the NSW Department of Aboriginal Affairs, established the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). The ALR Act requires these bodies to:

- take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law;
- promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

These requirements recognise and acknowledge the statutory role and responsibilities of New South Wales Aboriginal Land Council and Local Aboriginal Land Councils. The ALR Act also establishes the Office of the Registrar whose functions include but are not limited to, maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners.

Under the ALR Act the Office of the Registrar is to give priority to the entry in the Register of the names of Aboriginal persons who have a cultural association with:

- lands listed in Schedule 14 to the NPW Act;
- lands to which section 36A of the ALR Act applies (NSW Government, 1974 & DECCW 2010).

### 2.2.4 The Native Title Act 1993

The *Native Title Act 1993* (NTA) provides the legislative framework to:

- recognise and protect native title;
- establish ways in which future dealings affecting native title may proceed, and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title;
- establish a mechanism for determining claims to native title;

- provide for, or permit, the validation of past acts invalidated because of the existence of native title.

The National Native Title Tribunal has a number of functions under the NTA including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims (NSW Government, 1974 & DECCW 2010).

### **2.2.5 New South Wales Heritage Register and Inventory 1999**

The State Heritage Register is a list of places and objects of particular importance to the people of NSW. The register lists a diverse range of over 1,500 items, in both private and public ownership. Places can be nominated by any person to be considered to be listed on the Heritage register. To be placed an item must be significant for the whole of NSW. The State Heritage Inventory lists items that are listed in local council's local environmental plan (LEP) or in a regional environmental plan (REP) and are of local significance.

### **2.2.6 Register of Declared Aboriginal Places 1999**

The NPW Act protects areas of land that have recognised values of significance to Aboriginal people. These areas may or may not contain Aboriginal objects (i.e. any physical evidence of Aboriginal occupation or use). Places can be nominated by any person to be considered for Aboriginal Place gazettal. Once nominated, a recommendation can be made to EPA/OEH for consideration by the Minister. The Minister declares an area to be an 'Aboriginal place' if the Minister believes that the place is or was of special significance to Aboriginal culture. An area can have spiritual, natural resource usage, historical, social, educational or other type of significance. Under section 86 of the NPW Act it is an offence to harm or desecrate a declared Aboriginal place. Harm includes destroying, defacing or damaging an Aboriginal place. The potential impacts of the development on an Aboriginal place must be assessed if the development will be in the vicinity of an Aboriginal place (DECCW 2010).

## **2.3 LOCAL PLANNING INSTRUMENTS**

### **2.3.1 Maitland Local Environmental Plan 2011**

The Maitland Local Environmental Plan was prepared by Maitland City Council in 2011. Section 5.10 deals with Heritage Conservation. The plan states in Clause 1:

*The objectives of this clause are as follows:*

- (a) to conserve the environmental heritage of Maitland,*
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
- (c) to conserve archaeological sites, and*
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.*

*It is subsections c and d of this clause which are of relevance to this development.*

*The plan states in Clause 2, that consent is required when:*

- (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):*
  - (i) a heritage item,*



- (ii) an Aboriginal object,
  - (iii) a building, work, relic or tree within a heritage conservation area.
- (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item.
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
- (d) disturbing or excavating an Aboriginal place of heritage significance.
- (e) erecting a building on land:
  - (i) on which a heritage item is located or that is within a heritage conservation area, or;
  - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.
- (f) subdividing land:
  - (i) on which a heritage item is located or that is within a heritage conservation area, or;
  - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

*In addition to this Clause 8 states:*

*The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:*

- (a) *consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and*
- (b) *notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration.*

*This report is fulfilling section 8 (a) of this clause.*

### **2.3.2 Maitland Development Control Plan 2011**

The Maitland Development Control Plan was prepared by Maitland City Council in 2011. Part F – Urban Release Plans -Section 1.7 deals with Aboriginal Heritage. The plan states;

#### **1.7 Aboriginal Heritage**

##### **Objectives**

1. *Heritage items, buildings with heritage significance and conservation areas are protected.*

##### **Development controls**

1. *Development Applications shall be supported by appropriate Aboriginal Heritage Impact Studies to determine the presence and locations of any Aboriginal artefacts or sites of significance, including methods for providing any necessary buffers within the site. Reference should also be made to the Indigenous Archaeological*

*Due Diligence Assessment completed by McCardle Cultural Heritage Pty Ltd, which informed the rezoning of the Farley URA.*

2. Development Applications shall be referred to NSW Office of Environment and Heritage, Mindaribba LALC and Lower Hunter Wonnarua LALC for comment as part of the public and government agency exhibition process for assessing Development Applications.

## **2.4 DUE DILIGENCE CODE OF PRACTICE FOR THE PROTECTION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES**

This assessment conforms to the parameters set out in *the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* states that if;

- a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely, then further archaeological investigation and impact assessment is necessary.

## **2.5 CODE OF PRACTICE FOR ARCHAEOLOGICAL INVESTIGATION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES**

Any further work resulting from recommendations should be carried out conforming to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

## **2.6 GUIDELINES**

This report has been carried out in consultation with the following documents which advocate best practice in New South Wales:

- Aboriginal Archaeological Survey, Guidelines for Archaeological Survey Reporting (NSW NPWS 1998);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999);
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).

## 2.7 UMWELT ABORIGINAL CULTURAL HERITAGE ASSESSMENT RECOMMENDATION SUMMARY (2018)

This sub management plan is in response to the recommendations outlined in Umwelt (2018) *Aboriginal Cultural Heritage Assessment Report; New Maitland Hospital, Metford, NSW* as well as below;

- *Should the project be approved, HI, in consultation with the registered Aboriginal parties, should develop an Aboriginal Cultural Heritage Management Plan for the project that is prepared with reference to the below requirements and includes provision for the long-term management of Aboriginal objects that may be salvaged from the project area.*
- *HI should advise relevant employees and contractors that it is an offence under Section 86 of the NPW Act to harm or desecrate an Aboriginal object.*
- *Prior to the commencement of Stage 1 works, surface collection should be conducted at site AHIMS#38-4-1684. The surface collection of 38-4-1684 would involve revisiting the site location to see if the potential post depositional location of the artefact can be identified. If identified, a hand held differential GPS would be used to record the location of the isolated find. A photographic record of the area and the location of the isolated find, if present, would also be undertaken and the artefact would be collected and recorded in accordance with the OEH requirements. Once the site has been salvaged and the isolated find has been analysed, HI should submit an Aboriginal Site Impact Recording Form (ASIR Form) in accordance with the OEH requirements.*
- *Should potential Aboriginal objects (other than the discussed in this assessment) be identified, works would cease within 10 metres of the potential object and the area would be cordoned off for 10 meters from the object/s. The object/s should be assessed by an appropriately qualified person to determine whether it is an Aboriginal object. If it is not an Aboriginal object, works may proceed. If it is an Aboriginal object (excluding skeletal remains), it should be subject to surface collection as described above.*
- *Should suspected human skeletal material be identified at any time during the project works within the immediate vicinity of the skeletal material should cease and the area would be cordoned off for 10 meters from all edges of the skeletal material. The skeletal material should be inspected to determine whether it is human or animal. If necessary, advice would be sought from a forensic specialist. If the skeletal material is human, the NSW Police and OEH would be contacted. No excavation will proceed until an appropriate course of action has been determined in consultation with NSW Police, OEH and the Aboriginal parties. If the skeletal material is not human, works may proceed.*

## 2.8 SSI REQUIREMENTS

The conditions that relate to the forthcoming Aboriginal Cultural Heritage Management Sub Plan and the accompanying Aboriginal Cultural Heritage Management Sub Plan: Surface Collection Methodology (this document) are set out below. This document seeks to fulfil conditions B17. (a), (b), (c) and (d), the remainder will be fulfilled by the accompanying Aboriginal Cultural Heritage Management Sub Plan.

B17. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:

- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;*
- (b) be submitted to the Planning Secretary prior to construction of any part of the development;*
- (c) measures to locate, document and salvage the previously identified artefact;*
- (d) procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works;*
- (e) protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations;*
- (f) a requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project; and*
- (g) a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long-term management of Aboriginal objects.*

### 3.0 DEVELOPMENT ACTIVITY

The proposed development is for a new hospital which will encompass the northern corner of the site, fronting Metford Road (Figure 3.1). The new building will be seven storeys and will include a lower ground level. It will consist of a number of facilities including a helipad towards the eastern end of the building as well as spaces catering for the following departments;

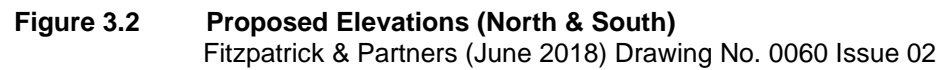
- Emergency services, Emergency Short Stay Unit (ESSU) and Psychiatric Emergency Care;
- Intensive Care and Critical Care units;
- Enhanced medical and surgical inpatient services;
- Peri operative suite, including enhanced day surgery;
- Maternity services and delivery suites, including assessment rooms;
- Paediatric and adolescent services;
- Expanded imaging and support services, including a cardiac catheterization lab;
- Day chemotherapy;
- Mental Health, including an acute inpatient unit;
- Rehabilitation; and;
- Ambulatory care and outpatient clinics.

Due to the undulated and sloped nature of the landscape as an old brickworks and quarry site, significant grounds work will be required in areas to accommodate the lower ground (RL 14.8). The ground level sitting at RL19.3 (Figures 3.2-3.3).

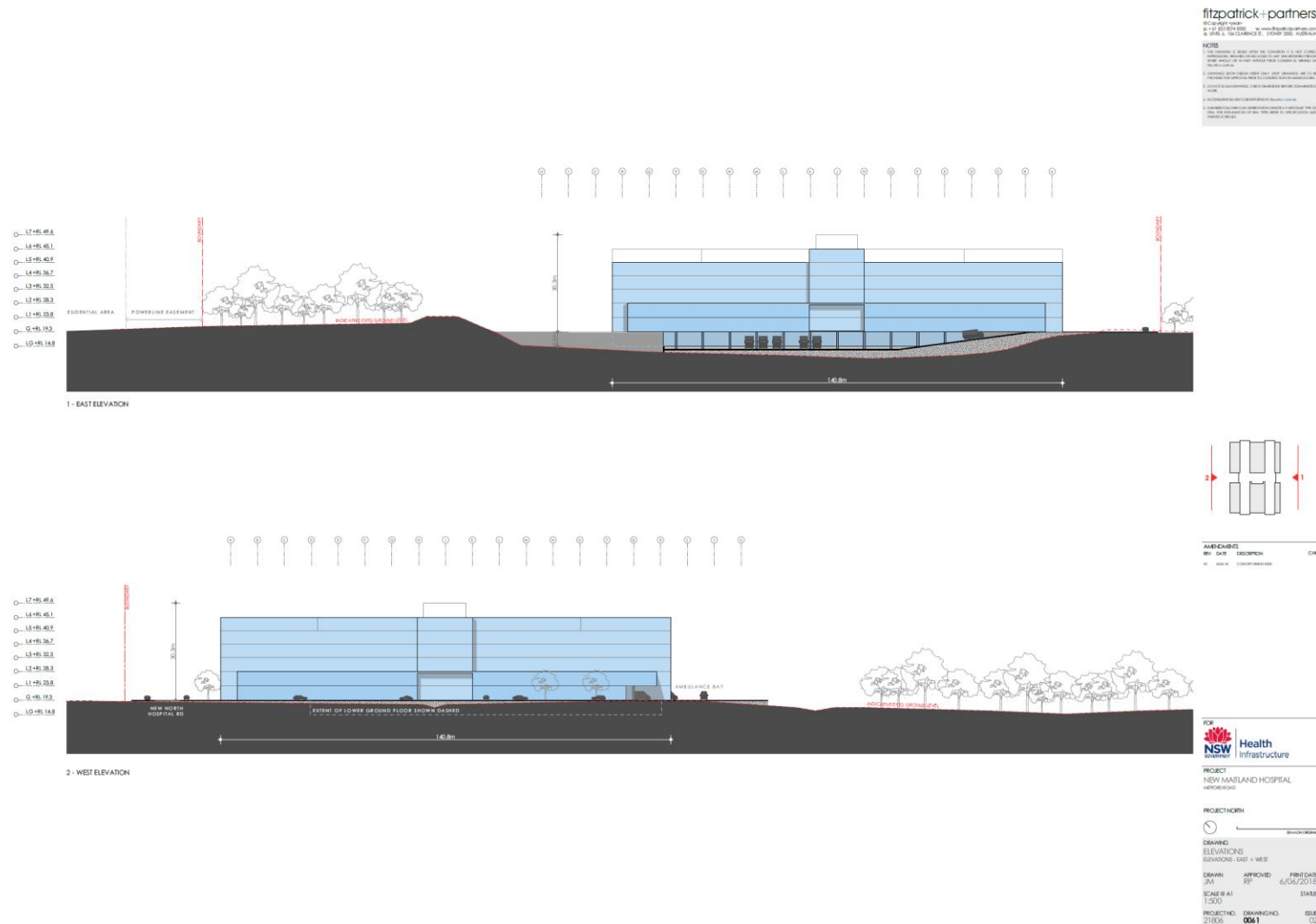
The proposed development zone and its influence has the potential to impact isolated Aboriginal artefact AHIMS# 38-4-1648 which is located towards the southern end of the site. The proposed development will disturb the ground surface.



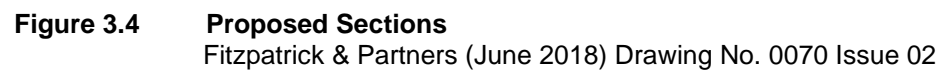
**Figure 3.1 Proposed Site Plan**  
Fitzpatrick & Partners (June 2018) Drawing No. 0010 Issue 02







**Figure 3.3** Proposed Elevations (East & West)  
Fitzpatrick & Partners (June 2018) Drawing No. 0061 Issue 02



## 4.0 ABORIGINAL CONSULTATION

Consultation, where possible, for this document was undertaken in accordance within the *Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). However, some deviation from these guidelines has occurred as a result of the implementation of Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI 90022, (Umwelt 2018).

### 4.1 OVERVIEW OF ABORIGINAL COMMUNITY CONSULTATION

Consultation, where possible, for this report has been undertaken in accordance with the *Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

An Aboriginal Cultural Heritage Assessment was prepared by Umwelt (2018) where full Aboriginal consultation has taken place as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Consultation has continued with registered stakeholders during the preparation of this collection plan and its recommendations. All registered stakeholders will have the opportunity to review and comment on this document. All comments have been incorporated into the final version of this report.

## 4.2 CONSULTATION SUMMARY

Registered Aboriginal Parties		
Name/Organisation	Contact	Contact Details
A1 Indigenous Services	Carolyn Hickey	cazadirect@live.com
AGA Services	Ashley Sampson	cacatua4service@tpg.com.au
Amanda Hickey Cultural Services	Amanda Hickey	amandahickey@live.com
Awabakal Descendants Traditional Owners	Peter Leven	peterleven@y7mail.com
Awabakal Traditional Owners Aboriginal Corp.	Kerrie Brauer	kerrie@awabakal.com.au
Cacatua General Services	George Sampson	cacatua4service@tpg.com.au
Culturally Aware	Tracey Skene	tracey.yurwang@gmail.com
DFTV Enterprises	Derrick Vale	deckavale@hotmail.com
Divine Diggers Aboriginal Cultural Consultants	Deidre Perkins	dedemaree3@hotmail.com
Gidawaa Walang Cultural Heritage Consultancy	Craig Horn	gidawaa.walang@hotmail.com
Hunter Traditional Owner	Paulette Ryan	14 Barton Ave. Singleton Heights NSW 2330
Jarban & Murgrebea	Les Atkinson	les.atkinson@hotmail.com
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	jtmanagement@live.com.au
Kawul Cultural Services	Vicky Slater	vicki.slater@hotmail.com
Kevin Duncan	Kevin Duncan	Kevin.duncan@bigpond.com
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com
Lower Hunter Wonnarua Cultural Services	Tom Miller	tn.miller@southernphone.com.au
Care of Hunter Traditional Owner	Luke Hickey	hvcs@bigpond.com
Mindaribba Local Aboriginal Land Council	Steve Campbell	1A Chelmsford Drive, Metford NSW 2323
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson	murrabidgeemullangari@yahoo.com.au
Wallagen Cultural Services	Maree Waugh	Mareewaugh30@hotmail.com
Widescope Group	Steven Hickey	widescope.group@live.com
Wonnarua Nation Aboriginal Corporation	Laurie Perry	wonnarua@bigpond.com
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarrculturalservices@bigpond.com

### ACHMP Surface Collection Methodology (11/12/2018-08/01/2019)

Name/Organisation	Contact Person	Subject	Date Sent	Method
All RAPs	AMAC/Steven J. Vasilakis	Dispatch ACHMP Methodology	11/12/2018	Email/Post
AMAC/S.J. Vasilakis	Amanda Hickey	Approves ACHMP Methodology	20/12/2018	Email
AMAC/S.J. Vasilakis	Les Atkinson	Approves ACHMP Methodology	18/12/2018	Email
AMAC/S.J. Vasilakis	Ryan Johnson	Approves ACHMP Methodology	23//12/2018	Email
AMAC/S.J. Vasilakis	Steven Hickey	Approves ACHMP Methodology	13/12/2018	Email
AMAC/S.J. Vasilakis	Kevin Duncan	Approves ACHMP Methodology	08/01/2019	Email

### Onsite Surface Collection (08/01/2019)

Name/Organisation	Contact Person	Subject	Date Sent	Method
Amanda Hickey	AMAC/Steven J. Vasilakis	Onsite Available	07/01/2019	Email
David Ahoy	AMAC/Steven J. Vasilakis	Onsite Available	07/01/2019	Email
Les Atkinson	AMAC/Steven J. Vasilakis	Onsite Available	07/01/2019	Email

