ETHOS URBAN

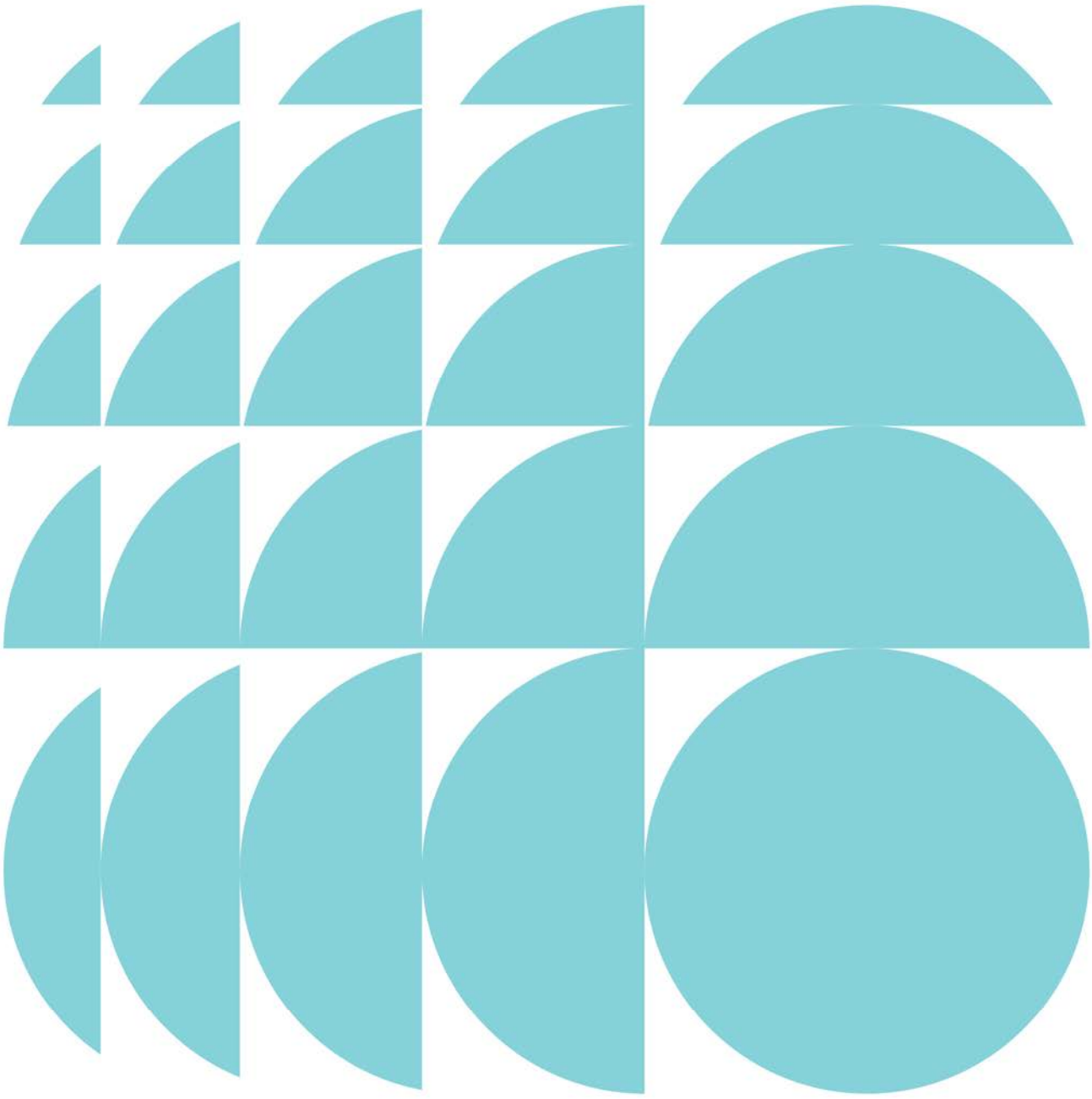
Environmental Impact Statement

New Maitland Hospital - Stage 2 Main Works
Metford Road, Metford

Submitted to Department of Planning, Industry and Environment

On behalf of Health Infrastructure NSW

21 June 2019 | 218684



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Statement of Validity

Development Application Details	
Applicant name	Health Infrastructure NSW
Applicant address	Level 14, 77 Pacific Highway, North Sydney, NSW 2060
Land to be developed	Metford Road, Metford (Lot 7314 DP 1162607 and part Lot 401 in DP 755237)
Proposed development	Stage 2 works including detailed design, construction and operation of the New Maitland Hospital
Prepared by	
Name	Chris McGillick
Qualifications	BPlan (Hons) PIA
Address	173 Sussex Street, Sydney
In respect of	State Significant Infrastructure - Development Application
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; • all available information that is relevant to the environmental assessment of the development to which the statement relates; and • the information contained in the statement is neither false nor misleading.
Signature	
Name	Chris McGillick
Date	21/06/2019

Executive Summary

Purpose of this Report

This submission to the Department of Planning, Industry and Environment (the Department) comprises an Environmental Impact Statement (EIS) for a Development Application under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It relates to the construction and operation of the New Maitland Hospital (NMH).

As the proposal is for the purposes of a health services facility and associated car parking that has a capital investment value in excess of $100 million on land identified in accordance with Schedule 4 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), it is State Significant Infrastructure (SSI) for the purposes of *the Environmental Planning and Assessment Act 1979* (the Act).

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was sought on 29 November 2018. RE-issued SEARs were received on 22 February 2019. This submission is in accordance with the Department's guidelines for SSI applications lodged under Part 5 of the EP&A Act, and addresses the issues raised in the SEARs.

Overview of the Proposed Development

The SSI Development Application seeks approval for the following development:

- The construction and operation of a new 7 storey Acute Services Building, containing;
  - An Emergency Department;
  - 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.
- Construction of internal roadways and car parking for staff, patients and visitors;
- Site landscaping;
- Signage;
- Tree removal; and
- Utility services connections and amplification works.

The Site

The site is located on Metford Road, Metford within the Maitland Local Government Area, approximately 5km east from the centre of Maitland. The site is legally known as Lot 7314 in DP 1162607 and part of Lot 401 in DP 755237.

Planning Context

Section 5.0 of the EIS considers all applicable legislation in detail. The proposal is consistent with the requirements of all relevant SEPPs. The site is zoned RU2 Rural Landscape and hospitals are not permissible within the zone. However, section 5.22(2) of the EP&A Act provides that Part 3 of the EP&A Act and environmental planning instruments do not apply to SSI. Therefore, the application can be approved, subject to an environmental assessment under section 5.18 of the EP&A Act.

Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the SEARs and sets out the undertakings made by Health Infrastructure NSW (Health Infrastructure) to manage and minimise potential impacts arising from the development.

Consultation

Section 4.0 of the EIS details the consultation that has been undertaken with various project stakeholders including Maitland City Council, Government Architect NSW, Roads and Maritime Services (RMS) and the public. The outcomes of the consultation process have been considered in the design of the project.

Conclusion and Justification

The EIS addresses the SEARs, and the proposal provides for the Stage 2 construction and operation of the new Hospital. The potential impacts of the development are acceptable and are able to be managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning and Public Spaces.

1.0 Introduction

This EIS is submitted to the Department of Planning, Industry and Environment pursuant to Part 5 of the EP&A Act in support of an application for SSI for the construction and operation of the NMH.

As the proposal is for the purposes of a health services facility and associated car park that has a capital investment value in excess of $100 million on land identified in accordance with Schedule 4 of the SRD SEPP, it is SSI for the purposes of the EP&A Act.

The report has been prepared by Ethos Urban on behalf of Health Infrastructure and is based on the Architectural Plans provided by BVN (see **Appendix B**) and other supporting technical information appended to the report (see Table of Contents).

This EIS has been prepared in accordance with the requirements of Part 5 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*, and the SEARs for the preparation of the EIS, which are included at **Appendix A.** This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

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  - Mental health services;
  - Satellite renal dialysis;
  - A new chemotherapy service;
  - Oral health service;
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- Construction of internal roadways and car parking for staff, patients and visitors;
- Site landscaping;
- Signage;
- Tree removal; and
- Utility services connections and amplification works.

An artist impression of the proposed NMH is provided at **Figure 1**.

Figure 1 Artist Impression of the New Maitland Hospital

Source: BVN

1.1 Background to the Development

The existing Maitland Hospital is the rural referral hospital for the Hunter Valley and is the district hospital for greater Maitland residents. The hospital is currently operating at capacity and cannot support the growth and change in the type of services for the Lower Hunter Region. It has been identified as having a number of issues relating to age, asset condition, compliance with current facility guidelines and ability to meet contemporary service delivery and models of care.

In March 2015, the NSW Government announced more than $400million for the NMH project. The Government's announcement distinguished that the NMH would be both the rural referral hospital for the Hunter Valley and the major district hospital for local residents of the Lower Hunter.

The NMH construction program is being delivered across several stages, as follows:

- Stage 1 – Early works preparatory works and concept design envelope (approved by SSI 9022); and
- Stage 2 – Detailed design, construction and operation of the NMH (subject of this application).