### Surface Collection Report (05/03/2019-02/04/2019)

Name/Organisation	Contact Person	Subject	Date Sent	Method
All RAPs	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	05/03/2019	Email/Post
AMAC/Steven J. Vasilakis	Jarban – Les Atkinson	ACHMP Report – Approves Recommendations	06/03/2019	Email
A1 Indigenous/ Carolyn Hickey	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
AGA Services / Ashley Sampson	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Amanda Hickey Cultural Services/ Amanda Hickey	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Awabakal DTO/ Pete Leven	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Awabakal TOAC/ Kerrie Brauer	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone

Name/Organisation	Contact Person	Subject	Date Sent	Method
Cacatua General Services/ George Sampson	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Culturally Aware/ Tracey Skene	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
DFTV Enterprises/ Derrick Vale	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Divine Diggers/ Deidre Perkins	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Gidawaa/ Craig Horn	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Hunter Traditional Owner/ Paulette Ryan	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Not Contactable – Wrong Address No Phone/Email
Jumbunna TMG/ Norm Archibald	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Kawul Cultural Services/ Vicky Slater	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Lower Hunter Aboriginal Inc./David Ahoy	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Lower Hunter Wonnarua CS/ Tom Miller	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Care of Hunter TO/ Luke Hickey	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone Disconnected Email Bounced
Mindaribba LALC/ Steve Campbell	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone Disconnected Email Bounced
Murra Bidgee/ Ryan Johnson	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Wallagen Cultural Services/ Maree Waugh	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	No Phone Number
Widescope Group/ Steven Hickey	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	12/03/2019	Phone
Wonnarua Nation Aboriginal Corp./ Laurie Perry	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	No Phone Number



Name/Organisation	Contact Person	Subject	Date Sent	Method
Yinarr Cultural Services/ Kathleen Steward-Kinchela	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
Kevin Duncan	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	12/03/2019	Phone – Left Message
AMAC/Steven J. Vasilakis	Murra Bidgee – Ryan Johnson	ACHMP Report – Approves Recommendations	13/03/2019	Email
AMAC/Steven J. Vasilakis	Gidawaa – Craig Horn	ACHMP Report – No Comments	14/03/2019	Email
AGA Services/ Ashley Sampson	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Wrong Number
Awabakal DTO/ Pete Leven	AMAC/Steven J. Vasilakis	ACHMP Report – Approves Recommendations	03/04/2019	2 <sup>nd</sup> Phone Call
Culturally Aware/ Tracey Skene	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Left Message
DFTV Enterprises/ Derrick Vale	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Left Message
Kawul Cultural Services/ Vicky Slater	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Left Message
Kevin Duncan	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Advised that an email will be sent
Yinarr Cultural Services/ Kathleen Steward-Kinchela	AMAC/Steven J. Vasilakis	Dispatch ACHMP Report	03/04/2019	2 <sup>nd</sup> Phone Call – Left Message
AMAC/Steven J. Vasilakis	Kevin Duncan	ACHMP Report – Approves Recommendations	04/04/2019	Email

## 4.3 ACHMP SURFACE COLLECTION METHODOLOGY RESPONSES

### 4.3.1 Amanda Hickey Cultural Services



Thu 20/12/2018 8:10 PM

Amanda Hickey <amandahickey@live.com.au>

Re: New Maitland Hospital - Tender & Cover Letter

To: Steven John Vasilakis

Cc: 'Benjamin Streat (AMAC)'; amacarch@gmail.com

Hi Steven

Thank you for your email

AHCS is very happy with the ACHMP.

And would like to be apart onsite field works..

AHCS holds cultural knowledge of the land and able to determine indigenous artefacts.

Thank you

Have a great Christmas

Amanda Hickey AHCS

### 4.3.2 Kevin Duncan



Tue 8/01/2019 9:28 AM

Kevin Duncan <kevin.duncan@bigpond.com>

RE: New Maitland Hospital - ACHMP Meth

To: Steven John Vasilakis

Hi Steven, Thank you Having read the Surface Collection Methodology I agree with the proposal and would like my registration to acknowledge my Traditional connections to the Gomeri and Awaba Peoples, Thanks Kevin

### 4.3.3 Jarban & Mugrebea



Tue 18/12/2018 1:05 PM

Leslie Atkinson <les.atkinson@hotmail.com>

Re: New Maitland Hospital

To: Steven John Vasilakis

You replied to this message on 23/12/2018 7:24 AM.

Hi Steve , here at jarban + Mugrebea agree with the metidology being undertaken for the new Maitland hospital

I will go through the tender document and e amil it back as soon as i can scan and copy all the relvent details

Les Atkinson (jarban )

#### 4.3.4 Murra Bidgee Mullangari Aboriginal Corp.



Sun 23/12/2018 11:44 AM

Ryan Johnson <murrabidgeemullangari@yahoo.com.au>

RE: New Maitland Hospital - ACHMP Meth

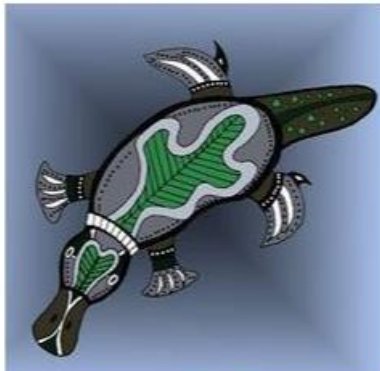
To: 'Steven John Vasilakis'

Hi Steve,

I have read the project information and methodology for the above project, I endorse the recommendations made.

Kind regards

Ryan Johnson | Murra Bidgee Mullangari



Aboriginal Corporation Cultural Heritage

#### 4.3.5 Widescope Indigenous Group



Thu 13/12/2018 12:17 PM

WIDESCOPE . <widescope.group@live.com>

RE: New Maitland Hospital - ACHMP Meth

To: Steven John Vasilakis

Hi Steven,

I have reviewed and seek to endorse the process outlined in the Surface Collection Methodology.

Thank you  
Steven Hickey

*Happy Holidays*

## 4.4 ACHMP SURFACE COLLECTION REPORT RESPONSES

### 4.4.1 Gidawaa Walang Cultural Heritage Consultancy



Thu 14/03/2019 7:45 AM

Gidawaa Walang Cultural Heritage Consultancy <gidawaa.walang@hotmail.com>

Re: Maitland Hospital - Report

To Steven John Vasilakis

You replied to this message on 14/03/2019 8:27 AM.

Hi Steve,

I have no comments for the surface collection report.

Thanks

Craig

### 4.4.2 Kevin Duncan



Thu 4/04/2019 6:45 PM

Kevin Duncan <kevin.duncan@bigpond.com>

Re: New Maitland Hospital - ACHMP Meth

To Steven John Vasilakis

Yaama, In relation to the recent requirement of the OEH Aboriginal Heritage impact survey and review for the proposed Maitland Hospital development. As a Traditional custodian of these cultural lands where my ancestors have lived and seasonally traversed for centuries I believe naturally that evidence of artefacts may be prevalent or located during construction. With any located or findings of any Aboriginal Heritage that proper legal Cultural process be followed and Aboriginal custodians being contacted for determining. All Aboriginal Heritage is considered sacred and special to our people and we reserve the respect and right to protect and preserve our cultural interests. Thank you Yaloo In Respect and Peace Kevin Duncan Awaba Peoples

### 4.4.3 Jarban & Mugrebea



Wed 6/03/2019 11:12 AM

Leslie Atkinson <les.atkinson@hotmail.com>

Re: Maitland Hospital - Report

To Steven John Vasilakis

Hi Steve ,

we at Jarban and Mugrebea thank you for the assesment report , as we were only invovled in a service collection (page 35/36 )which we could not locate at the time , we are gratefull for the recomendadtion on the site to be limited and not impacted on

Thanks

Les (Jarban)

#### 4.4.4 Murra Bidgee Mullangari Aboriginal Corp.



Wed 13/03/2019 8:45 AM

Ryan Johnson <murrabidgeemullangari@yahoo.com.au>

Re: Maitland Hospital - Report

To: Steven John Vasilakis

 You replied to this message on 14/03/2019 8:26 AM.

---

Hi Steve

I have read the project information and report for the above project. I endorse the recommendations made by AMAC.

Kind regards

Ryan Johnson

## 5.0 PLAN OF ACTION

The objectives of the further works program are to systematically record and recover artefact(s) and information relating to the soil landscape. The resulting data will aid in our understanding of the landscape patterning and its relationship with the archaeological record. As no other areas of cultural or archaeological significance have as yet been identified within the boundaries of the study area, to place any protocols to manage such resources is impossible. The management of such resources would first require knowledge of such resources and knowledge of such resources can only be obtained after discovery and subsequent evaluation of the resources by the archaeologist in consultation with the RAPs. The unexpected finds procedure covers the event of the discovery of such resources in sections 5.4 and 5.5 of this report.

### 5.1 GENERAL ACHMP PARAMETERS

- The proposed development has approved status as a State Significant Infrastructure (SSI 9022) and therefore any recommendations of collection will be in compliance with the requirements of the Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI 9022.
- All parties (Multiplex, AMAC, SAS Pty Ltd, RAP's) have been informed and understand that an Aboriginal Heritage Impact Permit (AHIP) is not needed as part of this development. All such conditions and procedures which were of the domain of an AHIP have now been replaced by this ACHMP as required as part of Development Consent (Section 89E Environmental Planning and Assessment Act 1999), SSI 9022.
- This ACHMP sets out clear procedures for the archaeological collection, recording, reporting and management of all expected and unexpected Aboriginal archaeological/cultural objects and deposits.
- All participants shall follow Safe Work Method Statements (SWMS) as agreed to as part of the site induction process.
- All RAPs and archaeologists shall provide relevant, adequate and up to date insurance documents.

### 5.2 RECOMMENDATIONS

In order to further understand the nature of the study area - further recording as part of a surface collection of AHIMS site #38-4-1684 has been recommended and formulated after consultation, where possible, with RAPs, the proponent and the OEH.

The following plan of action aim to manage the archaeological and cultural heritage values of the study area;

- Consultation, where possible, with the RAPs should continue throughout the duration of the proposed development and given the opportunity to review and comment on this report, with all comments being incorporated into the final version;
- AHIMS#38-4-1684 was not located during a recent archaeological survey conducted by Umwelt (2018). However, SSI 9022 condition B17 requires



measures to locate, document and salvage the previously identified artefact associated with AHIMS site #38-4-1684. This should be undertaken in full consultation, where possible, with the registered stakeholders. This surface collection is seen as Stage One of the further works program – see 5.3.1;

- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve multiple site registrations in order to accurately record the study area as a complex multi-layered site.
- Before any ground disturbance takes place as part of the construction all development staff, contractors and workers should be briefed as to the heritage status of the area and their responsibilities in ensuring preservation of the said area. This brief should take place prior to works commencing on site. They should also be informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development.

**Should any Aboriginal archaeological deposits or objects be located during the development;**

- all excavation in the vicinity of any objects and/or deposits shall cease immediately and the area secured;
- OEH and a suitably qualified archaeologist should be notified so the significance of the said deposits or objects can be evaluated and presented in a report and the study area recorded as an archaeological site;
- the archaeological deposits or objects will require the production of an Aboriginal Cultural Heritage Management Plan, of which the way forward will be subject to the recommendations of this report in consultation with OEH, prior to the development continuing.

**In the event of human skeletal remains being uncovered at any stage;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately and the area secured;
- The NSW Police and OEH's Enviroline are to be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and Metropolitan Local Aboriginal Land Council (MLALC) will identify the appropriate course of action.

The archaeological and cultural heritage significance of the study area carries with it implications for the development and management of the study area. The following vision statement captures the vision and aims of the conservation policies for the study area that arise from the development of the study area, its archaeological and cultural heritage significance, and relevant constraints and opportunities.

A background analysis of the environmental and cultural context revealed that the study area does contain items or areas of Aboriginal archaeological and cultural significance.

This area contains resources which may have been utilised by Aboriginal occupants and contains an isolated find AHIMS site #38-4-1684, which was not located as a result of the survey conducted by Umwelt (2018). The archaeological or cultural material will be the subject of mitigative strategies (AMAC 2018).

The following mitigative strategies outlined in this section have been formulated in consultation with RAPs and designed in accordance with OEH requirements and policies. The policies are sufficiently flexible in recognising both operational constraints and requirements, while enabling as much as is possible of the archaeological and cultural resource of the study area to be recovered.

### 5.3 STAGED PROGRAM FOR FURTHER WORKS

Due to the varied nature of the proposed further works and specific order of timing that will be required in line with the proposed development plan. All recommended further works as endorsed through this document have been placed into stages.

This aims to effectively and efficiently conduct these investigations with minimal disturbance to the stratigraphic integrity and data and ensuring there are controls in place in collecting a suitable sample for research content as well aiming to provide an opportunity for the Aboriginal community to salvage prior to the full impact of the study site.

#### 5.3.1 Stage One: Surface Collection

The SSI 9022 condition B17 requires measures to locate, document and salvage the previously identified artefact (AHIMS site #38-4-1648) to be carried out. This involves investigating and the manual collection of any Aboriginal cultural surface material associated with AHIMS site #38-4-1648. This is to be undertaken by a qualified archaeologist in consultation and participation of the RAPs in accordance with the SSI conditions.

##### 5.3.1.1 Surface Collection Methodology

The following collection parameters are proposed:

- The location of AHIMS Site #38-4-1648 will be traversed on foot from the site sheds. Investigations will then commence in a 10m radius of coordinates E369170 N6374453. Refer to figure 5.2. This will be undertaken and supervised by a qualified archaeologist and participating RAPs;
- Once the artefacts have been collected, they will be placed within a secure zip lock bag and labelled with the site number, date and status as being surface collected then placed in a larger zip lock bag for processing;
- If archaeological and cultural material is found which does not belong to the registered site, an AHIMS Aboriginal Site Card Form will be completed and submitted to the AHIMS Registrar as soon as practicable;
- All collected material will undergo processing by a qualified archaeologist. This will include recording methods as outlined in section 3.2 of the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (DECCW, 2010), which will include, but not limited to photography of the assemblage and artefact count, with this data being included in the final open area salvage report;
- Any archaeological/cultural material that is, in the opinion of the archaeologist and the stakeholders, to not be of similar educational, scientific, representative, and cultural significance, should be subject to a further assessment and review with the final open area salvage report;

- After artefact collection the appropriate AHIMS site card(s) shall be updated and/or amended to reflect the results and status of the site. This may involve multiple site registrations in order to accurately record the study area as a complex multi-layered site. This is to be completed in accordance with the *Guide to completing the AHIMS Site Recording Form*;

#### 5.3.1.2 AHIMS Site #38-4-1648 information

Site NMH1 (#38-4-1648) is an isolated find located within an exposure measuring 1m by 3m at the following coordinates;

Zone	Easting	Northing
GDA 56	369170	6374453

The exposure where the artefact is located is the result of erosion within the area, from which soil has been removed. The site subject to collection consists of a single fragment of heat shattered silcrete. There is the potential for additional artefacts to be located within the same context however based on the predictive model, it is likely to consist of a low-density scatter.



Figure 5.1 Current condition of recorded artefact location.  
Umwelt 2018



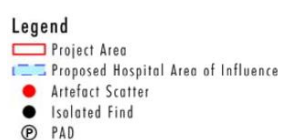


FIGURE 4.1  
AHIMS Search Results

**Figure 5.2** AHIMS Site# 38-4-1684 proximity to proposed development influence. Umwelt (2018).

### 5.3 2 Care and Control and Interpretation

If any archaeological material is recovered it shall be subject to a care and control Agreement established after the nature and significance of the archaeological or cultural material is understood as per requirement 26 of the *Code of Conduct for the investigation of Archaeological objects in NSW*.

A secure temporary storage location in accordance with requirement 26 of the *Code of Conduct for the investigation of Archaeological objects in NSW*, shall be established (AMAC Office, Wallsend), pending any agreement being reached as to the long-term management of the salvaged Aboriginal object(s).

Once a custodian has been arranged in consultation with the Aboriginal community, an Application for the transfer of Aboriginal objects for safekeeping as per Section 85A (1) (c) of the *National Parks and Wildlife Act 1974* will need to be completed between the temporary holder and the proposed custodian. This document along with the proposed agreement and supporting documentation will need to be submitted to OEH for approval.

The director is responsible for ensuring that procedures are put in place so that Aboriginal objects are not harmed during temporary storage. The location of the secure temporary storage location will be submitted to AHIMS with a site update record card for the site(s) in question.

For Aboriginal objects kept or returned to the location they originated from:

- A full catalogue, including photographic and drawn records for diagnostic stone artefacts, must be made.
- The catalogue must be in printed form but may also include an electronic database in the form of a table containing all records.
- All stone artefacts must be either individually bagged or bagged in appropriate and identifiable units (e.g. excavation or collection units) that can be referenced back to the catalogue.
- The stone artefacts must be stored in good quality, double-bagged plastic zip-lock bags.
- The bags must be externally labelled using permanent marker, and an 'independent' label on robust material (e.g. Tyvek) written with permanent marker must be placed inside each bag.
- The collection must be placed in a suitable impervious and permanent container, which must be labelled as above, or engraved.
- A full record of the final location of the collection must be made, including:
  - grid coordinates derived as set out in Requirement 8
  - a site plan or mud map referring to permanent features
  - depth of burial, if buried
  - full photographic record of the disposition.
- The record must be submitted to AHIMS with a site update record card for the site(s) in question.

If long term management of any objects recovered has not been decided in a timely fashion, the objects will be lodged with the Australian Museum as per the *Australian Museum Protocols for the Deposition of Archaeological Material* (Australian Museum, 2012).

## 6.0 FIELD WORKS

Site works were carried out on the 8<sup>th</sup> January 2019 by the RAPs listed below or their representatives. Site workers are to be chosen via a tender system. All works were carried out under the supervision of a qualified archaeologist, Mr Benjamin Streat of AMAC Pty Ltd and site works were also attended by Mr. James Smyth of Multiplex and Mr. Donald Yip of CBRE.

Organisation	Contact	Contact Details
Jarban & Mugrebea	Les Atkinson	les.atkinson@hotmail.com
Amanda Hickey Cultural Services	Amanda Hickey	amandahickey@live.com
Lower Hunter Aboriginal Incorporated	Dave Ahoy	lowerhunterai@gmail.com

### 6.1 SURFACE COLLECTION FIELDWORKS

The SSI 9022 condition B17 required measures to be taken to locate, document and salvage the previously identified artefact (AHIMS# 38-4-1648). This artefact could not be relocated as part of the surface collection, as such further measures were put in place to ensure the protection of AHIMS 38-4-1648.

#### *Fieldwork*

The following collection parameters were observed:

- The position of AHIMS site #38-4-1648 was located using AHIMS data and the Umwelt (2017) report. The area was traversed on foot. Investigations were carried out in a 10m radius of coordinates E369170 N6374453. Refer to figure 5.2. This was undertaken and supervised by a qualified archaeologist and participating RAPs. Dead and fallen vegetation was removed to reveal bare earth (by hand) in an attempt to relocate AHIMS site #38-4-1648, however this was not possible. Once construction is complete and/or SSI 9022 is no longer in force then this area will revert to the site status of a registered archaeological site (AHIMS site# 38-4-1648) with all the protections afforded by the NPW Act 1974.
- No archaeological and cultural material was found which did not belong to the registered site.
- No material was collected, as such it cannot undergo processing by a qualified archaeologist.
- No archaeological/cultural material that was, in the opinion of the archaeologist and the stakeholders, to not be of similar educational, scientific, representative, and cultural significance was located as such will not be subject to any further assessment.

### 6.2 FURTHER MEASURES

The following has been recommended to ensure the integrity of AHIMS site #38-4-1648:

- A 10-metre radius buffer zone be in place and adequately demarcated to ensure that the area is not inadvertently impacted by development activities.



- All development staff, contractors and workers should be briefed prior to works commencing on site, as to the status of the area and their responsibilities in ensuring preservation of said area. They should also be informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development;

**Should any Aboriginal archaeological deposits or objects be located during the development;**

- All excavation in the vicinity of any objects and/or deposits shall cease immediately and the area secured;
- OEH and a suitably qualified archaeologist should be notified so the significance of the said deposits or objects can be evaluated and presented in a report and the study area recorded as an archaeological site;
- The archaeological deposits or objects will require the production of an Aboriginal Cultural Heritage Management Plan, of which the way forward will be subject to the recommendations of this report in consultation with OEH, prior to the development continuing.

**In the event of human skeletal remains being uncovered at any stage;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately and the area secured;
- The NSW Police and OEH's Enviroline are to be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and Metropolitan Local Aboriginal Land Council (MLALC) will identify the appropriate course of action.



**Figure 5.1** Demarcated Exclusion Zone.  
AMAC (2019)



**Figure 5.2** Demarcated Exclusion Zone.  
AMAC (2019)





**Figure 5.3**      **Collection Works.**  
AMAC (2019)





**Figure 5.3**      **Collection Works**  
AMAC (2019)

## APPENDICES

### APPENDIX ONE: SSI 9022.

#### Infrastructure Approval

##### *Section 5.19 of the Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 11 October 2017, I approve the State significant infrastructure application referred to in Schedule 1, subject to the conditions specified in Schedules 2 and 3.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

David Gainsford  
Executive Director  
Priority Projects

Sydney 7th November 2018

#### SCHEDULE 1

<b>Application Number:</b>	SSI 9022
<b>Proponent:</b>	Health Administration Corporation
<b>Approval Authority:</b>	Minister for Planning
<b>Site:</b>	Metford Road, Metford (Lot 7314 DP 1162607 and Part Lot 401 DP 755237)
<b>Development:</b>	New Maitland Hospital, comprising: <ul style="list-style-type: none"><li>• concept proposal for the development of a new hospital with approximately 60,000sqm of floorspace on the subject site, including a nine storey building envelope and site access arrangements.</li><li>• Stage 1 site clearance and preparatory works, including: bulk earthworks; utility connections; in-ground infrastructure works; vegetation removal; building foundations; drainage infrastructure; and construction of temporary roads, temporary car parking area, temporary fencing and site office/compound.</li></ul>

## DEFINITIONS

<b>Aboriginal object</b>	Has the same meaning as the definition of the term in section 5 of the <i>National Parks and Wildlife Act 1974</i>
<b>Advisory Notes</b>	Advisory information relating to the approval but do not form a part of this approval
<b>BAR</b>	Biodiversity Assessment Report
<b>BCA</b>	Building Code of Australia
<b>BOS</b>	Biodiversity Offset Strategy
<b>CEMP</b>	Construction Environmental Management Plan
<b>Certification of Crown building work</b>	Certification under section 109R of the EP&A Act
<b>Certifying Authority</b>	Professionals that are accredited by the Building Professionals Board to issue construction, occupation, subdivision, strata, compliance and complying development certificates under the EP&A Act, <i>Strata Schemes (Freehold Development) Act 1973</i> and <i>Strata Schemes (Leasehold Development) Act 1986</i> or in the case of Crown development, a person qualified to conduct a Certification of Crown Building works.
<b>Conditions of this approval</b>	Conditions contained in Schedule 2 of this document
<b>Construction</b>	All physical works, including but not limited to the carrying out of works for the purposes of the development, including bulk earthworks and erection of infrastructure permitted by this approval, but excluding the following: <ul style="list-style-type: none"> <li>• building and road dilapidation surveys;</li> <li>• investigative drilling, investigative excavation or Archaeological Salvage;</li> <li>• establishing temporary site offices (in locations identified by the conditions of this approval); and</li> <li>• installation of environmental impact mitigation measures, fencing, enabling works.</li> </ul>
<b>Council</b>	Maitland City Council
<b>Day</b>	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
<b>Demolition</b>	The deconstruction and removal of buildings, sheds and other structures on the site
<b>Department</b>	NSW Department of Planning and Environment
<b>Development</b>	The development described in the EIS and Response to Submissions, including the works and activities comprising Stage 1 site clearance and preparatory, as modified by the conditions of this approval.
<b>Earthworks</b>	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
<b>EIS</b>	The Environmental Impact Statement titled <i>New Maitland Hospital Stage 1 (Concept Design and Early Works) Environmental Impact Statement</i> , prepared by pitt&sherry dated 7 June 2018, submitted with the application for approval for the development, including any additional information provided by the Proponent in support of the application
<b>ENM</b>	Excavated Natural Material
<b>Environment</b>	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
<b>EPA</b>	NSW Environment Protection Authority
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>EP&amp;A Regulation</b>	<i>Environmental Planning and Assessment Regulation 2000</i>



<b>Evening</b>	The period from 6pm to 10pm.
<b>Feasible</b>	Means what is possible and practical in the circumstances
<b>Incident</b>	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 <i>Note: "material harm" is defined in this approval</i>
<b>Land</b>	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
<b>Management and mitigation measures</b>	The management and mitigation measures set out in the EIS.
<b>Material harm</b>	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
<b>Minister</b>	NSW Minister for Planning (or delegate)
<b>Mitigation</b>	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
<b>Monitoring</b>	Any monitoring required under this approval must be undertaken in accordance with section 9.40 of the EP&A Act
<b>Night</b>	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
<b>NMH</b>	New Maitland Hospital
<b>Non-compliance</b>	An occurrence, set of circumstances or development that is a breach of this approval
<b>NSW RFS</b>	New South Wales Rural Fire Service
<b>OEH</b>	NSW Office of Environment and Heritage
<b>Operation</b>	The carrying out of the approved purpose of the development upon completion of construction.
<b>PA</b>	Means a planning agreement within the meaning of the term in section 7.4 of the EP&A Act.
<b>Planning Secretary</b>	Planning Secretary under the EP&A Act, or nominee
<b>POEO Act</b>	<i>Protection of the Environment Operations Act 1997</i>
<b>Proponent</b>	Health Administration Corporation, or any person carrying out any development to which this approval applies
<b>Reasonable</b>	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
<b>Rehabilitation</b>	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting.
<b>Response to submissions</b>	The Proponent's response to issues raised in submissions received in relation to the application for approval for the development under the EP&A Act, including the <i>New Maitland Hospital Stage 1 (Concept Design and Early Works) SSI 9022 Response to Submissions</i> , prepared by pitt&sherry dated 17 August 2018 and additional information submitted by Health Infrastructure on 30 August 2018.
<b>RMS</b>	NSW Roads and Maritime Services
<b>Sensitive receivers</b>	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area.

<b>Site</b>	The land defined in Schedule 1.
<b>Site Auditor</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Report</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>Site Audit Statement</b>	As defined in section 4 of the <i>Contaminated Land Management Act 1997</i>
<b>TfNSW</b>	Transport for New South Wales
<b>Waste</b>	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
<b>Year</b>	A period of 12 consecutive months

**SCHEDULE 2**  
**CONDITIONS OF APPROVAL FOR CONCEPT PROPOSAL**  
**PART A ADMINISTRATIVE CONDITIONS**

**Obligation to Minimise Harm to the Environment**

- A1. In addition to meeting the specific performance measures and criteria in this approval, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development.

**Terms of Approval**

- A2. The development may only be carried out:
- (a) in compliance with the conditions of this approval;
  - (b) in accordance with all written directions of the Planning Secretary;
  - (c) generally in accordance with the EIS and Response to Submissions;
  - (d) generally in accordance with the approved plans in the table below:

Drawings prepared by fitzpatrick+partners			
Dwg No.	Issue	Name of Plan	Date
DA07	10	CONCEPT PLAN	6/06/2018
DA08	10	CONCEPT PLAN – LANDSCAPE ZONAL PLAN	6/06/2018
DA09	10	CONCEPT PLAN – APZ	6/06/2018
DA10	10	AREA OF INFLUENCE – BUILDING FOOTPRINT	6/06/2018
DA11	10	AREA OF INFLUENCE – AERIAL OVERLAY	6/06/2018
DA12	10	CONCEPT PLAN – VEHICULAR CIRCULATION	6/06/2018
DA13	10	CONCEPT PLAN – PEDESTRIAN CIRCULATION	6/06/2018
DA14	10	ELEVATIONS – NORTH & SOUTH	6/06/2018
DA15	10	ELEVATIONS – EAST & WEST	6/06/2018
DA22	10	CONCEPT PLAN – SETBACKS	6/06/2018

- A3. Consistent with the requirements in this approval, the Planning Secretary may make written directions to the Proponent in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and
  - (b) the implementation of any actions or measures contained in any such document referred to in (a) above.
- A4. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

**Vegetative Buffer**

- A5. A vegetation buffer of a minimum depth of five metres must be provided along the southern boundary outside of any Asset Protection Zone. Revised plans must be submitted to the Planning Secretary demonstrating the provision of the vegetative buffer, any associated amendments reconfiguring the southern building envelope and the Asset Protection Zone.

**Limits of Approval**

- A6. This approval lapses five years after the date of approval unless the works associated with the development have physically commenced.

**Planning Secretary as Moderator**

- A7. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

**Legal Notices**

- A8. Any advice or notice to the approval authority must be served on the Planning Secretary.

**ADVISORY NOTES**

- AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this approval removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

## PART B REQUIREMENTS FOR FUTURE STAGES

### Built Form and Urban Design

- B1. To ensure that a high quality urban design and architectural response is achieved, the site layout and architectural design of the NMH must have regard to, and be generally consistent with, the concept proposal and the Architectural Design Statement prepared by fitzpatrick + partners in the EIS, and the following:
- demonstrating the primary objectives as set out in the Architectural Design Statement are incorporated into the design.
  - integrating local indigenous identity and culture in the design.
  - incorporating measures to reduce water and energy usage.
  - the suitability of the offset distances between east and west wings of the hospital building.
  - safe pedestrian circulation.
  - incorporating the natural setting in the design.
  - integrating landscaping with car parking areas.
  - connectivity between the hospital building and landscaped areas for patients, staff and visitors.
  - heritage interpretation.

### Biodiversity

- B2. The SSI application(s) for the detailed design and construction of the NMH must demonstrate that the proposal is consistent with the endorsed Biodiversity Assessment Report (BAR) and Biodiversity Offset Strategy (BOS).

### Traffic and Transport

- B3. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a detailed assessment of the traffic and transport impacts associated with the NMH on the surrounding road network and intersection capacity, and must detail provisions demonstrating that sufficient access and car parking has been provided having regard to RMS's Guide to Traffic Generating Developments, and details to promote non-car travel modes. The traffic and transport impact assessment must also have specific regard to:
- cumulative traffic impacts, in particular the Stockland Green Hills Shopping Centre development, and undertaking additional analysis of New England Highway between Mitchell Road and Chisholm Road (inclusive of the New England Highway/Chelmsford Road intersection).
  - the scope and timing of required road and intersection upgrades within the surrounding road network, including but not limited to the Chelmsford Drive/Metford Road and Raymond Terrace Road/Metford Road intersections.
  - preparing a pedestrian access plan, including from Victoria Street Railway Station and nearest bus stops.
  - the design of the proposed on-site car parking and on-street car parking impacts from any parking fee structure system, through detailed parking analysis of similar hospital sites.
  - potential traffic impacts on businesses fronting Metford Road, between Fieldsend Street and Chelmsford Drive.

### Residential Amenity Impacts

- B4. Details are to be provided in the SSI application(s) for the detailed design and construction of the NMH demonstrating that consideration has been given to the protection and minimisation of potential amenity impacts on adjoining sensitive land uses, including, but not limited to visual amenity, privacy and lighting.

### Noise and Vibration

- B5. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a detailed noise and vibration impact assessment prepared by a suitably qualified person, which details the main construction and operational noise and vibration

sources and activities, including future mechanical plant. Details are also to be included outlining all feasible and reasonable noise and vibration mitigation and management measures.

- B6. The noise and vibration impact assessment, as required by condition B5 of Schedule 2, must demonstrate that the location and operation of the helipad has been designed to minimise noise impacts on sensitive land uses.

#### **Landscaping**

- B7. The SSI application(s) for the detailed design and construction of the NMH must be accompanied by a landscape plan for the future hospital campus, including incorporating the vegetative buffer required by condition A5 of Schedule 2.

#### **Bushfire Protection**

- B8. The design of the NMH, including all Asset Protection Zones and other bushfire protection measures, must demonstrate satisfactory compliance with the relevant provisions of Planning for Bushfire Protection 2006.

#### **Ecologically Sustainable Development**

- B9. The SSI application(s) for the detailed design and construction of the NMH development must demonstrate how the principles of ESD have been incorporated into the design, construction and on-going operation of the hospital.
- B10. The SSI application(s) for the detailed design and construction of the NMH development must include a framework for how the future development will be designed to consider and reflect national best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy.
- B11. The SSI application(s) for the detailed design and construction of the NMH development must include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance.
- B12. The SSI application(s) for the detailed design and construction of the NMH development must provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically:
- (a) hotter days and more frequent heatwave events;
  - (b) extended drought periods;
  - (c) more extreme rainfall events;
  - (d) gustier wind conditions; and
  - (e) how these will inform landscape design, material selection and social equity aspects (respite/shelter areas).



### SCHEDULE 3

#### CONDITIONS OF APPROVAL FOR STAGE 1 SITE CLEARANCE AND PREPARATORY WORKS

##### PART A ADMINISTRATIVE CONDITIONS

##### Obligation to Minimise Harm to the Environment

- A1. In addition to meeting the specific performance measures and criteria in this approval, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development.

##### Terms of Approval

- A2. The development may only be carried out:
- (a) in compliance with the conditions of this approval;
  - (b) in accordance with all written directions of the Planning Secretary;
  - (c) generally in accordance with the EIS and Response to Submissions;
  - (d) generally in accordance with the approved plans in the table below:

Drawing prepared by <i>fitzpatrick+partners</i>			
Dwg No.	Issue	Name of Plan	Date
DA21	10	STAGE 1 EARLY WORKS SITE PLAN	6/06/2018
Drawing prepared by <i>Wood &amp; Grieve Engineers</i>			
Dwg No.	Rev	Name of Plan	Date
CI-100-002	A	EARLYWORKS PLAN – GENERAL ARRANGEMENT	24.04.18

- A3. Consistent with the requirements in this approval, the Planning Secretary may make written directions to the Proponent in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and
  - (b) the implementation of any actions or measures contained in any such document referred to in (a) above.
- A4. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

##### Limits of Approval

- A5. This approval lapses five years after the date of approval unless the works associated with the development have physically commenced.

##### Planning Secretary as Moderator

- A6. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

##### Long Service Levy

- A7. For work costing \$25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation Helpline on 131 441.

##### Legal Notices

- A8. Any advice or notice to the approval authority must be served on the Planning Secretary.

#### Evidence of Consultation

- A9. Where conditions of this approval require consultation with an identified party, the Proponent must:
- (a) consult with the relevant party prior to submitting the subject document to the Certifying Authority for approval; and
  - (b) provide details of the consultation undertaken including:
    - (i) the outcome of that consultation, matters resolved and unresolved; and
    - (ii) details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.

#### Staging, Combining and Updating Strategies, Plans or Programs

- A10. With the approval of the Planning Secretary, the Proponent may:
- (a) prepare and submit any strategy, plan or program required by this approval on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
  - (b) combine any strategy, plan or program required by this approval (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
  - (c) update any strategy, plan or program required by this approval (to ensure the strategies, plans and programs required under this approval are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).
- A11. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this approval.
- A12. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

#### Structural Adequacy

- A13. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

#### Notes:

- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

#### Design and Construction for Bush Fire

- A14. Water, electricity and gas are to comply with sections 4.1.3 and 4.2.7 of *Planning for Bush Fire Protection 2006*.