Several other separate applications have been undertaken within the surrounding land to support the NMH program. These are outlined below.

1.1.1 SSI 9022 - Construction Enabling Works and Concept Approval

The NMH Stage 1 early works application (SSI 9022) was approved by the Minister for Planning on 7 November 2018, comprising:

- Concept approval for the development of a new hospital with approximately 60,000m^2 of floorspace, including a nine-storey building envelope and site access arrangements.
- Stage 1 site clearance and preparatory works, including:
  - Remediation;

- Bulk earthworks;
- Utility connections;
- In-ground infrastructure works;
- Vegetation removal;
- Building foundations;
- Drainage infrastructure;
- Construction of temporary roads, temporary car parking area, temporary fencing; and
- Site office/compound.

1.1.2 Offsite Works

On 12 October 2017 Health Infrastructure obtained approval via Part 5 of the EP&A Act for the construction of a roundabout at the Metford Road/Fieldsend Street intersection that will be the main entry to the NMH site. The application also constructed the emergency vehicle entry (to the south). Refer to **Figure 2**.

Figure 2 Metford Road construction works

Source: GTA

1.1.3 Offsite Services Works

On 5 April 2018, Health Infrastructure obtained approval via Part 5 of the EP&A Act for the installation of a new gas pipeline under the road reserve on the western side of Metford Road.

On 2 May 2018, Health Infrastructure obtained approval via Part 5 of the EP&A Act for the installation of electrical infrastructure and street lighting within the Metford Road reserve on the eastern side of the road.

1.2 Objectives of the Development

The overall objective of the NMH program is to develop a new, purpose-built hospital with the capability and capacity to meet the healthcare needs of the Lower Hunter community. Specifically, the proposed development aims to:

- 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;
- Improve the patient outcome and experience of care (including quality and satisfaction);

- Improve the health of populations;
- Deliver safe and efficient health care;
- Provide legible and intuitive wayfinding;
- Optimise patient and staff amenity and improve services efficiency and access;
- Create employment opportunities to grow and support health related work in the region; and
- Address the significantly high rates of preventable hospitalisation.

1.3 Analysis of Alternatives

1.3.1 Strategic Need for the Proposal

The NSW health system is facing considerable challenges to meet growing demand driven by population growth, an ageing population, lifestyle diseases and new care technologies. The current Maitland Hospital is operating at 97% capacity and cannot support the growth and change in the type of services needed to provide contemporary health care to the Hunter Region or to meet the health demands driven by a growing and ageing population. As the population ages, the number of people with chronic conditions and co-morbidities is expected to rise, and this will place a strong projected demand on Hunter New England health services.

The existing Maitland Hospital is the busiest facility in the Hunter Valley providing the majority of public health services required by residents. As the current services are at capacity, a high proportion of patients are being referred to hospitals in Newcastle or Sydney to meet demand. There are limited ambulatory care services to assist in reducing hospital admissions and length of stay. While the overall condition of the buildings is safe and operational, it is of fair or poor condition and there is limited ability to expand due to the site's proximity to a number of heritage items.

Accordingly, there is an urgent need to provide the Hunter New England Local Health District with the capability and capacity to better meet the healthcare needs of the Lower Hunter community. The NMH will also address future demand for services from a growing and ageing population and to better provide services closer to home.

1.3.2 Alternative Options

Four options are available to Health Infrastructure in responding to the need for additional health capacity.

Option 1 - Do Nothing

Under the 'do nothing' scenario the existing health infrastructure in the Hunter Region would need to continue to provide services to cater for the health needs of the Region. The current Maitland Hospital is already operating at maximum capacity meaning patients will continue to be referred to other hospitals in other cities. Therefore the 'do nothing' scenario will lead to a decline in health outcomes. Not undertaking the work would be an inappropriate outcome for a project of this nature, which will facilitate much needed health infrastructure for the Region.

Option 2 – Redevelopment of the Existing Hospital

The existing Maitland Hospital is operating at maximum capacity with little or no scope for expansion. In 2013, the hospital buildings were assessed as being unable to provide contemporary models of care and cannot be easily adapted for reuse. While the overall condition of the buildings is safe and operable, they are in fair or poor condition. In addition, the existing Hospital is constrained by several heritage items limiting expansion. The option of adaptive reuse and redevelopment of the existing Maitland Hospital is not a viable option.

Option 3 – Alternative Designs within the Approved Concept Plan

Health Infrastructure has explored a number of options for the location and layout of the new facility during the concept design phase. During this process a preferred masterplan was adopted which nominated principles that would inform the design alternatives. The concept proposal identified the location of the hospital zone within the site. BVN has further explored siting options for the NMH including:

- Ground floor design:
- Key hospital functional relationships; and
- Orientation of towers.

This analysis is shown at **Figure 3** - **Figure 5**. BVN has explored alternative designs further in the Architectural Design Report at **Appendix C**. Considering all of the analysis undertaken, it was decided that the proposed development (i.e. Option Four) was the most effective proposal to meet the objectives of the project.

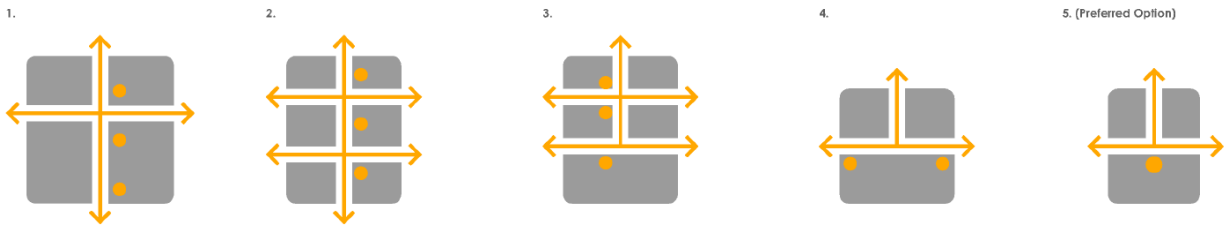

Figure 3 Ground floor design options

Source: BVN

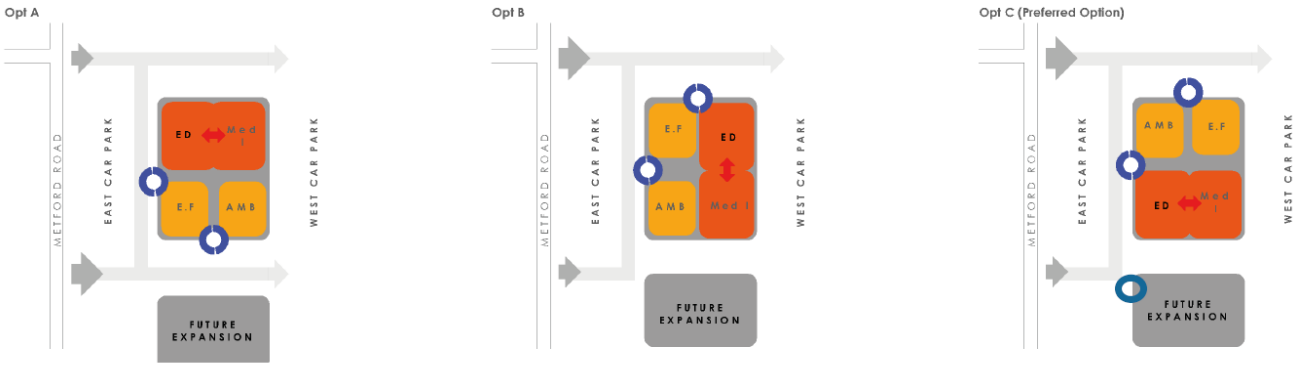

Figure 4 Ground floor function relationships

Source: BVN

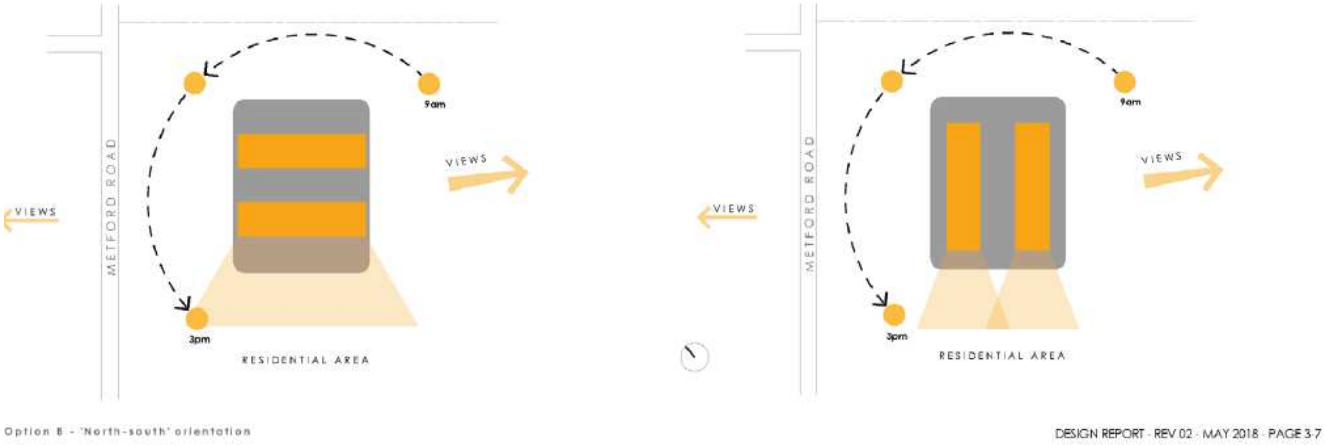

Figure 5 Tower orientation

Source: BVN

Option 4 – The Proposal

Option Four involves undertaking the proposed redevelopment as outlined in this SSI application (as described in **Section 3.0**). The NMH has been designed in accordance with the general parameters of the approved building envelopes. The proposal will provide a contemporary health care facility that will meet the needs of the regional and local community.