#### Applicability of Guidelines

- A15. References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.

However, consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Planning Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

#### Monitoring and Environmental Audits

- A16. Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act.

This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

*Note:* For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the approval or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the approval or the environmental management or impact of the development.

#### Access to Information

A17. At least 48 hours before the commencement of construction until the completion of all works under this approval, or such other time as agreed by the Planning Secretary, the Proponent must:

- (a) make the following information and documents (as they are obtained or approved) publicly available on its website:
  - (i) the documents referred to in condition A2 of this approval;
  - (ii) all current statutory approvals for the development;
  - (iii) all approved strategies, plans and programs required under the conditions of this approval;
  - (iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval;
  - (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
  - (vi) a summary of the current stage and progress of the development;
  - (vii) contact details to enquire about the development or to make a complaint;
  - (viii) a complaints register, updated monthly;
  - (ix) audit reports prepared as part of any independent environmental audit of the development and the Proponent's response to the recommendations in any audit report;
  - (x) any other matter required by the Planning Secretary; and
- (b) keep such information up to date, to the satisfaction of the Planning Secretary.

#### Compliance

A18. The Proponent must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the development.

#### ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this approval removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

## PART B PRIOR TO COMMENCEMENT OF CONSTRUCTION

### Notification of Commencement

- B1. The Department must be notified in writing of the dates of commencement of physical work at least 48 hours before those dates.

If the construction of the development is to be staged, the Department must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

### Certified Drawings

- B2. Prior to the commencement of construction, the Proponent must submit to the satisfaction of the Certifying Authority structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with:
- (a) the relevant clauses of the BCA; and
  - (b) this approval.

### Biodiversity

- B3. Prior to the removal of any vegetation, a revised BAR and BOS must be submitted and approved by the Planning Secretary, addressing the vegetative buffer requirements in condition A5 of Schedule 2. The revised BAR and BOS must be prepared in accordance with the OEH's *Framework for Biodiversity Assessment (FBA)* and the *Biobanking Assessment Methodology 2014 (BBAM)*.
- B4. Within 12 months of commencement of the vegetation clearance works, unless otherwise approved by the Planning Secretary, the Proponent must submit evidence that the BOS has been implemented.

### Protection of Public Infrastructure

- B5. Before the commencement of construction, the Proponent must:
- (a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;
  - (b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
  - (c) submit a copy of the dilapidation report to the Planning Secretary, Certifying Authority and Council.

### Site Contamination

- B6. Prior to the commencement of construction, the Proponent must submit to the satisfaction of the Certifying Authority a Site Audit Report and Section A Site Audit Statement for the relevant part of the site prepared by a NSW EPA accredited Site Auditor verifying the relevant part of the site is suitable for the hospital land use.

### Unexpected Contamination Procedure

- B7. Prior to the commencement of earthworks, the Proponent must prepare an unexpected contamination procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with condition B11 and where any material identified as contaminated is to be disposed off-site, the disposal location and results of testing must be submitted to the Planning Secretary prior to its removal from the site.

### Utilities and Services

- B8. Before the construction of any utility works associated with the development, the Proponent must obtain relevant approvals from service providers.

### Community Communication Strategy

- B9. A Community Communication Strategy must be prepared to provide mechanisms to facilitate communication between the Proponent, the relevant Council and the community (including

adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.

The Community Communication Strategy must:

- (a) identify people to be consulted during the design and construction phases;
- (b) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development;
- (c) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development;
- (d) set out procedures and mechanisms:
  - (i) through which the community can discuss or provide feedback to the Proponent;
  - (ii) through which the Proponent will respond to enquiries or feedback from the community; and
  - (iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.

The Community Communication Strategy must be submitted to the Planning Secretary for approval no later than two weeks before the commencement of any work.

Work for the purposes of the development must not commence until the Community Communication Strategy has been approved by the Planning Secretary, or within another timeframe agreed with the Planning Secretary.

#### **Outdoor Lighting**

- B10. Prior to commencement of construction, all outdoor lighting within the site must comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-1997 Control of the obtrusive effects of outdoor lighting. Details demonstrating compliance with these requirements must be submitted to the satisfaction of the Certifying Authority.

#### **Construction Environmental Management Plan**

- B11. Prior to commencement of construction, the Proponent must prepare a Construction Environmental Management Plan (CEMP) and it must include, but not be limited to, the following:
- (a) details of:
    - (i) hours of work;
    - (ii) 24-hour contact details of site manager;
    - (iii) management of dust and odour to protect the amenity of the neighbourhood;
    - (iv) stormwater control and discharge;
    - (v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;
    - (vi) groundwater management plan including measures to prevent groundwater contamination;
    - (vii) external lighting in compliance with AS 4282-1997 Control of the obtrusive effects of outdoor lighting;
    - (viii) community consultation and complaints handling;
  - (b) Construction Traffic and Pedestrian Management Sub-Plan (see Condition B13);
  - (c) Construction Noise and Vibration Management Sub-Plan (see Condition B14);
  - (d) Construction Waste Management Sub-Plan (see Condition B15);
  - (e) Construction Soil and Water Management Sub-Plan (see Condition B16);
  - (f) Aboriginal Cultural Heritage Management Sub-Plan (see Condition B17);
  - (g) Biodiversity Management Sub-Plan (see Condition B18);

- (h) an unexpected finds protocol for contamination and associated communications procedure;
  - (i) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;
  - (j) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site.
- B12. The Proponent must not commence construction of the development until the CEMP is approved by the Certifying Authority and a copy submitted to the Planning Secretary.
- B13. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced person(s);
  - (b) be prepared in consultation with Council, RMS and TfNSW;
  - (c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services;
  - (d) detail heavy vehicle routes, access and parking arrangements;
  - (e) include a Driver Code of Conduct to:
    - (i) minimise the impacts of earthworks and construction on the local and regional road network;
    - (ii) minimise conflicts with other road users;
    - (iii) minimise road traffic noise; and
    - (iv) ensure truck drivers use specified routes;
  - (f) include a program to monitor the effectiveness of these measures; and
  - (g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.
- B14. The Construction Noise and Vibration Management Sub-Plan (CNVMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced noise expert;
  - (b) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009);
  - (c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
  - (d) include strategies that have been developed with the community, including all noise sensitive receivers where construction noise levels are predicted to exceed the noise management level, for managing high noise generating works;
  - (e) describe the community consultation undertaken to develop the strategies in condition B14(d);
  - (f) include a complaints management system that would be implemented for the duration of the construction.
- B15. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following:
- (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations;
  - (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of any building works.



- B16. The Construction Soil and Water Management Plan (CSWMSP) must address, but not be limited to the following:
- (a) be prepared by a suitably qualified expert, in consultation with Council;
  - (b) describe all erosion and sediment controls to be implemented during construction;
  - (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);
  - (d) detail all off-Site flows from the Site; and
  - (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI).
- B17. The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;
  - (b) be submitted to the Planning Secretary prior to construction of any part of the development;
  - (c) measures to locate, document and salvage the previously identified artefact;
  - (d) procedures to ensure all works are to immediately cease if unexpected archaeological artefacts are found on-site during any stage of the works and appropriate procedures for notification and recommencing works;
  - (e) protocols for the salvage required for the project and also for the long term management of any areas of cultural or archaeological significance, within the project boundaries, but not subject to salvage excavations;
  - (f) a requirement for all salvage works to be carried out under supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project; and
  - (g) a requirement for preparation of a final report outlining the results of any salvage work undertaken, which must be prepared in consultation with the project RAPs and should include all comments provided by the project RAPs regarding the salvage process and any long term management of Aboriginal objects.
- B18. The Biodiversity Management Sub-Plan (BMSP) must address, but not be limited to, the following:
- (a) be prepared by a suitably qualified and experienced ecologist;
  - (b) engagement of an appropriately qualified ecologist with experience in capturing native wildlife to be on site for all vegetation removal activities;
  - (c) clearing protocol;
  - (d) measures to minimise the loss of key fauna habitat, including tree hollows;
  - (e) measures to minimise the impacts on fauna on site, including conducting fauna pre-clearance surveys prior to vegetation clearing;
  - (f) controlling weeds and feral pests;
  - (g) measures to ensure biodiversity values not intended to be impacted are protected, including barriers and mapping of protected/ 'no-go' areas; and
  - (h) a program to monitor the effectiveness of the measures in the BMSP.

#### **Construction Parking**

- B19. Prior to the commencement of construction, the Proponent must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.

#### **Construction and Demolition Waste Management**

- B20. The Proponent must notify the RMS Traffic Management Centre of the truck route(s) to be followed by trucks transporting waste material from the site, prior to the commencement of the removal of any waste material from the site.

#### **Compliance Reporting**

- B21. No later than two weeks before the date notified for the commencement of construction, a Compliance Monitoring and Reporting Program prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018) must be submitted to the Department and the Certifying Authority.

Compliance Reports of the project must be carried out in accordance with the Compliance Reporting Post Approval Requirements (Department 2018).

The Proponent must make each Compliance Report publicly available 60 days after submitting it to the Department and notify the Department and the Certifying Authority in writing at least seven days before this is done.

#### **Independent Environmental Audit**

- B22. No later than two weeks before the date notified for the commencement of construction, an Independent Audit Program prepared in accordance with the Independent Audit Post Approval Requirements (Department 2018) must be submitted to the Department and the Certifying Authority.

- B23. Independent Audits of the development must be carried out in accordance with:

- (a) the Independent Audit Program submitted to the Department and the Certifying Authority under condition B22 of this approval; and
- (b) the requirements for an Independent Audit Methodology and Independent Audit Report in the Independent Audit Post Approval Requirements (Department 2018).

- B24. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2018), the Proponent must:

- (a) review and respond to each Independent Audit Report prepared under condition B23 of this approval;
- (b) submit the response to the Department and the Certifying Authority; and
- (c) make each Independent Audit Report and response to it publicly available within 60 days after submission to the Department and notify the Department and the Certifying Authority in writing when this has been done.

## PART C DURING CONSTRUCTION

### Approved Plans to be On-site

- C1. A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification must be kept on the Site at all times and must be readily available for perusal by any officer of the Department, Council or the Certifying Authority.

### Site Notice

- C2. A site notice(s):
- (a) must be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifying Authority and Structural Engineer.
  - (b) is to satisfy all but not be limited to, the following requirements:
    - (i) minimum dimensions of the notice must measure 841 mm x 594 mm (A1) with any text on the notice to be a minimum of 30-point type size;
    - (ii) the notice is to be durable and weatherproof and is to be displayed throughout the works period;
    - (iii) the approved hours of work, the name of the site/ project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and
    - (iv) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.

### Operation of Plant and Equipment

- C3. All plant and equipment used on site, or to monitor the performance of the development must be:
- a) maintained in a proper and efficient condition; and
  - b) operated in a proper and efficient manner.

### Construction Hours

- C4. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
  - (b) between 8am and 1pm, Saturdays.
- No work may be carried out on Sundays or public holidays.
- C5. Activities may be undertaken outside of the hours in Condition C4 if required:
- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or
  - (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
  - (c) where works are inaudible at the nearest sensitive receivers; or
  - (d) where a variation is approved in advance in writing by the Secretary or her nominee and sufficient justification is provided for the works.

Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

- C6. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- (a) 9am to 12pm, Monday to Friday;
  - (b) 2pm to 5pm Monday to Friday; and
  - (c) 9am to 12pm, Saturday.

#### Implementation of Management Plans

- C7. The Proponent must carry out the construction of the development in accordance with the most recent version of the approved CEMP (including Sub-Plans).

#### Construction Traffic

- C8. All construction vehicles (excluding worker vehicles) are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site before stopping.

#### Road Occupancy Licence

- C9. A Road Occupancy Licence must be obtained from the relevant road authority for any works that impact on traffic flows during construction activities.

#### SafeWork Requirements

- C10. To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements.

#### Hoarding Requirements

- C11. The following hoarding requirements must be complied with:
- (a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing;
  - (b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application; and
  - (c) the Proponent must submit a hoarding application to Council for the installation of any hoardings over Council footways or road reserve.

#### No Obstruction of Public Way

- C12. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, unless there is prior approval from the relevant authority. Non-compliance with this requirement will result in the issue of a notice by the relevant Authority to stop all works on site.

#### Construction Noise Limits

- C13. The development must be constructed to achieve the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.
- C14. The Proponent must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of work outlined under Condition C4.
- C15. The Proponent must implement, where practicable and without compromising the safety of construction staff or members of the public, the use audible movement alarms of a type that would minimise noise impacts on surrounding noise sensitive receivers.
- C16. Any noise generated during construction of the development must not be offensive noise within the meaning of the *Protection of the Environment Operations Act 1997* or exceed approved noise limits for the site.

#### Vibration Criteria

- C17. Vibration caused by construction at any residence or structure outside the site must be limited to:
- (a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

- (b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).
- C18. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C17.
- C19. The limits in conditions C17 and C18 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B14 of this approval.

#### Tree Protection

- C20. For the duration of the construction works:
  - (a) all trees on the site that are not approved for removal must be suitably protected during construction; and
  - (b) if access to the area within any protective barrier is required to undertake the works, it must be carried out under the supervision of a qualified arborist. Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a qualified arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater.

#### Dust Minimisation

- C21. The Proponent must take all reasonable steps to minimise dust generated during all works authorised by this approval.
- C22. During construction, the Proponent must ensure that:
  - (a) exposed surfaces and stockpiles are suppressed by regular watering;
  - (b) all trucks entering or leaving the site with loads have their loads covered;
  - (c) trucks associated with the development do not track dirt onto the public road network;
  - (d) public roads used by these trucks are kept clean; and
  - (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

#### Erosion and Sediment Control

- C23. All erosion and sediment control measures, must be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works have been stabilised and rehabilitated so that it no longer acts as a source of sediment.

#### Imported Soil

- C24. The Proponent must:
  - (a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;
  - (b) keep accurate records of the volume and type of fill to be used; and
  - (c) make these records available to the Department or Certifying Authority upon request.

#### Disposal of Seepage and Stormwater

- C25. Any seepage or rainwater collected on-site during construction or groundwater must not be pumped to the street stormwater system unless separate prior approval is given in writing by the EPA in accordance with the *Protection of the Environment Operations Act 1997*.

#### Unexpected Finds Protocol – Aboriginal Heritage

- C26. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of

the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by OEH and the management outcome for the site included in the information provided to AHIMS. The Proponent must consult with the Aboriginal community representatives, the archaeologists and OEH to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of OEH.

#### Unexpected Finds Protocol – Historic Heritage

- C27. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the OEH Heritage Division contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of Heritage Division of the OEH.

#### Waste Storage and Processing

- C28. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.
- C29. All waste generated during construction must be assess, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).
- C30. The body of any vehicle or trailer used to transport waste or excavation spoil must be covered before leaving the premises to prevent any spillage or escape of any dust, waste of spoil. Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site must be removed before leaving the premises.
- C31. The Proponent must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.

#### Incident Notification, Reporting and Response

- C32. The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.

Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix 1.

#### Non-Compliance Notification

- C33. The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of any non-compliance. The Certifying Authority must also notify the Department in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after they identify any non-compliance.

The notification must identify the development and the application number for it, set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

#### Revision of Strategies, Plans and Programs

- C34. Within three months of:
- (a) the submission of a compliance report under condition B21;
  - (b) the submission of an incident report under condition C32;
  - (c) the submission of an Independent Audit under condition B22;
  - (d) the issue of a direction of the Planning Secretary under condition A2 which requires a review,



the strategies, plans and programs required under this approval must be reviewed, and the Department and the Certifying Authority must be notified in writing that a review is being carried out.

- C35. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this approval must be revised, to the satisfaction of the Certifying Authority. Where revisions are required, the revised document must be submitted to the Certifying Authority for approval within six weeks of the review.

*Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

## APPENDIX 1 WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

### Written Incident Notification Requirements

1. A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within seven days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under condition C32 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
  - a. identify the development and application number;
  - b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
  - c. identify how the incident was detected;
  - d. identify when the Proponent became aware of the incident;
  - e. identify any actual or potential non-compliance with conditions of approval;
  - f. describe what immediate steps were taken in relation to the incident;
  - g. identify further action(s) that will be taken in relation to the incident; and
  - h. identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Proponent must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
  - a. a summary of the incident;
  - b. outcomes of an incident investigation, including identification of the cause of the incident;
  - c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
  - d. details of any communication with other stakeholders regarding the incident.

## 15.14 Appendix 12: Biodiversity Management Sub-Plan





# BIODIVERSITY MANAGEMENT PLAN

for the

**NEW MAITLAND HOSPITAL**

**Metford Road**

**Metford**

**NSW**

Prepared by:

**WILDTHING** Environmental Consultants

38c Stapleton Street  
WALLSEND NSW 2287  
ABN: 67 096 825 053

For:

**Multiplex Constructions Pty Ltd (Multiplex)**

Job No. 12365



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## 1.0 INTRODUCTION

This Biodiversity Management Sub-Plan (BMSP) has been developed for the construction of the New Maitland Hospital Main Works Project (the Project) located at 51 Metford Road, Metford. This BMSP forms part of the larger Construction Environmental Management Plan (CEMP) for the Project. The purpose of this Plan is to reduce any potential impacts of the Project on the site's existing ecological features by minimising the extent of clearing, maintaining and protecting retained habitat and reducing the potential injury to fauna during and after the clearing works.

The on-site activities associated with the Main Works Project that is likely to impact on the site's existing biodiversity include:

- Clearing and/or grubbing of existing vegetation;
- Removal of topsoil;
- Bulk excavation and earthworks;
- Excavation and trenching of temporary and permanent services; and
- Piling works.

## 1.1 OBJECTIVES AND TARGETS

Objective	Target
To reduce the impact of construction on existing flora and fauna.	No damage / injury to retained flora and fauna.

## 1.2 MANAGEMENT STRATEGIES

Parameter	Action	Timing	Responsibility
Induction of site personnel	Undertake a site induction addressing the management of flora and fauna including: <ul style="list-style-type: none"> <li>» No employee on the Project will intentionally injure native fauna including reptiles.</li> <li>» Construction personnel are not to handle fauna.</li> <li>» All rubbish and food scraps must be placed in lidded bins that will be serviced regularly.</li> <li>» Native fauna are not to be fed by project employees.</li> <li>» Vegetation clearing operations and controls to prevent unauthorised clearing</li> </ul>	Establishment	Multiplex/ All subcontractors
Tree removal plan	Prior to commencement, A Tree Removal Plan will be prepared for Stage 2 Main Works that outlines essential clearing areas required for Stage 2 activities (new sewer main, entry roads, building pads, etc.) This Plan is consistent with the letter titled Re: BDAR for NMH Stage 2 SSI Application 9775 (Revised) – FINAL, prepared by Sclerophyll Flora Surveys and Research Pty Ltd, dated 20 Sep 2019	Establishment	MPX/ Ecologist consultant



## 2.0 MANAGEMENT ACTIONS

Parameter	Action	Timing	Responsibility
Engage an accredited ecologist	Multiplex have engaged Wildthing Environmental Consultants as the lead Ecological Consultant for the Project to provide formal guidance on environmental issues (including biodiversity, environmental legislation and requirements, etc.) that arise throughout the Project.	Establishment	Multiplex
Biodiversity Management Sub-Plan (by an accredited ecologist)	This Biodiversity Management Sub-Plan has been developed to reduce any potential impacts of the Project on the site's existing ecological features by minimising the extent of clearing, maintaining and protecting retained habitat and reducing the potential injury to fauna during and after the clearing works.	Establishment	Multiplex/ Ecologist
Pre-clearing survey (by a licensed surveyor)	Clearing limits are to be clearly identified by a registered surveyor and suitably demarcated (e.g. metal stake and high vis plastic flagging/ fencing) prior to any vegetation clearing activities.	Establishment	Multiplex/ Surveying sub-contractor
Pre-clearing survey (by accredited ecologist)	<p>Ecological pre-clearing surveys where required shall be undertaken by a qualified Ecologist prior to the commencement of clearing. These pre-clearing surveys will include:</p> <ul style="list-style-type: none"> <li>▪ An inspection of all trees to be removed for hollows, bird nests, dreys and arboreal termite nests;</li> <li>▪ Mark all hollow-bearing trees with a large yellow "H";</li> <li>▪ If any hollow-bearing trees are present a stag-watching/bat call survey will be undertaken for each subject tree.</li> </ul>	Establishment	Multiplex/ Ecologist
Nest box program	Should pre-clearing surveys identify any hollow bearing trees targeted for removal, they shall be replaced through a compensatory nest box program in retained bushland habitats located on Lot 7314.	Establishment	Multiplex/ Ecologist

Parameter	Action	Timing	Responsibility
Pre-clearing inductions/ toolbox meetings	A site induction must be undertaken by all personnel undertaking clearing operations to explain the relevance of any marked items (e.g. hollow bearing trees requiring ecological supervision, clearing boundaries) and identify their responsibilities. An ecological site induction notice will need to be prepared and signed by all relevant personnel involved with the clearing operations.	Establishment	Multiplex/ Civil sub-contractors/ Arborists
Arborist	All works carried out on either foliage or root systems will be carried out as per the Australian Standard 4970-2009 Protection of Trees on Development Sites and will be undertaken in consultation with a qualified Arborist.	During construction	Multiplex/ Arborists
Tree clearing protocol	<p>The following tree clearing protocol has been developed for the Project:</p> <ul style="list-style-type: none"> <li>▪ Where practicable restrict vegetation clearing activity to within the period late February to end of May, this being outside the main breeding periods for threatened hollow dependant fauna known to utilise the site.</li> <li>▪ Trees should be felled away from the retained forested remnants back into the proposed development footprint to minimise impacts within protected areas.</li> <li>▪ Where clearing is to be conducted in an area containing potential fauna habitat (e.g. nests, hollow-bearing trees and large woody debris), a two-stage clearing process must be implemented as specified below: <ul style="list-style-type: none"> <li>○ Habitat trees shall be carefully felled under the supervision of the Project Ecologist or Fauna Spotter/Catcher;</li> <li>○ Hollow-bearing trees and trees with nests will be mechanically shaken or agitated prior to felling to encourage any remaining animals to either leave the tree or show themselves and subsequently be removed prior to felling; and</li> <li>○ Felling will involve gently pushing the tree and lowering or felling using a forestry harvester or an arborist (and not with the use of an excavator mounted closed chipper) to avoid sudden falling as this is likely to injure wildlife;</li> </ul> </li> </ul>	During construction	Multiplex/ Civil sub-contractors/ Arborists

Parameter	Action	Timing	Responsibility
<b>Tree clearing protocol cont'd</b>	<ul style="list-style-type: none"> <li>○ Immediately after felling, habitat trees will be systematically checked from the ground for any remaining fauna;</li> <li>○ Cavities to be checked for inhabiting fauna upon felling. Any injured fauna should be captured where possible and taken to the local wildlife carer. Once rehabilitation has been achieved (if possible), the individual will be released into retained habitats adjoining the capture site, and if required, into shelter sites appropriate for that species (i.e. nest boxes);</li> <li>○ In the event that arboreal animals do not move or they cannot be captured because the tree hollow is too large, high or its recovery would breach OH&amp;S requirements then the tree will be felled (in the direction of other tree debris if possible) and animals recovered post-felling under the direction of the Ecologist.</li> <li>▪ Hollow bearing limbs, woody debris and bush rocks marked for relocation should be moved to isolated locations on the site;</li> <li>▪ Remove all remaining materials cleared, primed and grubbed for recycling or recycling or disposal.</li> </ul>	During construction	Multiplex/ Civil sub-contractors/ Arborists
<b>Establishment of no-go areas (post-clearing)</b>	<p>The following controls will be implemented to restrict access to protected 'no-go' areas on the site including:</p> <ol style="list-style-type: none"> <li>1. Install flagging at the boundaries to all 'no-go' areas;</li> <li>2. Create a mark-up/ map of all 'no-go' areas on-site;</li> <li>3. Post a copy of the 'no-go' maps on the Site Notice Board and Induction Room Notice Board;</li> <li>4. Include details of the 'no-go' areas within the site-specific details of the on-site induction presentation.</li> </ol>	During construction	Multiplex/ All sub-contractors
<b>Unidentified Flora or Fauna discoveries</b>	<p>If any previously unidentified flora or fauna is discovered on-site, personnel are required to notify the Site Manager. Relocation or treatment of any unidentified flora and fauna will then be discussed with the Ecologist.</p>	During construction	Multiplex/ All sub-contractors/ Ecologist

Parameter	Action	Timing	Responsibility
<b>Trenches/ excavations</b>	All trenches / excavations are to be inspected each morning by the excavation subcontractor. Where flora and fauna are discovered, personnel are to notify the Site Manager. Relocation or treatment of any unidentified flora and fauna will then be discussed with the Ecologist.	During construction	Multiplex/ All sub-contractors/ Ecologist
<b>Weed Management</b>	<p>All declared weeds within the site works areas are should be removed in accordance with the below procedures:</p> <ul style="list-style-type: none"> <li>• The use of pesticides and herbicides is to be restricted, have specific application, storage and clean up procedures, and meet requirements of relevant agencies;</li> <li>• Herbicides are to be administered by contractors licensed in accordance with the provisions of State Legislation;</li> <li>• Chemical products must always be used as per Safety Data Sheets;</li> <li>• Only qualified personnel should undertake chemical control of weeds;</li> <li>• Correct disposal of weeds is to be undertaken ensuring accidental spread of weeds does not occur. Weeds or material containing weed matter must be transported to a landfill under covered load. The cover must seal the top and sides of the load to prevent any weed material being transported by wind.</li> </ul>	During construction	Multiplex/ All sub-contractors
<b>Feral animals/ pests</b>	<p>The following controls will be implemented to control the impact of any feral animals or pests on the Project;</p> <ol style="list-style-type: none"> <li>1. Work areas will be cleaned regularly to reduce build-up of on-site waste/ rubbish;</li> <li>2. Rubbish bins will be covered at the end of each shift;</li> <li>3. Where required, feral pests (e.g. cats, rats, mice, birds) will be trapped on-site and relocated to an approved off-site facility/shelter; and</li> <li>4. All pest controls to be monitored for effectiveness over the course of the Project.</li> </ol>		

Parameter	Action	Timing	Responsibility
Rehabilitation	Monitor disturbed areas for weed invasion, and undertake control measures as necessary. Regularly water, weed and fertilise rehabilitated areas to ensure their success.	During construction	Multiplex/ All sub-contractors
Fencing	All new fencing, including security fencing associated with the New Maitland Hospital, that will intersect remnant forest on the site, avoid use of barbed wire to avoid injury/ mortality to all flying / gliding fauna.	During construction	Multiplex/ All sub-contractors

### 3.0 MONITORING AND REPORTING

It is important to monitor the effectiveness of the Plan and to, where necessary, highlight and respond to any changes that arise during development. The following monitoring program should be adhered to during the Project. Details of the Environmental Site Inspections are included within Section 9.1 and 9.2 of the CEMP.

Type of Monitoring / Reporting	Timing	Responsibility	Record
Protected trees	Fortnightly	Multiplex	Environmental site inspection
Clearing Monitoring	Daily during clearing works	Multiplex / clearing subcontractor	Clearing permit
Rehabilitation Areas	Fortnightly	Multiplex	Environmental site inspection

### 4.0 CONCLUSION

Should the implementation of the recommendations provided in this Biodiversity Management Plan be adhered to, it is considered that the construction of the NMH Project will have little negative impact on the conservation area and is likely to result in an improved condition in the longer term.



5.0 APPENDIX 1



7 January 2019

Job No. 12365

Multiplex Australasia  
Unit 3c/11 Molly Morgan Drive  
EAST MAITLAND NSW 2323

Attention: Bede Webb

**RE: NEST BOX INSTALLATION – NEW MAITLAND HOSPITAL, METFORD  
NSW**

To satisfy recommendations given in the Biodiversity Assessment Report (KMH Environmental, 2018) for the New Maitland Hospital seven nest boxes were installed into adjacent native vegetation suitably qualified ecologist/climber on the 20 December 2019.

The nest boxes were installed to provide compensatory habitat for the removal of four hollow-bearing trees for the construction of the New Maitland Hospital. The seven individual hollows within these four trees were compensated at a ratio of 1:1.

The nest boxes were constructed out of durable heavy plywood and attached using the Habisure system (3.5mm plastic coated galvanised tie wire that has 50mm bends either side to allow for tree growth). To further protect the tree a section of garden hosepipe was also be placed around the area of wire touching the bark of the tree.

Four of the nest boxes were designed for the threatened *Petaurus norfolcensis* (Squirrel Glider) which has been recorded within suitable habitat within the boundary of the New Maitland Hospital site (KMH Environmental, 2018). The remaining nest boxes were designed for Parrots, Brushtail Possum and Feathertail Glider.

The details of each box including, type of nest box and species of tree in which the nest box has installed is shown in Table 1. The location of the installed nest boxes is shown in Figure 1 and photographs of the installed nest boxes is shown in Plates 1 – 7.

As per the Biodiversity Assessment Report (KMH Environmental, 2018) monitoring of the nest boxes will be conducted to determine the usage of the nest boxes. Maintenance, including any repairs or replacement of nest boxes will also be undertaken during the monitoring period. If an artificial nest box needs to be removed from the site for repair, then an alternative nest box will be installed in the same location upon removal of the damaged nest box. Monitoring and maintenance is to be carried out once a year in Spring

for a period of three years then reviewed at the end of the three year period. The review for the ongoing maintenance and monitoring of the nest boxes will take into consideration the condition of the nest boxes and occupation rates. A letter will be provided to Multiplex detailing the findings of the nest box inspection and any maintenance carried out after the completion of each inspection and any maintenance required.

It is believed that the nest box installation was carried out in accordance with the recommendations outlined in the Biodiversity Assessment Report completed for the development.

If you have any queries or require any further information please don't hesitate to contact me.

Yours Faithfully

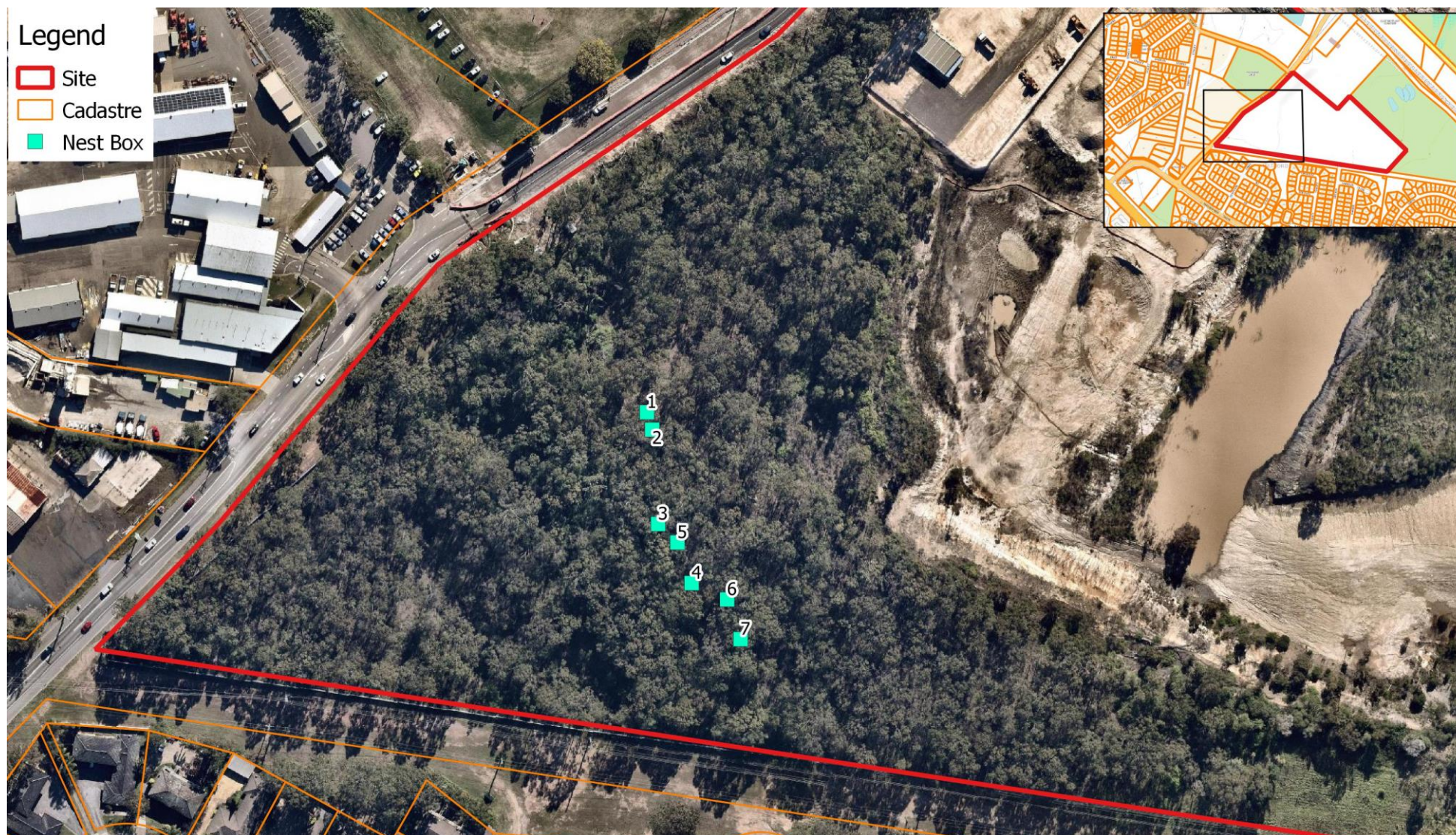


**DARYL HARMAN**  
**Senior Ecologist**  
**Wildthing Environmental Consultants**

Table 1: Details of the Installed Nest Boxes

Box No.	Easting	Northing	Tree Species	Box Type
001	369141	6374434	<i>Corymbia maculata</i> Spotted Gum	Brushtail Possum
002	369143	6374428	<i>Eucalyptus globoidea</i> White Stringybark	Squirrel Glider Box
003	369145	6374394	<i>C. maculata</i>	Squirrel Glider Box
004	369157	6374373	<i>Eucalyptus crebra</i> Narrow-leaved Ironbark	Squirrel Glider Box
005	369152	6374388	<i>E. crebra</i>	Parrot
006	369170	6374367	<i>E. crebra</i>	Squirrel Glider Box
007	369174	6374353	<i>E. crebra</i>	Feathertail Glider





Job Ref	12365
A4 Scale	1:1,750

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. In addition the spatial accuracy of the map is wholly dependant on source data. Please verify the accuracy of all information prior to use. Development footprint areas should be used for indicative areas only.

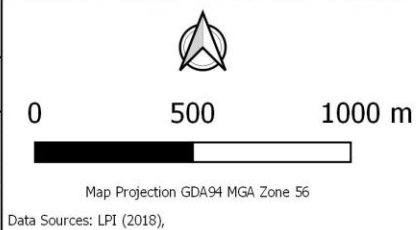


Figure 1

## Nest Box Location Map

New Maitland Hospital Development

08 January 2019

WILDTHING

Environmental Consultants

(a Division of Tattersall Lander Pty Ltd)

ABN 41 003 509 215





Plate 1: Nest Box No. 1 – Brushtail Possum Box.