The development will act as a rural referral hospital for the Hunter New England Region and will offer a range of services to accommodate the growing population and the local area. As well, it provides an essential public service on an underutilised site. The proposal aligns with a budget allocation of $400 million announced by the NSW State Government.

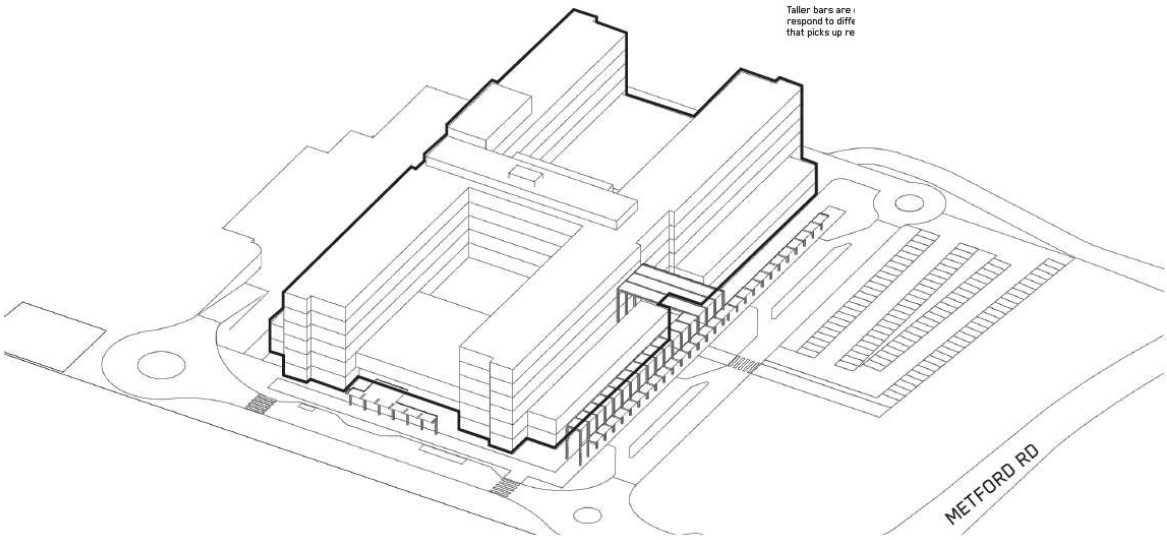

Figure 6 New Maitland Hospital massing and arrangement diagram

Source: BVN

Figure 7 New Maitland Hospital layout and arrangement

Source: BVN

1.4 Secretary's Requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the Department re-issued the requirements for the preparation of the EIS on 22 February 2019. A copy of the Secretary's Environmental Assessment Requirements (SEARs) is included at **Appendix A**.

Table 1 provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 1 Secretary's Requirements

Requirement	Location in Environmental Assessment	
General		
The Environmental Impact Statement (EIS) must address the *Environmental Planning and Assessment Act 1979* and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000.	**Environmental Impact Statement**	
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	**Section 6.0**	
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data; • consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed); and • measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	**Section 7.0**	
The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and • certification that the information provided is accurate at the date of preparation.	**Section 3.12** **Section 3.13**	
Key Issues	**Report / EIS**	**Technical Study**
The EIS must address the following specific matters:	**-**	**-**
1. Statutory and Strategic Context – including: Address the statutory provisions contained in all relevant environmental planning instruments, including:	**-**	**-**
• State Environmental Planning Policy (State & Regional Development) 2011.	**Section 5.1**	**-**
• State Environmental Planning Policy (Infrastructure) 2007.	**Section 5.1**	**-**
• State Environmental Planning Policy No 44 – Koala Habitat Protection.	**Section 5.1**	**-**
• State Environmental Planning Policy No. 55 – Remediation of Land.	**Section 5.1** **Section 5.14**	**Appendix O**
• State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.	**Section 5.1**	**-**
• State Environmental Planning Policy No. 64 – Advertising and Signage.	**Section 5.1** **Section 5.1.1**	**-**
• Draft State Environmental Planning Policy (Remediation of Land).	**Section 5.1**	**-**
• Draft State Environmental Planning Policy (Environment).	**Section 5.1**	**-**
• Maitland Local Environmental Plan 2011.	**Section 5.1**	-

Requirement	Location in Environmental Assessment	
Permissibility Detail the nature and extent of any prohibitions that apply to the development.	**Section 5.1**	-
Development Standards Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	**Section 5.1**	-
2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following:		
• NSW State Priorities	**Section 5.1**	**-**
• Hunter Regional Plan 2036	**Section 5.1**	**-**
• Greater Newcastle Metropolitan Plan 2036	**Section 5.1**	**-**
• Future Transport Strategy 2056 and supporting documents	**Section 5.1**	**-**
• Greater Newcastle Future Transport Plan	**Section 5.1**	**-**
• Crime Prevention Through Environmental Design (CPTED) Principles	**Section 5.1** **Section 5.4**	**-**
• Better Placed – An integrated design policy for the built environment of NSW 2017.	**Section 5.1**	**Appendix C**
3. Built Form and Urban Design Address the height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces.	**Section 3.1.1** **Section 3.3** **Section 3.6** **Section 5.2** **Section 5.2.1** **Section 5.2.2**	**Appendix B** **Appendix C**
Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, heritage significance, materials, colours and Crime Prevention Through Environmental Design Principles.	**Section 1.3.2** **Section 3.3** **Section 3.3.2** **Section 3.4** **Section 3.6** **Section 3.8** **Section 5.4** **Section 5.16**	**Appendix B** **Appendix C** **Appendix F**
Provide details of any building identification signage, including size, location and finishes.	**Section 3.9** **Section 5.1** **Section 5.1.1**	**Appendix B** **Appendix C**
Detail how the design and construction of the hospital will incorporate heritage interpretation utilising material and fabric salvaged from the demolition of the former Brick Press Building associated with the former CSR/PGH Brickworks.	**Section 3.8** **Section 5.16**	**Appendix C** **Appendix K**
Demonstrate how high-quality design will be achieved with reference to Better Placed – An integrated design policy for the built environment of New South Wales and in accordance with a strategy developed in consultation with the Government Architect of NSW.	**Section 5.1**	**Appendix C**
Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	**Section 3.10** **Section 5.7**	**Appendix B** **Appendix P**
4. Environmental Amenity Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, reflectivity from building facades and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	**Section 5.3** **Section 5.3.1** **Section 5.3.2** **Section 5.3.4** **Section 5.3.5** **Section 5.3.6** **Section 5.6**	**Appendix C**
Conduct a view analysis to the site from key vantage points and streetscape locations.	**Section 5.3.3**	**Appendix C**
Include a lighting strategy and measures to reduce spill into any surrounding sensitive receivers.	**Section 5.3.4**	**Appendix C**
5. Transport and Accessibility	**Section 5.4**	**Appendix H**

Requirement	Location in Environmental Assessment	
Include a transport and accessibility impact assessment, which details, but is not limited to the following:	**Section 5.5**	
the current daily and peak hour vehicle, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development;		
the future daily and peak hour vehicle, public transport, pedestrian and cycle movement for the 10-year horizon with and without the proposed development. These traffic projections are to factor in the local area urban development growth, and road hierarchy and function based on its connectivity between two state roads (New England Highway and Raymond Terrace Road);		
an assessment of the operation of existing and future transport networks including the bus network and their ability to accommodate the forecast number of trips to and from the development;		
details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips;		
the adequacy of public transport, pedestrian and bicycle networks and infrastructure to meet the likely future demand of the proposed development (this includes safe connections to Victoria Street railway station and Council's pedestrian and bicycle network);		
the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site and identify measures to integrate the development with the transport network (this includes consultation with TfNSW on connections to Victoria Street railway station);		
provision of bus capable infrastructure for the internal road network of the hospital site, including but not limited to swept path analysis and DDA compliant bus stop design;		
details of any upgrading or road improvement works required to accommodate the proposed development (including details or scope and timing of upgrades);		
details of travel demand management measures, including the preparation of a Green Travel Plan, to encourage sustainable travel choices and details of programs for implementation;		
the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity and for a 10-year horizon, and the need/associated funding for upgrading or road improvement works, if required;		
the proposed active transport access arrangements and connections to public transport services (including the requirements for connections to be safe – i.e. shared paths, traffic controls and /or calming measures and lighting requirements);		
the proposed access arrangements, including car and bus pick- up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones;		
the number of proposed car parking spaces and compliance with appropriate parking codes, justifying the level of car parking provided on-site;		
measures to maintain road and personal safety in line with CPTED principles;		
proposed bicycle parking facilities in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance;		
proposed end-of-trip facilities;		
a Pedestrian Access and Mobility Plan;		
details of emergency vehicle access arrangements;		
an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures;		
service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times);		