Plate 2: Nest Box No. 2 – Squirrel Glider Box.





Plate 3: Nest Box No. 3 – Squirrel Glider Box.



Plate 4: Nest Box No. 4 – Squirrel Glider Box.





Plate 5: Nest Box No. 5 – Parrot Box.



Plate 6: Nest Box No. 6 – Squirrel Glider Box.





Plate 7: Nest Box No. 7 – Feathertail Glider Box.

## REFERENCES

KMH Environmental (2018). *Biodiversity Assessment Report – The New Maitland Hospital Metford NSW. NSW Health Infrastructure*. May 2018.

Wildthing Environmental Consultants (2018). *Tree and Habitat Assessment for the New Maitland Hospital, Metford NSW*. Multiplex Australasia

# WILDTHING

## Environmental Consultants


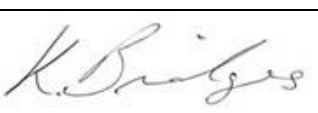
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38c Stapleton Street, Wallsend NSW 2287 Phone: 02 4951 3311 Fax: 02 4951 3399

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A division of Tattersall Lander Pty Ltd

ABN: 41 003 509 215

Project Name	Biodiversity Management Plan (BMP) for the New Maitland Hospital	
Project Number	12365	
Prepared By	Daryl Harman BEnvSc Senior Ecologist	
Reviewed By	Dr Kylie Bridges BEnvSc Hons PhD Ecologist	
Status	15 November 2019	

### Disclaimer

This report has been prepared in accordance with the proposal provided by the Client and outlined within this report. All findings, conclusions or recommendations contained within this report are based upon the data and results collected under the times and conditions specified in the report and are only applicable for the proposal considered within this report. This report has been prepared for use exclusively by the Client. No responsibility for its use by any other party is accepted by WILDTHING Environmental Consultants.

## 15.15 Appendix 13: Construction Traffic and Pedestrian Management Sub-Plan

# MULTIPLY

## NEW MAITLAND HOSPITAL CONSTRUCTION TRAFFIC AND PEDESTRIAN MANAGEMENT PLAN STAGE 2 MAIN WORKS

DATE	REQUESTED BY	LOCATION	DESIGNED BY	REVIEWED	VERSION
19/11/18	Steve Russell	Metford Rd, Metford	Brock Donnelly	Gaven Chandler	Version 4
20/02/19	Bede Webb	Metford Rd, Metford	Brock Donnelly	Gaven Chandler	Version 5
24/09/19	Steve Russell	Metford Rd, Metford	Brock Donnelly	Gaven Chandler	Version 6



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## Definitions & Abbreviations

RMS	Roads and Maritime Services
TCP	Traffic Control Plan
TMP	Traffic Management Plan
VMP	Vehicle Management Plan
The Contractor	Multiplex Constructions Pty Ltd

## Introduction

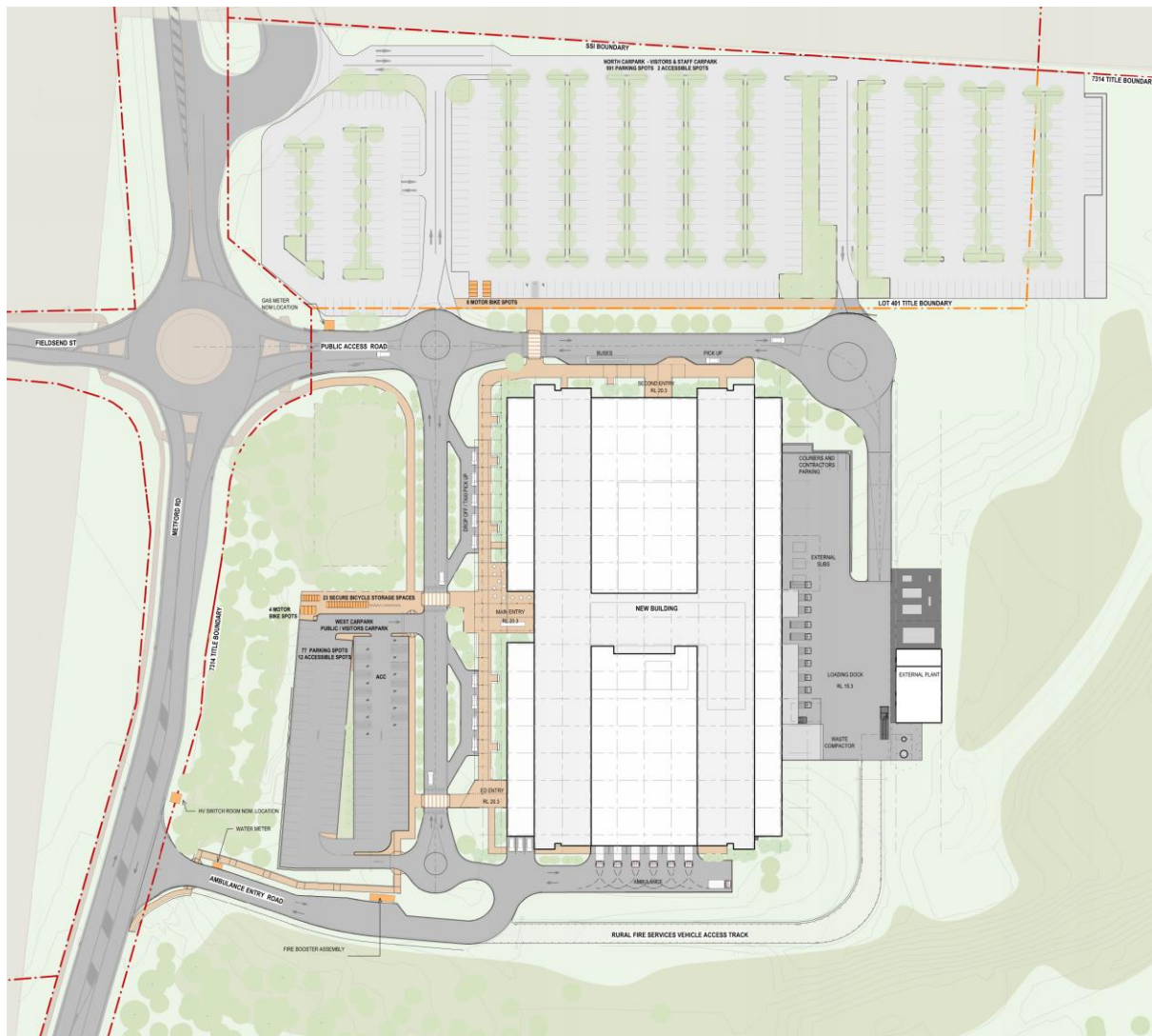
### 2.1 The Project

Multiplex have been engaged by NSW Government Health Infrastructure to carry out the construction of the Main Works for the New Maitland Hospital, which will include the following scope:

- Construction and operation of a new 7 storey Acute Services Building, including;
  - Emergency services;
  - Medical, surgical, paediatric and maternity services;
  - Critical care services for adults and babies, including a special care nursery;
  - Operating theatres, delivery suites and assessment rooms;
  - Palliative care and rehabilitation services;
  - Mental health services;
  - Satellite renal dialysis;
  - A new chemotherapy service;
  - Oral health service;
  - A range of ambulatory care and outpatient clinics.
- Internal roadways and car parking for staff, patients and visitors;
- Signage;
- Site landscaping and open space improvements;
- Tree removal; and
- Utility and services connection and amplifications works.

## 2.1 Time Frame

The New Maitland Hospital Main Works are scheduled to begin in December 2019 and will continue through until August 2021.



Overview of New Maitland Hospital Precinct - Metford Rd & Fieldsend Street, Metford

## 2.2 Purpose of the TMP

This Traffic Management Plan addresses the proposed construction of the New Maitland Hospital Main Works to be carried out by Multiplex as engaged by NSW Health Infrastructure.

The purpose of this TMP is to provide a framework describing how the Principal Contractor, Multiplex will safely manage the traffic aspects of the Project. The TMP provides the process to ensure that the Project maintains appropriate controls to manage traffic in and around the construction site. The TMP will:

1. Provide a high-level description of the various traffic management elements needed to make the project a success.
2. Serve as the key document that is agreed to by all parties & is the final approval to conduct traffic management during the project.
3. Ensure the safety of road users and construction traffic.
4. Ensure there is a safe interface between construction traffic and local traffic.
5. Eliminate the risk of injury to local traffic users and construction personnel.
6. Ensure that access to adjoining properties is maintained during construction  
Eliminate/ minimise traffic delays and traffic Issues.

## 2.3 Scope

This Traffic Management Plan (TMP) becomes the primary document detailing the traffic management arrangements under which this project is to proceed.

In case of emergencies and/or for the management of any incidents during the works the conditions stated in this TMP and/or any of the sub documentation do not apply to any emergency services.

## 3. Communications Strategy

### 3.1 Stakeholders List

The Stakeholders of the project are as follows:

CBRE – Project Manager for Health Infrastructure NSW

Contact: Kirsty Gill – Senior Project Manager  
Phone: 0408 852 539

Contact: Josh Fullerton – Senior Project Manager  
Phone: 0438 799 246

Maitland City Council

Contact: Kevin Stein – Manager Engineering & Design

Phone: (02) 4934 9808

Contact: Scott Henderson – Coordinator Infrastructure Planning Engineer

Phone: (02) 4934 9814

Traffic Management Centre

Contact: Duty Officer

Phone: 02 8874 6806

Email: [rol.hunter@rms.nsw.gov.au](mailto:rol.hunter@rms.nsw.gov.au)

Multiplex:

Contact: Jeff Wall – Senior Project Manager

Phone: 0418 314 827

Contact: Glenn Moore – Senior Site Manager

Phone: 0418 314 827

Site Supervisor: Gaven Chandler

Phone: 0497 707 678

Email: [gchandler@dservices.com.au](mailto:gchandler@dservices.com.au)

Contact: Mrs Debra Bannerman

Phone: 0426 163 836

Email: [dbannerman@dservices.com.au](mailto:dbannerman@dservices.com.au)

NSW Fire & Rescue

Contact: Mr Daniel Agland – Station Officer

Phone: 4934 7497

Email: [daniel.agland@fire.nsw.gov.au](mailto:daniel.agland@fire.nsw.gov.au)

### 3.2 Emergency Services

<b>Police Station</b>	Contact: Operator/ Duty Officer	Ph: 000 (02) 4934 0200	3 Carolina Pl, Maitland 2320
<b>Ambulance</b>	Contact: Operator	Ph: 000 13 12 33	21 Gillies St, Rutherford 2320
<b>Fire Station</b>	Contact: Operator/ Duty Officer	Ph: 000 (02) 4934 7497	1, Chelmsford Dr, Metford, 2323

Local Police, Fire & Ambulance services will be contacted & made aware of the project & the changed traffic conditions in place prior to the commencement of the works.

Nearest Hospital (with an Emergency Department):

The Maitland Hospital

PH: (02) 4939 2000

560 High St, Maitland NSW 2320

## 4. Traffic Management

### 4.1 General Outline

This project requires coordinated efforts from a number of agencies as follows:

- The Contractor will coordinate with relevant authorities where required i.e. NSW Police, Fire & Rescue and Roads and Maritime Services to ensure all resources required to manage traffic for the project are provided.
- The NSW Police, will be provided with a copy of the TMP if requested.
- Fire & Rescue NSW will be provided with a copy of the TMP if requested.

### 4.2 Traffic Control Plans

The works within the site will not be impeding on the use of the road and does not require TCP's.

There will be minimal impact on road users, but will have a minor level of increased truck traffic in the area.

Stage 2 main works project scope includes works outside the site for services upgrades, in these instances both traffic control plans and a road occupancy application will be submitted for approval prior to starting works.



### 4.3 Responsibilities

Multiplex have engaged Donnelly Services to develop a Traffic Management Plan for the construction of the New Maitland Hospital. A suitable qualified traffic control company will implement any TMP's required prior to any works commencing.

### 5. Staffing

The proposed traffic control arrangements does not require any traffic controllers, however the gates will be manned with security personnel to control passage of personnel on foot and in vehicles to and from site.

For the external services upgrades outside of the site a TCP detailing traffic control personnel will be submitted for approval.

### 6. Site Vehicles

Vehicles directly involved in the project are to be parked on the site. All vehicles involved in construction activities will have flashing lights and reversing alarms.

All vehicles entering and exiting the construction carpark will be exempt from the above.

### 7. Vehicle Movement Procedure

The number of daily truck movements will vary depending on the works being conducted on the specific day or timeframe in the construction programme.

Concrete pour days would expect an increase from in truck deliveries, however the delivery timing will be managed to ensure a smooth traffic flow and the utilisation of onsite truck waiting bays. It is suggested that the average for concrete pour days would be one truck every 5 – 10 minutes. There will be provisions for waiting bays onsite which will avoid trucks queuing or waiting on public roads. The stage 2 structure programme starts October 2019 and finishes July 2020, estimated average of 3 concrete pours per week.

On days outside of concrete pour days it is anticipated that there will be 1-2 truck deliveries per hour between the hours of 7am to 5pm.

#### 7.1 Anticipated Truck Delivery Route

The predicted truck delivery routes will likely come from the south east end of New England Highway and eastern end of Raymond Terrace Road, entering site from the Metford road roundabout and the southern access road (once it has been built). See appendix 6 for a high level overview of expected truck delivery routes.

## 7.2 Site Operational Hours

1. Between 7am and 6pm, Monday to Fridays inclusive; and
2. Between 8am and 5pm, Saturdays.

Low noise activities carried out (eg hand held tools (including power tools), painting etc.) may be carried out at all times provided the activities do not cause offensive noise.

## 7.4 Main Works Timeframes

In accordance with Multiplex's main works programme the general stages of the project will go as follows

- Main Works total programme December 2019 to August 2021
  - Structure: December 2019 to July 2020
  - Façade: July 2021 to February 2021
  - Fitout: March 2020 to August 2021
  - Carpark: October 2019 to March 2021
- Anticipated peak construction time between March 2020 & July 2020

In addition to the above dates the following activities need to be considered for the duration of the project works, expected to be completed by early 2022.

- Construction Contingency
- Building Commissioning
- Operational Commissioning

## 8. Cyclist and Pedestrian Impacts

All works will be inside the site area with no access to cyclists or pedestrians. Trucks will be parked in designated areas off the road and footpaths. There will be no impact to cyclists and pedestrians.

The construction of the in ground high voltage mains (external services upgrades), external to the site will require the submission of a separate traffic control plan, where the impact on public cyclists and pedestrians will be assessed.

## 9. Road Conditions

Metford Rd is a 2/lane – 2/way sealed road with a posted speed limit of 60km/h.

Fieldsend St 2/lane – 2/way sealed road with a posted speed limit of 50km/h.

Raymond Terrace Rd is a 2/lane - 2/way sealed road with a posted speed limit ranging from 60km/h to 80 km/h

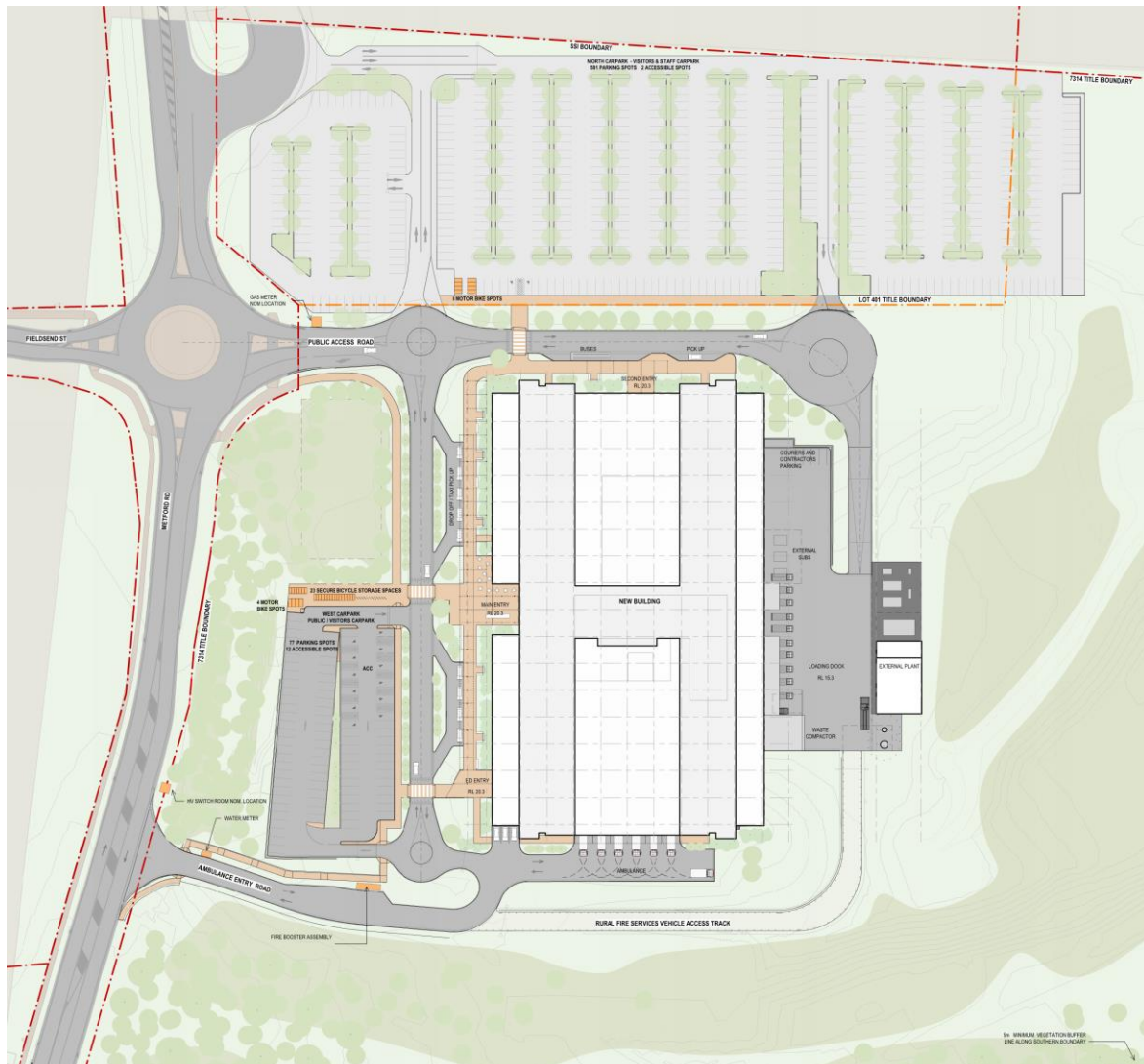


## 11. Vehicle Movement Plans

Appendix 2 - 5 details a Vehicle movement plan (VMP) with northern access road as the main entrance to site. Pending the construction of the southern access road (ambulance entry road) an alternative vehicle movement plan will be developed, the stage of construction will need to be assessed in the development of this VMP.