Requirement	Location in Environmental Assessment	
In relation to construction traffic: • assessment of cumulative impacts associated with other construction activities; • an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity; • details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process; • details of anticipated peak hour and daily construction vehicle movements to and from the site; • details of access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle; • details of temporary cycling and pedestrian access during construction; • details of proposed construction vehicle access arrangements at all stages of construction; and • traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures for all demolition/construction activities).		
Relevant Policies and Guidelines: • Guide to Traffic Generating Developments (Roads and Maritime Services) • EIS Guidelines – Road and Related Facilities (DoPI) • Cycling Aspects of Austroads Guides • NSW Planning Guidelines for Walking and Cycling • Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development • Standards Australia AS2890.3 (Bicycle Parking Facilities)		
Ecologically Sustainable Development (ESD) Detail how ESD principles (as defined in clause 7(4) of Schedule 2of the Regulation) will be incorporated in the design and ongoing operation phases of the development.	**Section 3.7** **Section 5.19**	**Appendix Q**
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.		
Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance.		
Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically: • hotter days and more frequent heatwave events • extended drought periods • more extreme rainfall events • gustier wind conditions • how these will inform landscape design, material selection and social equity aspects (respite/shelter areas). Relevant Policies and Guidelines: • NSW and ACT Government Regional Climate Modelling (NARCliM) climate change projections.		
Biodiversity Biodiversity Conservation Act • Biodiversity impacts related to the proposed development are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the *Biodiversity Conservation Act 2016* (s6.12),	**Section 5.10**	**Appendix J1** **Appendix J2**

Requirement	Location in Environmental Assessment	
Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method.		
The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.		
The BDAR must include details of the measures proposed to address the offset obligation as follows: – the total number and classes of biodiversity credits required to be retired for the development/project – the number and classes of like-for-like biodiversity credits proposed to be retired – the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules – any proposal to fund a biodiversity conservation action – any proposal to make a payment to the Biodiversity Conservation Fund.		
If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.		
The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the *Biodiversity Conservation Act 2016*.		
Where a Biodiversity Assessment Report is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal. *Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise specified under the Act.*		
Approved Biodiversity Offset Strategy • The EIS must demonstrate that the proposal is consistent with the endorsed Biodiversity Assessment Report (BAR) and Biodiversity Offset Strategy (BOS), as approved under SSI 9022.		
Heritage Include a Heritage Impact Statement that addresses the significance of, and provides an assessment of, the impact on the heritage significance of any heritage items on the site and in the vicinity, and/or conservation areas and/or potentially archaeologically significant areas, in accordance with the guidelines in the *NSW Heritage Manual*.	**Section 3.8** **Section 5.16**	**Appendix K**
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. Relevant Policies and Guidelines: • Noise Policy for Industry 2017 (EPA) • Interim Construction Noise Guideline (DECC) • Assessing Vibration: A Technical Guideline 2006 • Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)	**Section 5.6**	**Appendix L**

Requirement	Location in Environmental Assessment	
Sediment, Erosion and Dust Controls Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles. Relevant Policies and Guidelines: • Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom) • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)	**Section 5.9**	**Appendix M**
Contamination Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. Relevant Policies and Guidelines: • Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)	**Section 5.14**	**Appendix O**
Utilities • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure. • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non- potable water, and water sensitive urban design. • Identify any potential impacts on existing utility infrastructure and service provider assets and demonstrate how these will be protected or impacts mitigated.	**Section 3.10** **Section 5.8.3**	**Appendix M** **Appendix U**
Contributions Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	**Section 5.21**	-
Drainage • Detail drainage associated with the proposal, including stormwater and drainage infrastructure. • Detail measures to minimise operational water quality impacts on surface waters and groundwater. Relevant Policies and Guidelines: • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)	**Section 5.8.1** **Section 5.8.3**	**Appendix M**
Flooding Assess any flood risk on site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity.	**Section 5.8.2**	**Appendix M**
Waste Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	**Section 3.4.3** **Section 5.7** **Section 5.7.1** **Section 5.7.2** **Section 5.7.3**	**Appendix P**
Bushfire Prepare a bushfire hazard assessment that addresses the specifications and requirements for Special Fire Protection Purpose Development as detailed in *Planning for Bush Fire Protection 2006* and draft *Planning for Bush Fire Protection 2017* guidelines for all components of the development.	**Section 2.4.7** **Section 5.12**	**Appendix R**
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.	**Section 3.14** **Section 5.6**	**Appendix L**

Requirement	Location in Environmental Assessment	
Plans and Documents	**Report**	**Technical Study**
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.	**-**	**-**
• Architectural drawings including but not limited to the following requirements: – dimensioned and including RLs and MGA coordinates; – plans, sections and elevations of the proposal; – site and context plans that demonstrate active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links; and – detailed annotated wall sections that demonstrate typical cladding, window and door details, including materials and general construction quality;	**-**	**Appendix B**
• Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and site boundaries	**-**	**Appendix D**
• Site Analysis Plan including: – site and context plans that demonstrate principles for future development and expansion, built form character and open space network – active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links – site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links	-	**Appendix B** **Appendix C**
• Sediment and erosion control plan	**-**	**Appendix M**
• Shadow Diagrams	**-**	**Appendix C**
• View analysis, photomontages and architectural renders, including from those from public vantage points	**-**	**Appendix C**
• Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including: – integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed – plan identifying significant trees, trees to be removed and trees to be retained or transplanted	**-**	**Appendix F**
• Design report to demonstrate how design quality will be achieved in accordance with the above Key Issues including: – architectural design statement – diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal – detailed site and context analysis – analysis of options considered including building envelope study to justify the proposed site planning and design approach – visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items – summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and responses to this advice – summary report of consultation with the community and response to any feedback provided	**-**	**Appendix C** **Appendix E**
• Geotechnical and Structural Report	**-**	**Appendix N** **Appendix S**
• Accessibility Report	**-**	**Appendix T**
• Arborist Report	**-**	**Appendix G**
• Schedule of materials and finishes	**-**	**Appendix B** **Appendix C**

Requirement	Location in Environmental Assessment	
Consultation		
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders, and affected landowners. In particular, you must consult with: • Maitland City Council. • Roads and Maritime Services. • Government Architect NSW. The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	**Section 4.0**	**Appendix E**
Further consultation after 2 years: If you do not lodge an EIS for the infrastructure within two years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.		

2.0 Site Analysis

2.1 Site Location and Context

The site is located on Metford Road, Metford within the Maitland Local Government Area, approximately 5km south-east from the centre of Maitland and 2.5 hours north of Sydney. Metford is within the Lower Hunter Region, which is a region comprising the Maitland, Cessnock, Lake Macquarie, Newcastle and Port Stephens local government areas.

The site is located in the south-western corner of land known as the 'Metford Triangle' which is bound by Metford Road to the west, an unformed road reservation and overhead transmission line to the south, dense vegetation to the east and the remainder of the Metford Triangle to the north (which comprises cleared land). The surrounding areas include a mixture of residential, commercial, light industrial and public recreation areas. Stockland Green Hills Shopping Centre is located 1.5km to the south-west.

The site is in close proximity to a range of transport services and key roads including Metford Road linking the site to the New England Highway and Raymond Terrace Road linking the site to the greater Hunter Region. Metford Railway Station is approximately 2.8km to the east and Victoria Street Station is approximately 1.4km to the north-west.

The sites locational context is shown at **Figure 8**.

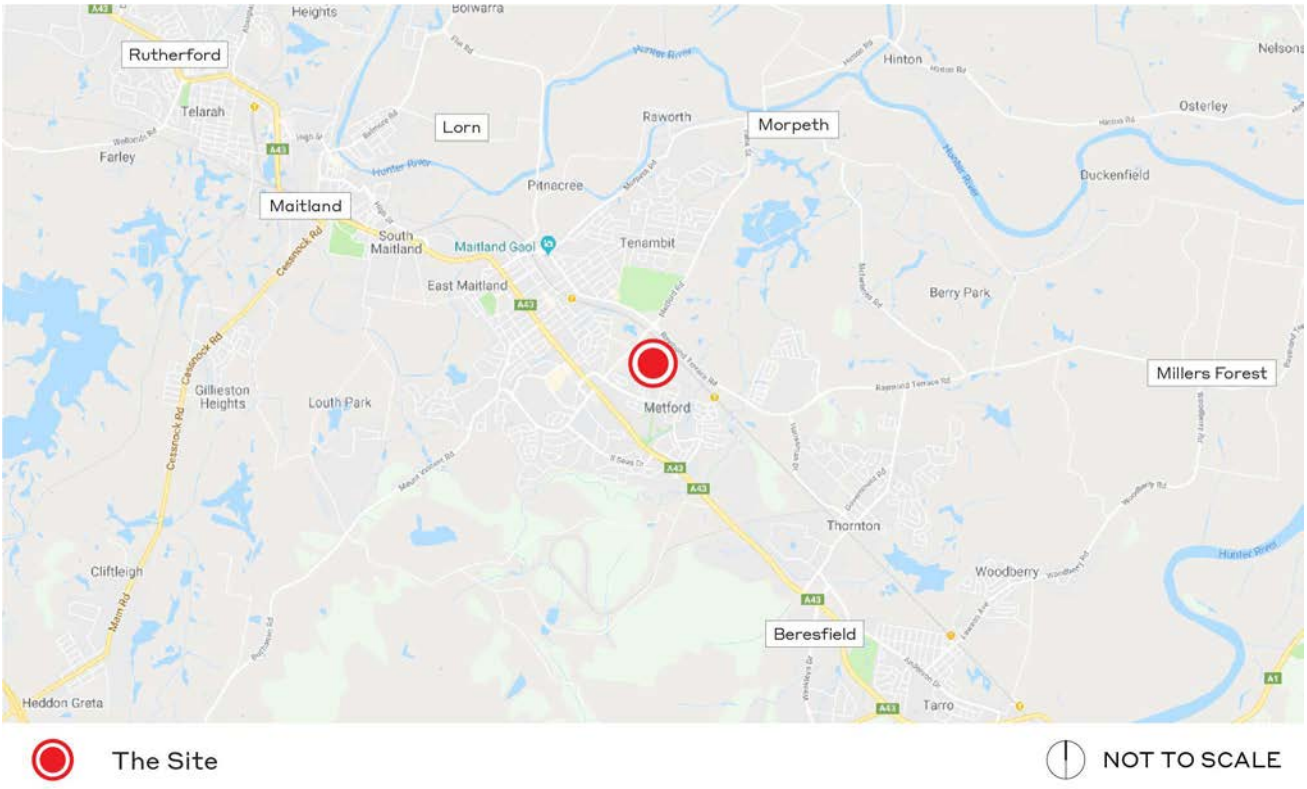

Figure 8 Locational context

2.2 Land Ownership

The site is legally described as Lot 7314 in DP1162607 and part Lot 401 in DP755237. The site is owned by NSW Health Administration Corporation. Lot 401 is owned by Crown Lands.

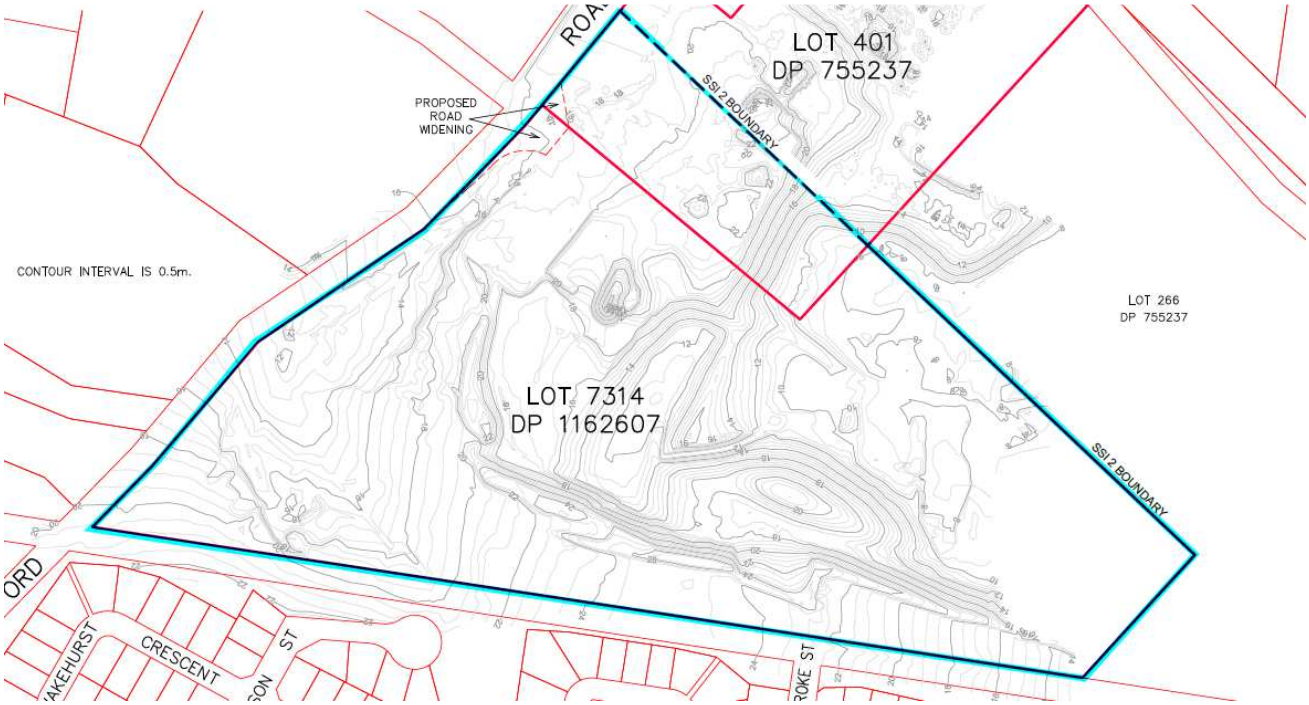

Figure 9 Site Lot boundaries

Source: Monteath and Powys

2.3 Site History

The site was previously a brickworks operated by CSR. Prior to the closure of CSR's operations, works on the Metford Triangle included a quarry, process plant, office amenities buildings, raw material stockpile areas, clay quarry pits, sedimentation dams, setting ponds and water storage dams.

The main brick processing area was located outside of the SSI dedicated land in the far northern corner and included brick presses, kilns and storage areas. Much of the infrastructure associated with these uses has now been removed.

Approval to demolish the factory buildings on Lot 401 (outside the SSI dedicated land) was granted by Maitland City Council in 2012 (DA 11-1875).

2.4 Site Description

The site is located 5km south-east of the Maitland town centre, on Metford Road between Chelmsford Drive and Raymond Terrace Road. The proposed development is located in the south-western portion of the Metford Triangle.

The site is irregular in shape with an area of approximately 193,700m^2.

A survey plan is located at **Appendix D** and an aerial photo of the site is shown at **Figure 10**.

Figure 10 Aerial photo of the site

Source: Ethos Urban

2.4.1 Existing Development

The site is in the process of being prepared for development as part of the Stage 1 approval (SSI 9022). A hardstand area for the storage of construction materials and construction related vehicles is located in the western portion of the site, accessed off the Metford Road main entry.

Figure 11 to **Figure 17** illustrate the current site conditions.

Figure 11 Location of future hospital building (looking north)

Source: Ethos Urban

Figure 12 View of cleared construction compound area

Source: Ethos Urban

Figure 13 Metford Road main entry (looking south)

Source: Ethos Urban

Figure 14 View of the central area of Lot 7314

Source: Ethos Urban

Figure 15 Vegetation in the eastern area of Lot 7314

Source: Ethos Urban

Figure 16 Remnant forest in the southern area of Lot 7314

Source: Ethos Urban

Figure 17 View of Part Lot 401

Source: Ethos Urban

2.4.2 Topography

The site has an undulating topography with some steep ridges from previous mining activities. The land generally slopes to the east, while a portion of the south-western corner falls west toward Metford Road. The western boundary of the site varies from approximately RL12m to RL20m. The southern boundary varies from RL10.5m to RL25m. The low point of the site is centrally located at the north-eastern boundary with an RL of approximately RL4m. A site survey is provided at **Appendix D**.

2.4.3 Vegetation

The site is highly modified, however comprises remnants of native forest vegetation in the eastern, south and south-western corner of the site. The central drainage channel has areas of riparian vegetation, including ponds created as a result of the altered landscape.

2.4.4 Heritage

There are no heritage listed items on the site and the site is not located within a heritage conservation area.

2.4.5 Flooding

The site is not identified on the Flood Planning map nor is it directly impacted by a flood risk.

2.4.6 Contamination

Numerous environmental site investigations have occurred on Lot 7314 and based on the historical use of the site, there is the potential for residual sources of contamination. Remediation of Lot 7314 was approved as part of the Stage 1 application (refer to **Section 1.1.1**) which is subject to an approved Remedial Action Plan.

As part of this application, an additional contamination assessment will be carried out for Part Lot 401 to ensure this portion of the site can be made suitable for the proposed development. Refer to the Contamination and Site Investigation Plan at **Appendix O** and **Section 5.14** below.

2.4.7 Bushfire

The Maitland City Council Bushfire Prone Land Map identifies that the majority of the site is Category 1 Vegetation or is located within a bushfire buffer area. A Bushfire Assessment Report has been prepared by Newcastle Fire (refer **Appendix R**) and further discussion is provided in **Section 5.12**.