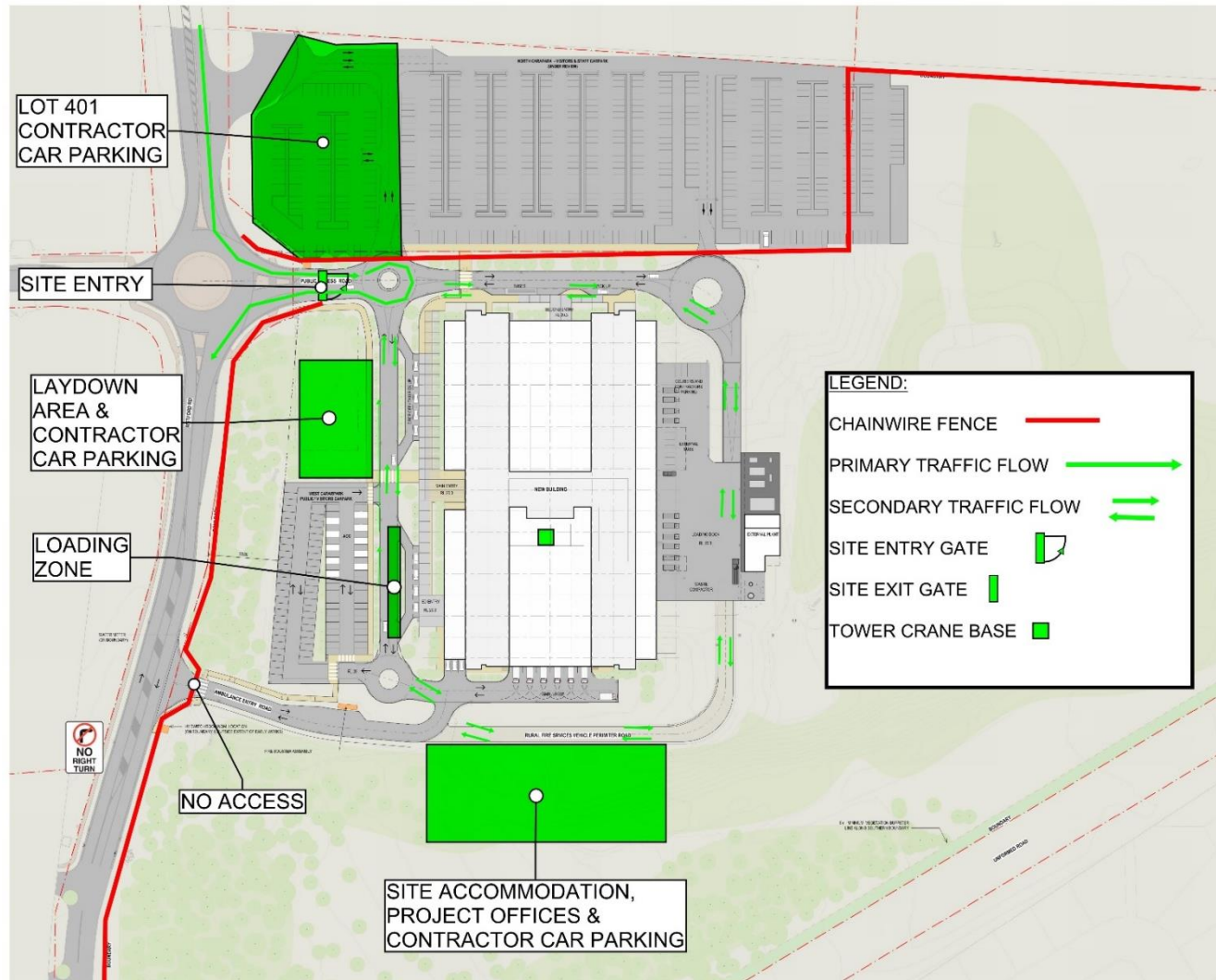
In similar fashion to the above a VMP will be developed for the inclusion of the Northern Carpark (Part Lot 401) and will need to suit the stage of construction that the project is at.

## APPENDIX 1 – BUILDING AND ROAD FOOTPRINT



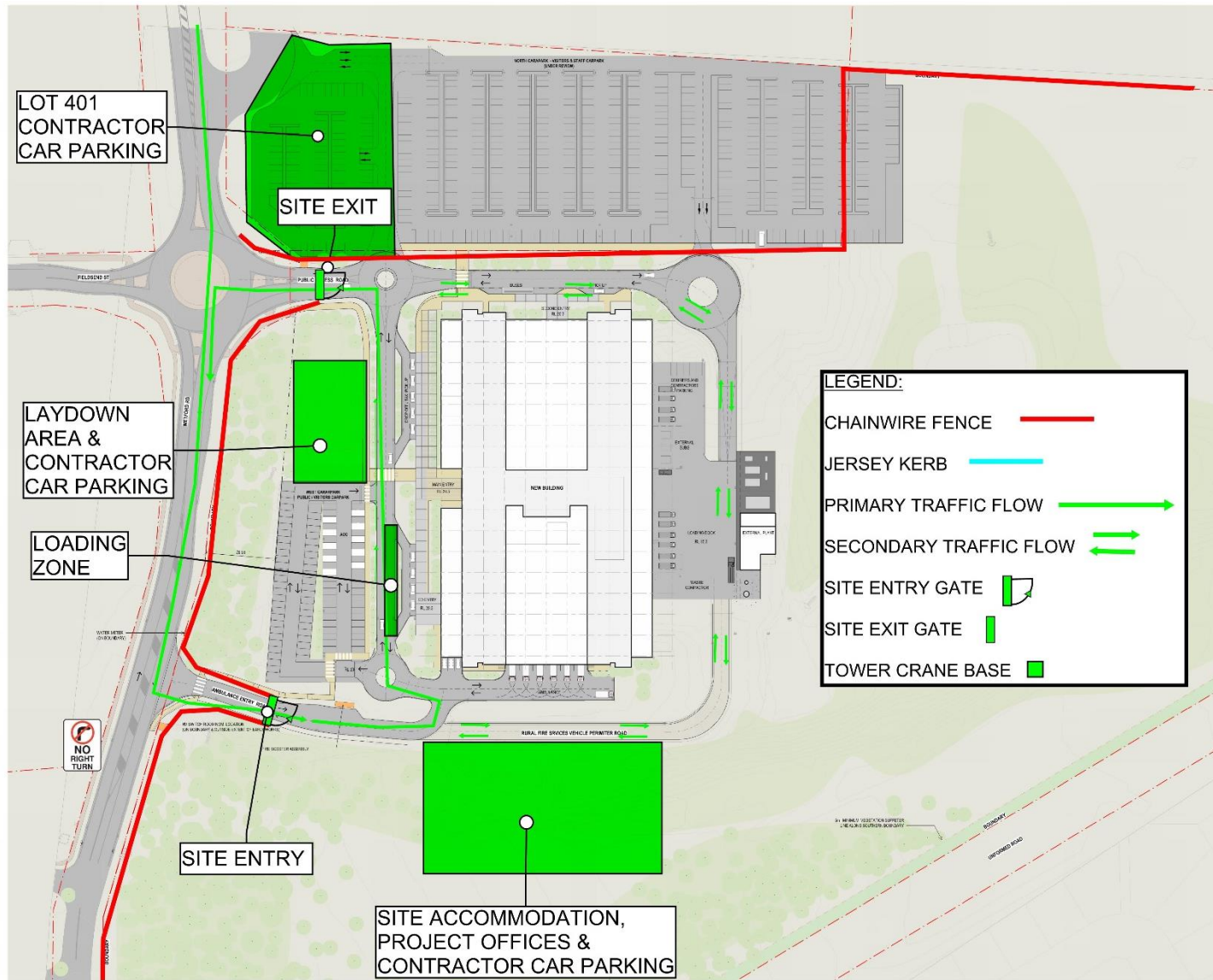


## APPENDIX 2 – VEHICLE MOVEMENT PLAN (NORTH ENTRY ROAD IN OPERATION)

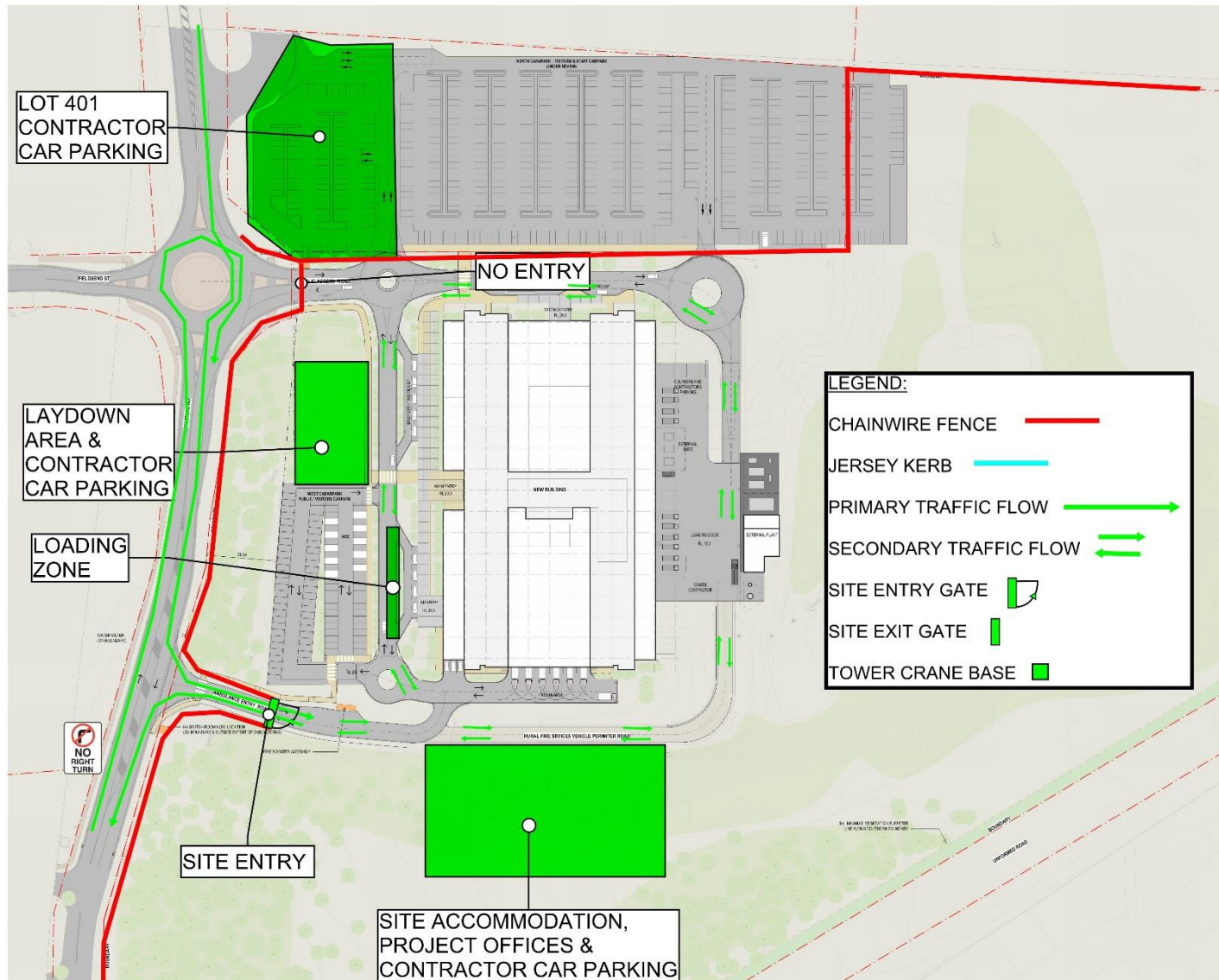




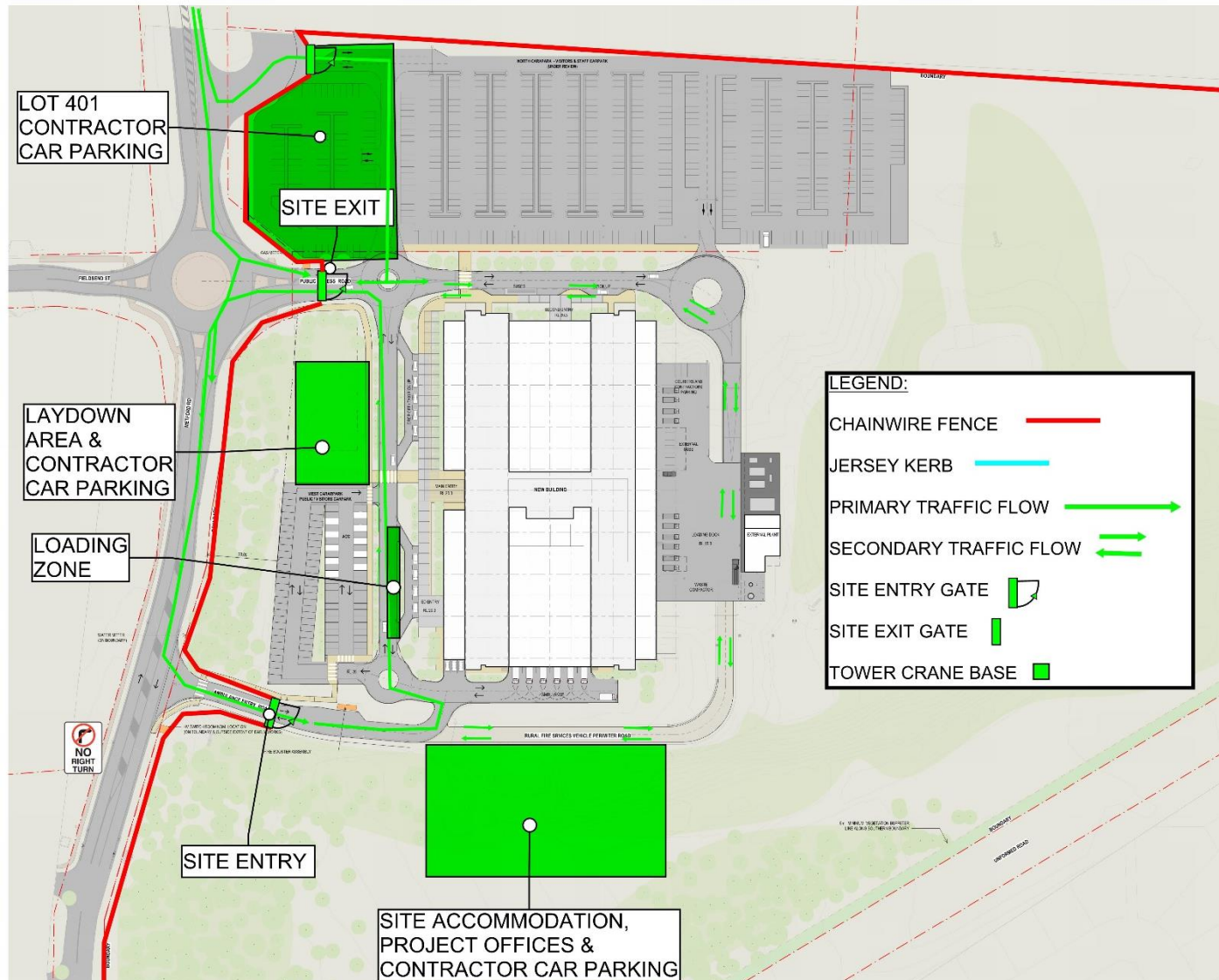
### APPENDIX 3 – VEHICLE MOVEMENT PLAN (NORTH & SOUTH ENTRY ROADS IN OPERATION)



## APPENDIX 4 – VEHICLE MOVEMENT PLAN (SOUTH ENTRY ROAD IN OPERATION ONLY)

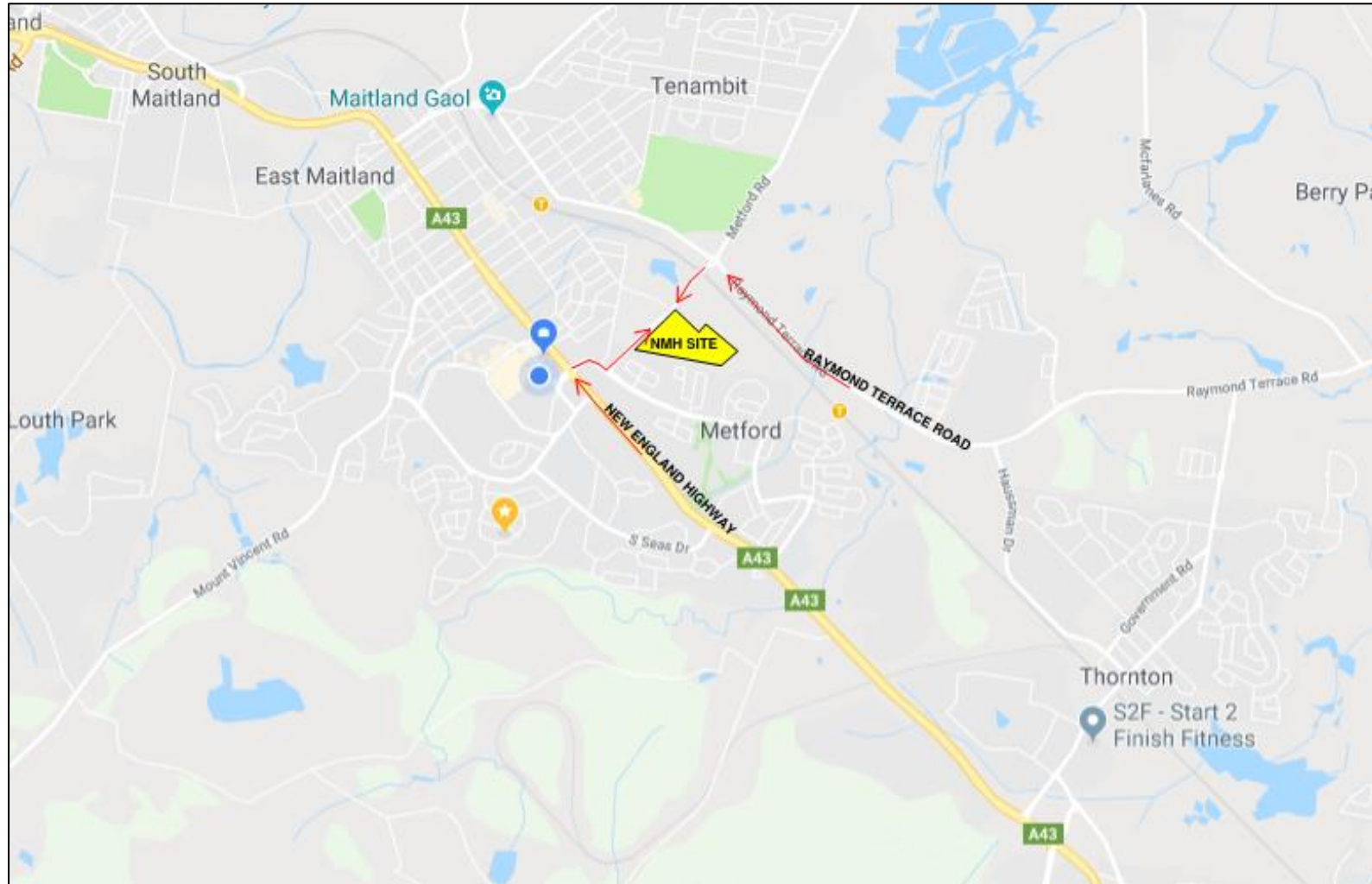


## APPENDIX 5 – VEHICLE MOVEMENT PLAN (LOT401 NORTH CARPARK & OTHER ENTRANCES ENTRY IN OPERATION, ALL 3)





## APPENDIX 6 – ANTICIPATED TRUCK DELIVERY ROUTES



## APPENDIX 7 – DRIVER CODE OF CONDUCT

# Driver Code of Conduct

You must contact relevant subcontractor for designated delivery prior to coming to site.

### VEHICLE AND TRAFFIC REQUIREMENTS

- Speed limit (site): 5km/hr.
- Speed limit (Metford Rd): 50km/hr.
- You must stay with your vehicle at all times
- You must follow the specified route
- DO NOT QUEUE on Metford Road/ Fieldsend Street roundabout
- You must enter the site and wait inside the site boundary

### VEHICLE MANAGEMENT PLAN/S

- Refer to the Vehicle Movement Plans included in the Construction Traffic and Pedestrian Management Sub-Plan (this Plan)

### SITE RADIO

All site radios are on UHF 14

### PLANT AWARENESS

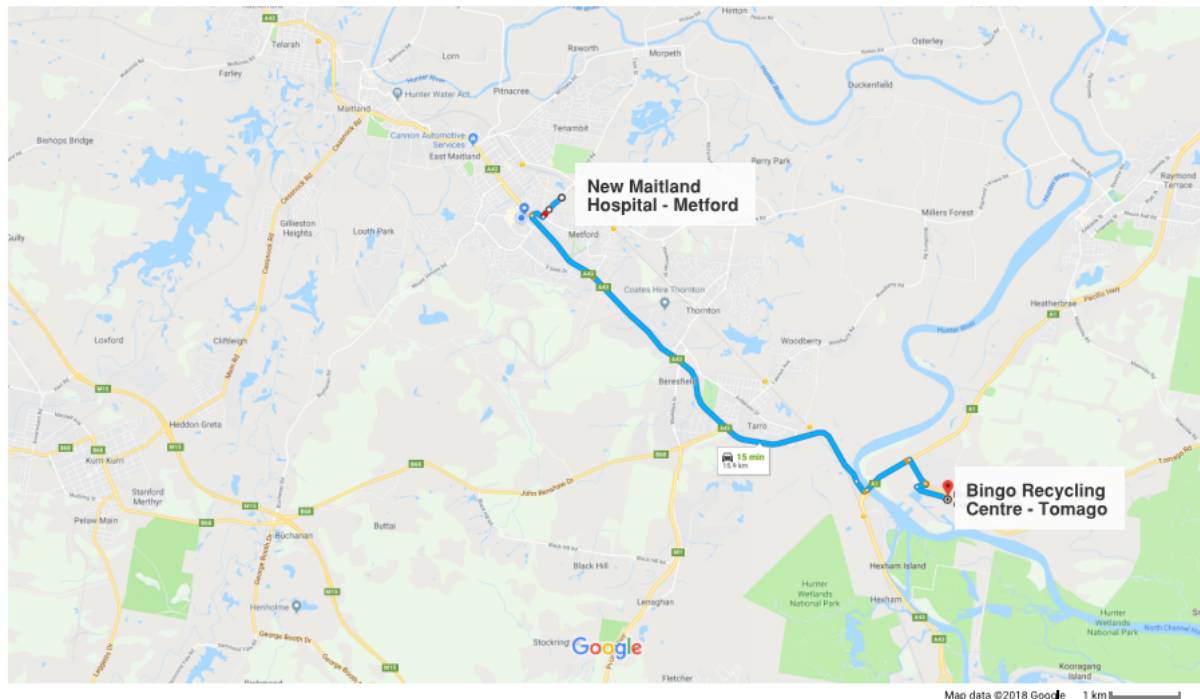
- When entering site, be cautious of plant moving around site.
- Ensure that a distance of 20m is maintained between any operating plant at all times

### EMERGENCY PROCEDURE

- Notify MPX Supervisor/First Aider (Multiplex First Aid Mobile Number – 0417 872 486)
  - Provide details regarding location, extent and nature of emergency if known
  - In the event an evacuation is required, all personnel must:
    - Stop work immediately
    - Switch off truck and leave delivery items behind
    - Do not collect personal items
    - Follow instructions of the Multiplex Supervisors
    - Proceed to the designated emergency assembly area
    - Remain at the emergency assembly area until head count is taken and all clear is given

## APPENDIX 8 – TRUCK WASTE ROUTE

Construction and Demolition Waste Management - Proposed for trucks transporting waste materials Drive 15.9 km, 15 min



### Metford

New South Wales 2323

#### Take Metford Rd to New England Hwy/A43

1. Head south-west on Metford Rd  
2 min (1.0 km)
2. At the roundabout, take the 2nd exit onto Chelmsford Dr  
650 m  
350 m

#### Continue on New England Hwy/A43 to Tomago

3. Turn left onto New England Hwy/A43  
10 min (13.0 km)
4. Use the left lane to take the Pacific Hwy/A1 slip road to Airport/Raymond Terrace/Taree/Brisbane  
11.3 km  
400 m
5. Continue onto Maitland Rd/Pacific Hwy/A1  
1.3 km

#### Continue on Tomago Rd. Drive to Laverick Ave

6. Use the right 2 lanes to turn right onto Tomago Rd  
3 min (1.9 km)  
750 m
7. At the roundabout, take the 3rd exit onto Old Punt Rd  
300 m
8. Turn left onto Laverick Ave  
850 m

### Bingo Recycling Centre - Tomago

29 Laverick Ave, Tomago NSW 2322

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan



15.16 Appendix 14: Project Incident Response Management Sub-Plan (Original)



# PROJECT INCIDENT RESPONSE MANAGEMENT SUB-PLAN

New Maitland Hospital  
Rev 3 – 16 Nov 2019

Multiplex Constructions Pty Limited

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[multiplex.global](http://multiplex.global)

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## 1.1 Contact information

Contact	Number
Glenn Moore (MPX Site Manager)	0414 299 229
Brett McFadzien (MPX Senior Site Supervisor)	0423 000 487
Callum Howarth (MPX Site Supervisor)	0476 850 258
EPA	131 555
Newcastle Public Health Unit (Hunter New England LHD)	(02) 4924 6477 <b>After hours:</b> (02) 4924 6477
Maitland City Council	(02) 4934 9700
Hunter Water	1300 657 000

## 1.2 Introduction

This Project Incident Response Management Sub-Plan (PIRMP) has been prepared for the New Maitland Hospital Early Works Project (the Project). The PIRMP is a sub-plan of the greater Construction Environmental Management Plan (CEMP) and should be read in conjunction with this document.

The key references for the development of the PIRMP include:

- Environmental Protection Licence
- Environmental guidelines: Preparation of pollution incident response management plans (EPA, 2012) and the Water Directorate's Template "Incident Notification for sewerage spill or overflow ©2012.

The Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012 sets out the requirements of an Incident Management Plan. The details are discussed below.

## 1.3 Background

The New Maitland Hospital is a 339 bed hospital greenfield development located off Metford road, Metford. The hospital building consists of 7 floors including; lower ground floor for back of house and services plant, two level podium (Ground and Level 1) and two wing tower above (levels 2 to 5) linked with primary lift cores.

The ground floor, which has an 11,000m<sup>2</sup> footprint, will accommodate the main entry functions and key clinical departments that require direct public access and retail. All loading dock functions and back of house facilities are located at lower ground level.

Some of the services being delivered include:

- Inpatient Units (IPUs), Intensive Care Unit (ICU), maternity and special care nursery, an emergency department, rehabilitation unit and renal dialysis
- 24 bed mental health inpatient services and a new 6 bed psychiatric emergency care centre (PECC); renal services;
- Chemotherapy service (12 bays) and expanded oral health service;
- Ambulatory care and outpatient clinics;
- Support spaces including operating theatres and recovery stage 1 and 2, delivery suites and assessment rooms;
- Imaging modalities including MRI, x-ray, CT, Fluoroscopy, Orthopantomogram (OPG), ultrasound; and
- Clinical support services including Central Sterile Services Department, pharmacy, pathology, isolation rooms where required, plaster rooms and gyms to support both general and mental health services for residents.

Temporary site accommodation and parking during construction will be located to the west of the proposed hospital building location.

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## 1.4 Relationship with other Emergency Plans

Refer to Section 2.2 Management System Framework of the CEMP which outlines the relationship of the Pollution Incident Response Management Sub Plan with other Emergency Plans for the premises.

## 1.5 Legislative Requirement

According to EPA (2012), the specific requirements for pollution incident response management plans are set out in Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) and the *Protection of the Environment Operations (General) Regulation 2009* (POEO(G) Regulation). In summary, this provision requires the following:

- All holders of environment protection licences must prepare a pollution incident response management plan (section 153A, POEO Act).
- The plan must include the information detailed in the POEO Act (section 153C) and be in the form required by the POEO (G) Regulation (clause 98B).
- Licensees must keep the plan at the premises to which the environment protection licence relates (section 153D, POEO Act).
- Licensees must test the plan in accordance with the POEO (G) Regulation (clause 98E)'.

If a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened, licensees must immediately implement the plan (section 153F, POEO Act).

## 1.6 Amendments to Regulation

An amendment to the POEO (G) Regulation has been made (by the *Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012*) with the object of specifying additional matters that need to be included in plans.

## 1.7 Definitions

The following definitions are used:

Term	Definition
Incident	Unplanned event that causes or threatens harm to human health, the environment, plant and equipment, vehicles, property, security or infrastructure
Pollution Incident	Incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.
Event	An abnormal occurrence that does not result in an incident or pollution incident

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act as:

- a) harm to the environment is material if:
- i. it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
  - ii. it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

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- b) 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.

## 1.8 Immediate Notification

Industry is now required to report pollution incidents immediately to the EPA, NSW Health, Fire and Rescue NSW, SafeWork NSW and the local council. Health Infrastructure's 'Incident Stakeholder Management Plan' and the protocols included in the Plan need to be adhered to for any notifiable incident.

'Immediately' has its ordinary dictionary meaning of promptly and without delay. These strengthened provisions will ensure that pollution incidents are reported directly to the relevant response agencies so they will have direct access to the information they need to manage and deal with the incident in a faster time.

The requirement to notify applies to:

- all holders of Environment Protection Licences (EPL)
- persons that undertake activities resulting in a pollution incident.

There are new associated offences, for individuals and corporations, for not preparing a plan, not keeping the plan at the premises to which it relates, not testing the plan in accordance with the Regulations and not implementing the plan in the case of an incident.

## 1.9 Protocol for Notification of Pollution Incidents

An incident involving actual or potential harm to human or environmental health must be reported immediately to the EPA.

Firstly, call 000 if the incident presents an immediate threat to human health or property. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first responders, as they are responsible for controlling and containing incidents.

If the incident does not require an initial combat agency, or once the 000 call has been made, notify the Site Manager who will notify the relevant authorities in the following order. The 24-hour hotline for each authority is given when available:

- EPA, phone Environment Line on 131 555
- NSW Health via the local Public Health Unit – (02) 4924 6477 **After hours:** (02) 4924 6477
- SafeWork NSW – phone 13 10 50 (Where appropriate)
- Maitland City Council Telephone (02) 6333 6111, After Hours (02) 6334 2795
- Fire and Rescue NSW – phone 000 in an emergency and 1800 679 737 for NSW Rural Fire Service (Where appropriate)

Refer to Section 8.1 of the CEMP for the Incident Communication Framework requirements for the Main Works Project.

## 1.10 Pollution Incident Response

Multiplex's Emergency Management Plan outlines the procedures in section 4.10 Environmental – Pollution Incident – Emergency Response. See below extract from this section of the plan which shows the procedure to be followed.

### **Environmental – Pollution Incident – Emergency Response**

**In the event of a pollution incident (incl. a leak, spill or escape of a substance) on site:**

**Stop work and investigate.** If the nature of the pollution is not clear, Emergency Services should be contacted immediately.



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## Environmental – Pollution Incident – Emergency Response

**CONTAIN** - Locate source of pollution and isolate to prevent further discharge or emission, **only if safe to do so**. Erect barriers around the area to prevent it from entering drains and water bodies. In the case of gaseous emissions, maintain a safe distance and cordon off the area. Use material provided in the spill kit to contain the pollution.

**REPORT** - Notify the Area Supervisor and the Chief Warden – Provide details regarding location and materials spilt Chief Warden to notify emergency response agencies as required.

**CLEAN UP - Maintain barriers and use the appropriate containment materials contained in the spill kit. Contact Emergency Services if the containment cannot be managed by the spill kit.** In the case of vaporous or gaseous emissions follow directions provided by Emergency Services. All waste materials are to be placed in waste containers and labelled appropriately for disposal to a licensed waste facility. Disposal dockets are to be collected by the site team.

All spill kits/PPE or other equipment utilised in the pollution incident are to be restocked.

**Notify all relevant parties, investigate and implement corrective actions.**

**Debrief/review process** – participate in emergency debriefing exercise (review adequacy of Emergency Procedure –Pollution Incident. Emergency Response Team and relevant Managers and Supervisors to participate in this debrief/review exercise.

Multiplex's general response protocol to land contamination is outlined under Section 13.6 of the CEMP.

## 1.11 Communicating with Neighbours and the Local Community

Multiplex have a Stakeholder and Communication Management Plan which outlines communication procedures for the project. Multiplex and any subcontractor engaged on the Project are not to directly communicate with the public or neighbouring properties. All communication with the public will be directed through the Principal/Principal's Representative.

## 1.12 Minimising Harm to Persons on the Premises

All persons on site shall complete a Project Induction prior to working on the premises. Persons on site are required to wear mandatory Personal Protective Equipment such as safety boots, hard hat and high visibility clothing. Refer to Multiplex's WHS Management plan for the project that outlines the procedures put in place to minimise harm to persons on the premises.

## 1.13 Pre-emptive Actions to be Taken to Min. the Likelihood of Pollution

Refer to Section 2 Environmental Management Systems in the CEMP which details the systems put in place to minimise the likelihood of pollution.

## 1.14 Potential Pollutants

Each Environmental Management Sub-Plan in Section 13 of the CEMP identifies potential pollutants that may be on the premises.

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## 1.15 Safety Equipment

Task specific safety equipment will be nominated in the subcontractor's Environmental SWMS. Generally on site the safety equipment will include:

- PPE
- Spill kit
- Bunds

## 1.16 Premises Plan

Refer to Attachment 1 below.

## 1.17 Staff Training

Refer to Section 4 Communication and Consultation within the CEMP for details.

## 1.18 Staff

Refer to Section 3.5 Multiplex Roles and Responsibilities within the CEMP for details.

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1.19 Attachment 1: Premises Plan