2.4.8 Road Network and Transport

The site is currently accessible via the newly constructed roundabout at the Metford Road and Fieldsend Street intersection. Metford Road is a local road which connects Morpeth and Metford. The New England Highway is a State Road located to the south of the site. The Highway runs from Newcastle through the Hunter Region and also links to the Pacific Highway and Hunter Expressway. Raymond Terrace Road is located to the north providing access to the greater Hunter Region.

Victoria Street Station is approximately 1.4km west of the site. It is part of the Hunter Line, with services alternatively running from Newcastle to Telarah, Dungog and Scone. Metford Station is located approximately 2.8km to the east.

A number of bus routes service the surrounding local road network and are operated by Hunter Valley Buses. The bus services currently provide local connections to the outer areas of Metford, East Maitland and Thornton.

2.5 Surrounding Development

The site is bounded by:

- **To the north:** Large areas of community land and small rural lots are located to the north of the site beyond the railway line. The East Maitland Cemetery is located between the Great Northern Rail Line and Raymond Terrace Road and further north is the Don Macindoe Memorial Flying Club.
- **To the east:** To the east of the site is dense vegetation and the Metford Street Station and Recreational Oval. A commuter car park is also located adjacent to the station.
- **To the south:** South of the road reserve is low density residential development and further south is the New England Highway. The East Maitland Fire Station is located to the south east of the site.
- **To the west:** Development to the west includes commercial, light industrial and public recreation areas including the Fieldsend Oval and Maitland Junior Football Club. Maitland City Council depot is also located west of the site. Further west is low density residential development and the Stockland Green Hills Shopping Centre.

The surrounding development is illustrated in **Figure 18** to **Figure 23** below.

Figure 18 Metford Road and Fieldsend Road intersection

Source: Ethos Urban

Figure 19 Maitland City Council depot

Source: Ethos Urban

Figure 20 Light Industrial development

Source: Ethos Urban

Figure 21 Commercial development

Source: Ethos Urban

Figure 22 East Maitland Fire Station

Source: Ethos Urban

Figure 23 Residential development on Tennyson Street (to the south)

Source: Ethos Urban

3.0 Description of the Development

This chapter of the report provides a detailed description of the proposed development. Architectural drawings are included at **Appendix B**.

The application seeks approval for the following development:

- The construction and operation of a new 7 storey Acute Services Building, containing;
  - An Emergency Department;
  - 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.
- Construction of internal roadways and car parking for staff, patients and visitors;
- Site landscaping;
- Signage;
- Tree removal; and
- Utility services connections and amplification works.

A photomontage of the proposed development is shown at **Figure 24**.

Figure 24 Photomontage of the proposed development (viewed from the northern car park entry)

Source: BVN

3.1 Design Principles

The planning and design principles adopted for the proposed development of the site are as follows:

- Delivering the best quality integrated health services and clinical outcomes to the community of the Lower Hunter Region;
- Delivering safe and efficient patient and staff movement through the site, providing readily accessible car parking;
- Developing a configuration of the hospital campus entry and internal road network to allow clear identification and navigation to key departmental access points; and
- Establishing suitable colocation of clinical departments to facilitate efficient work / materials flows.

3.1.1 Numerical Overview

The key numeric development information is summarised in **Table 2**.

Table 2 Key development information

Component	Proposal
Site area	193,700m^2
GFA	49,000m^2 (approximately)
Maximum Height	31.8m (RL 52.10m)
Beds	339
Car spaces	682

3.2 Site Preparation

Site preparation works were approved under the Stage 1 approval.

Further preparation works including excavation, cut and fill are required to prepare the site, including site grading for roads and carparks. These are included as part of this SSI application.

3.3 New Acute Services Building

Building Height and Massing

The NMH is located across seven (7) levels, comprising two (2) podium levels with four (4) levels over and one (1) level below ground. The building has a total GFA of approximately 49,000m^2. A floor by floor summary is provided below.

The building incorporates an arrangement of mass that generally forms two ‘towers’ in a north-south alignment with a connecting wing over a common podium. The massing arrangement reflects a slender elongated ‘H’ which provides high quality light and amenity for staff and patients. The general arrangement layout is shown at **Figure 26**.

Entry

The building’s main entrance is located on the western façade. Pedestrian paths facilitate connections to the surrounding car parks and other hospital entries. From the main entrance, staff and the public can access the NMH Building at ground level.

A secondary entrance is located at the northern end of the NMH Building approximately 60m north of the main entry. A sheltered path is proposed along the north and west elevations to provide a connection for pedestrians accessing the site from the north carpark and entering through the various public entries.

A dedicated Emergency Department entry is located to the south and is within walking distance from the main entrance.

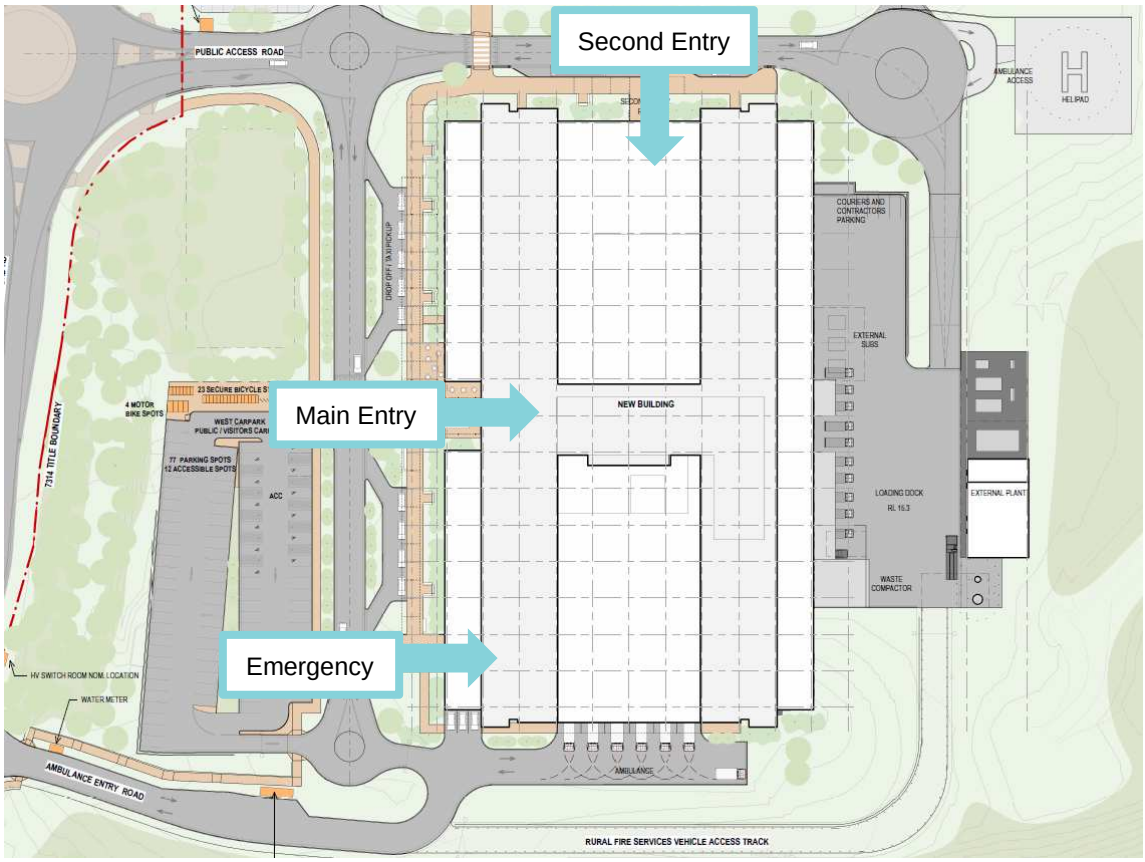

Figure 25 NMH site plan

Source: BVN

Figure 26 NMH general arrangement layout

Source: BVN

Figure 27 Indicative artists impression of interior spaces

Source: BVN

Figure 28 Indicative artists impression of interior spaces

Source: BVN

Emergency Department Drop Off and Ambulance Bay

The Emergency Department is located in the south-west on the Ground Floor. A public drop off is co-located on the western façade.

A dedicated ambulance entry is located on the southern facade. It has been designed as a discrete entrance to ensure it is delineated from the main public entrance. Six (6) ambulance drop off bays are located on the southern elevation of the building, providing direct access to the Emergency Department.

Canopy

A double height canopy structure is proposed along the western and northern elevations. The canopy will provide sun protection and cover to pedestrians and sufficient space for patient transfers via wheelchairs. It will also include casual seating areas. The canopy structure will reinforce pedestrian entry points and arrival zones.

Figure 29 Double height canopy (western entry)

Source: BVN

Retail

Four (4) retail spaces are incorporated on Level 00, with three (3) located off the main entrance and the fourth located in the northern end of the building near the secondary entrance. The retail spaces will be ancillary to the Hospital use.

Floor Space by Level

The proposed building is to be used as the as a 'health services facility' as defined in the Maitland Local Environmental Plan (LEP) 2011. The proposed uses within each level are outlined in **Table 3** below.

Table 3 Floor by floor summary

Level	Use	GFA
Level B1	• Plant • Pharmacy • Mortuary • Back of house cleaning • End of trip facilities	5,225m^2

Level	Use	GFA
Level 00 (Ground)	• Emergency Department • Ambulatory Care • Allied Health • Renal Dialysis Unit • Chemotherapy Unit • Oral Health • Medical Imaging Unit • Front of House Unit	11,430m^2
Level 01	• Close Observation Unit • Intensive Care Unit (General and Special Care Nursery) • Birth Unit • Office Directorates • Health Information Unit • Day Surgery and Operating Theatres	9,755m^2
Level 02	• Pathology • Staff Amenities • Office Directorates	5,510m^2
Level 03	• Inpatient units	5,415m^2
Level 04	• Inpatient units	5,330m^2
Level 05	• Inpatient unit • Shared support • Paediatric adolescent unit	5,330m^2
Level 06	• Plant	690m^2

Green/Outdoor Spaces

A number of internal courtyards are proposed within the NMH Building. The courtyards are designed to provide a link to a more natural setting and a green outlook. The courtyards will each function separately, with different levels of care and supervision required for each. The key elements of each courtyard are described below.

- **Mortuary Courtyard** - The Mortuary Courtyard is located on Level B1 and is accessible from the mortuary room. The courtyard will comprise pavement tiles and loose furniture including timber benches, tables and chairs.
- **Rehabilitation Courtyard** - The Rehabilitation Courtyard is located on Level 3 and will be used primarily for patient care. The courtyard will utilise different surface treatments including, paving, synthetic turf and tiles. The courtyard will also comprise loose furniture, exercise equipment and stair and handrails to be used for patient rehabilitation.
- **Mental Health Courtyard** - The Mental Health courtyard is located on Level 3. The courtyard will comprise paving and synthetic turf as well as loose furniture, screening and exercise equipment. The courtyard aims to provide a relaxing, 'home like' environment providing areas to reflect and engage in physical activity.
- **Multi-faith Courtyard** – The eastern façade includes a landscaped area featuring a planter garden space for reflection.
- **Level 1 Courtyards –** Two outdoor paved spaces are provided on the Level 1 podium between the east and west wings providing an outdoor area to be accessed for patients and staff on this level.

The design of the building includes structural upgrades that will support the weight of additional outdoor landscaping in the future. The architectural plans at **Appendix B** indicate areas that may incorporate trafficable and non-trafficable landscaped areas to show where these spaces would be located, should funding become available in the future. The final resolution of these elements, including funding would be developed at a later stage and would require a separate approval.

Flues

The proposal includes several exhaust flues on the roof for the following purpose:

- Isolation rooms exhaust duct; and
- Boiler room discharge (in accordance with Australian Standard AS5601).

We note that flues are not included in the definition of building height.

Materials and Finishes

BVN has selected materials and finishes that reflect the locality and community. The building will be read as a series of linear bars, which is a direct architectural response to the history of buildings sitting in the Australian landscape, such as homesteads and functional agricultural buildings. The colour palette and finishes are reflective of the historical architecture in the Maitland town centre (see **Figure 30**).

An entry canopy with a steel structure and perforated screening is proposed on the north and western elevation.

The podium levels comprise textured brick veneer with punched windows, and the tower element includes a metal sheet façade with floor to floor glazing and recessed windows. Material character references are shown at **Figure 31**.

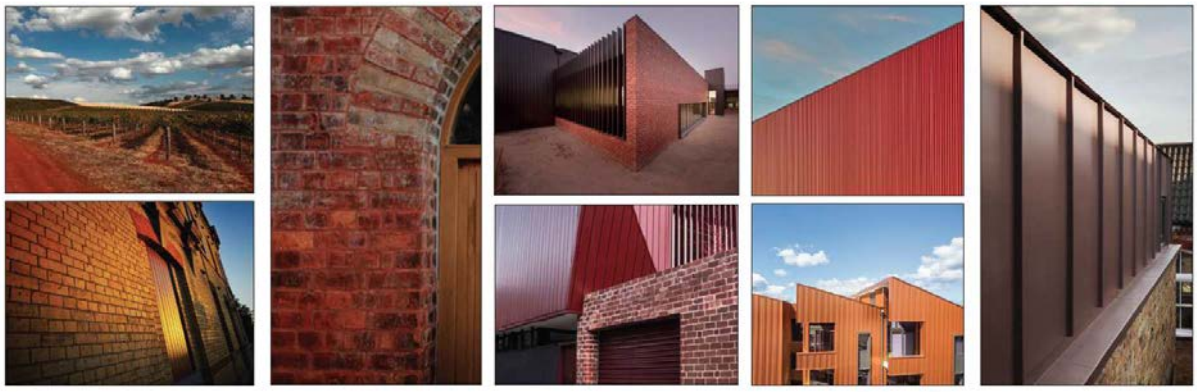

Figure 30 Texture and material quality references

Source: BVN

Figure 31 Material character references

Source: BVN

3.4 Car Parking and Access

3.4.1 Vehicle Access

This application seeks approval for connections to the local road network (**Figure 32**), including:

- Primary site access at the Metford Road and Fieldsend Street intersection; and
- Secondary site access to the northern car park from Metford Road.

All public and staff vehicle access will be via the primary and secondary entries.

Emergency vehicle access is provided from Metford Road via a dedicated internal road (shown at **Figure 32**). The emergency access will be closed to regular traffic.

A separate track for the Rural Fire Service (RFS) is provided between the ambulance bay and loading dock to allow the RFS access to the whole building. The track will be off limits to regular vehicles (see **Figure 32**).

3.4.2 Public Transport

A bus stop is proposed adjacent to the northern hospital entry and is proposed for incorporation into the public network (subject to discussion with TfNSW and Hunter Valley Buses). The internal road network has been designed to accommodate bus movements.

3.4.3 Loading Dock and Waste

A loading dock is proposed on the lower ground level (LB1) at the eastern side of the NMH. The loading dock will be accessed via the main public access road and utilise the eastern internal roundabout. The loading dock will accommodate vehicles up to and including 12.5m vehicles within 6 loading bays.

The loading and waste storage area is located on Level B1 and is directly accessible from the loading dock.

3.4.4 Car Parking

The proposal includes construction of 682 on-site parking spaces, inclusive of 14 accessible parking spaces.

3.4.5 Pedestrian Access

Pedestrian paths of travel are provided between the NMH building to all car parks and to Metford Road for connection to the local streets.

3.4.6 Bicycle Parking

23 secure bicycle storage spaces and 12 bike loops are proposed in the west carpark. End of trip facilities are located on Level B1.

3.4.7 Motorcycle Parking

12 motorcycle parking spaces are proposed. 8 of these will be located in the north carpark and 4 will be located in the west carpark.

3.5 Helicopter

An on-grade helicopter landing site is proposed to the east of the NMH building and adjacent to the North Carpark. Ambulance access to the helipad will be provided off the eastern internal roundabout. It will cater for the operation of a single emergency services helicopter with approaches and departure from the south-east and north-west.

Figure 32 NMH access arrangements

Source: BVN

3.6 Landscaping and Public Domain

Landscape drawings have been prepared by Black Beetle and are included in **Appendix F**. The landscape strategy has been informed by its local history and natural environment, with the strategy providing a series of distinct elements.

- **Main Avenue and Forecourt** – the main avenue runs north-south and will be planted with *Waterhousia floribunda* street trees and underplanting with low grass to provide a buffer between the roadway and footpath. The forecourt entry will include a combination of gathering and egress spaces with planters on grade to delineate the ground plane. Climbers will grow on cables and connect to the overhead awning.
- **Entry Garden** - the entry garden includes a large open lawn, with different planting and sandstone boulders to create an informal play area.
- **North and West carparks** – the carparks will comprise shade trees, rain gardens and understorey grasses / groundcovers along the boundaries.
- **Metford Road** – the majority of the existing canopy on the site's boundary fronting Metford Road will be retained, with some of the undergrowth pruned and cleared. Low understory planting including grasses and ground covers are proposed to provide a greater level of visual and physical interaction.
- **Wider Landscape** – native grass plantings are proposed between the formal landscaped areas. Cutting is proposed along the southern boundary of the site.
- **Chitter pile** – the existing chitter pile will be revegetated with grass and tree planting made up of native species.
- **Detention Basin and Wetland** – a new detention basin is proposed for the site to the east of the helipad. The basin will be planted with local wetland species along the perimeter of the pond, as well as new channel embankments with grasses and low shrubs. These species have been chosen due to the proximity to the helipad and bushfire APZ.

The landscape plan is shown at **Figure 33.**

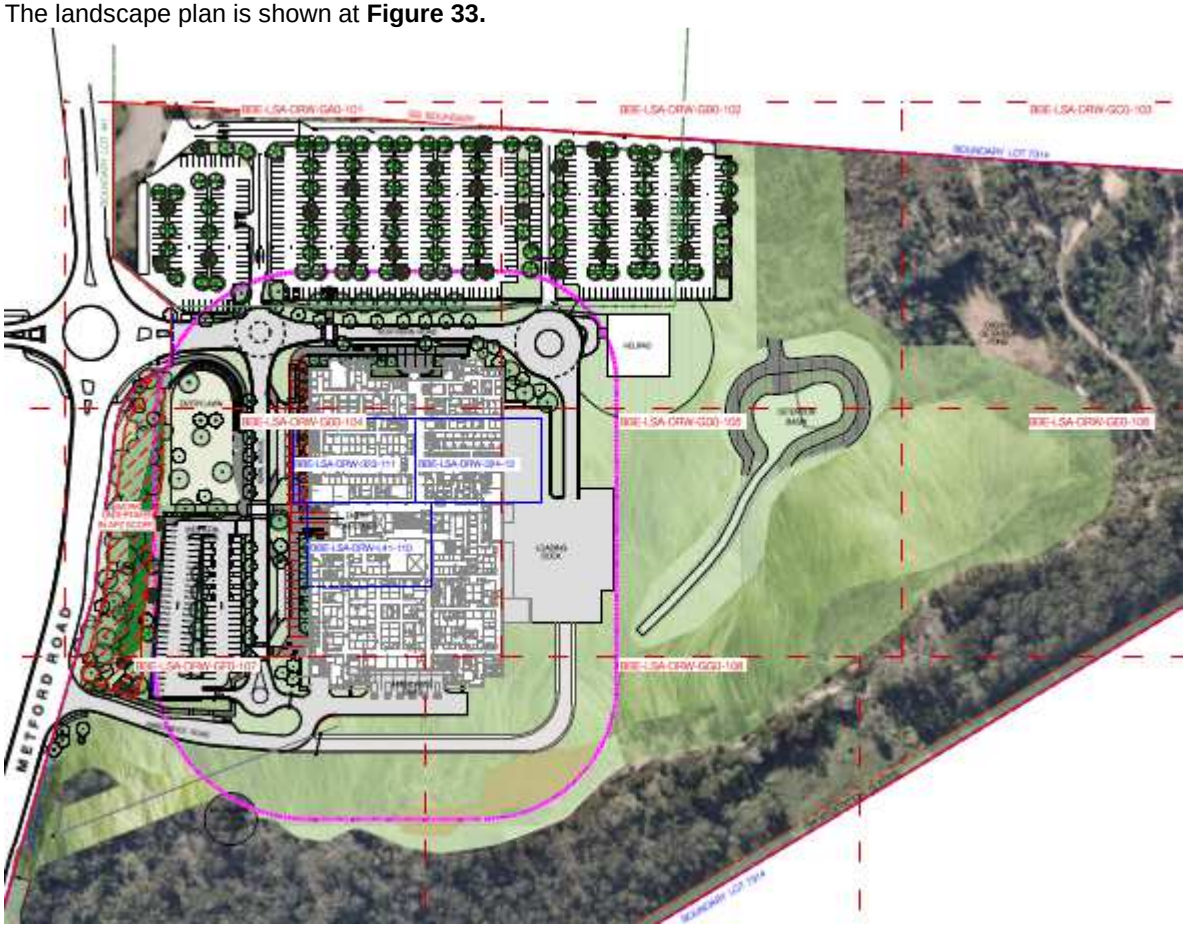

Figure 33 Landscape masterplan

Source: Black Beetle

3.7 Environmentally Sustainable Development

The proposed development will incorporate Environmentally Sustainable Development (ESD) strategies and principles. In particular, the following measures will be integrated into the development:

- Insulation applied to any wall or slab with a junction between a conditioned and external space;
- Thermally efficient glazing for fabric and solar heat transfer;
- High efficiency water cooled chillers with cooling towers;
- Use of zero Ozone Depleting Potential refrigerants;
- High efficiency condensing boilers to provide heating and domestic hot water;
- Air handling units provided with economy cycles to maximise outside air use;
- Comprehensive building control and management system to optimise energy performance of active systems;
- Lighting systems to reduce energy use;
- Private high voltage network;
- Comprehensive testing and commissioning of all services to ensure correct and efficient operation;
- Extensive energy metering and sub-metering;
- End of trip facilities; and
- Bicycle storage.

3.8 Heritage Interpretation

Whilst the site is not heritage listed, the proposed colours and materials reference the history of the area, regional setting and bushland landscape. The proposed design of the façade and finishes make reference to the site's immediate landscape and the previous land uses on the site as a brickworks quarry.

The streetscapes of Maitland are characterised by the warm red brick of its remaining civic buildings. The proposed red brick hues and other materiality have been selected to link the NMH building with the Maitland township. The design of the canopy and proposed landscape works also make reference to the Hunter River, which is a strong metaphor for the region. This includes its indigenous storey telling and the influence on the valley landscape and trade in the region.

There are materials and fabric relics from the former CSR operation and brick press building located on land outside the site. These items will not be used as part of the NMH; however, these items may form part of, and be incorporated into the redevelopment of the other land, outside the subject site, where they are located.

There is an opportunity for a precinct approach to issues outside the SSI boundary and impacts not directly resulting from the NMH but relate to the broader precinct, including heritage interpretation. In this respect, the Metford precinct renewal is being led by the Hunter and Central Coast Development Corporation and the Department. Health is committed to engaging with Precinct Planning for the Metford area and working with other agencies in this regard.

3.9 Signage

The following signage is sought for approval:

- Main building identification sign 'Maitland Hospital' on the western façade – 16.5m x 1.1m;
- Secondary building 'Emergency' identification sign – 16m x 1.1m;
- Awning 'Emergency' sign – 13m x 0.7m; and
- Wayfinding signage.

The signage and wayfinding strategy are outlined by BVN at Section 2.10 of the Design Report at **Appendix C**.

State Environmental Planning Policy No 64—Advertising and Signage (SEPP 64) is addressed at **Section 5.1.1**.

3.10 Services and Utilities

An Infrastructure Management Plan (IMP) has been prepared by Multiplex and is included at **Appendix U**. Multiplex has engaged JHA Consulting Engineers to assess the electrical requirements for the site and Warren Smith and Partners to assess the hydraulic requirements.

Separate water and sewer applications were prepared as part of the Stage 1 Early Works, where detailed design of the services connections was conducted and consultation with the relevant network utility operators was undertaken. Accordingly, the IMP has been prepared to identify the suitable servicing arrangements and discuss any expected upgrade and augmentation requirements.

3.10.1 Electricity

JHA Consulting Engineers have confirmed the electrical supply requirements for the proposed development at **Appendix U**. The proposed development will be serviced by three (3) kiosk substations.

3.10.2 Water

Water and fire services will be connected to the main on Metford Road, opposite the emergency vehicle entrance and fire booster assembly. An application has been made to Hunter Water who have confirmed the capability of water supply to the site. Further detail is provided in **Appendix U**.

3.10.3 Sewer

The proposed development will connect to the existing sewer network located on the site. An application has been made to Hunter Water who have confirmed that the wastewater network has capacity to service the development. Further detail is provided in **Appendix U**.

3.10.4 Gas

There is an existing gas main on Metford Road that will be connected to via a new natural gas line. An application will be made to Jemena to augment the network to support the proposed development. Further detail is provided in **Appendix U**.

3.10.5 Telecommunications

The proposed development will connect to the existing telecommunication connections, in the northern portion and southern portion of the site fronting Metford Road.

3.11 Construction Staging

The NMH development will be constructed in a single stage, with construction works commencing in late 2019 and to be completed in 2022.

3.12 Construction Job creation

The Stage 2 proposal will generate approximately 1,250 construction jobs during the construction process.

3.13 Operational Job creation

Approximately 893 FTE (full time equivalent) jobs will be created at the completion of the NMH.

3.14 Construction Hours

The proposed hours of construction are as follows:

- Monday to Friday 7:00am to 6:00pm;
- Saturday 7:00am to 5:00pm; and
- No work on Sundays and Public Holidays.

The construction hours are proposed to be extended from 7am – 8am and 1pm to 5pm on Saturdays. This is to enable efficient construction and to reduce the overall construction timetable, which will in turn benefit the surrounding community. Due to the remote nature of the site, the construction program will have limited amenity impacts and extended construction hours are appropriate.

An Acoustic Assessment is discussed at **Section 5.6.1** and is included at **Appendix L**.

4.0 Consultation

In accordance with the SEARs issued for this project, consultation was undertaken with the following stakeholders:

- Government Architect NSW;
- Maitland City Council;
- Roads and Maritime Services (RMS);
- Transport for NSW;
- NSW Environmental Protection Authority (EPA)
- Office of Environment and Heritage (OEH)
- NSW Police
- NSW Rural Fire Service (RFS)
- NSW Ambulance
- Hunter Valley Buses
- Hospital User Groups
- Local Community Groups and residents including Aboriginal stakeholders

A summary of the consultation undertaken to-date with Council, the community and relevant agencies is provided below and is outlined at **Appendix F**. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports.

Agency and Council Consultation

Health Infrastructure has been engaged in ongoing consultation with Council regarding the development, and other works currently being carried out on the site. Meetings to discuss the detailed design of the ASB and other matters including project status, design, access and layout, traffic and transport were held on 6 February and 13 May 2019. In addition, regular monthly meetings have been held by the project team with Council to discuss relevant items related to Stage 1. No particular issues have been raised to be addressed in advance of the Stage 2 application.

The project team met with representatives of RMS as part of the above Council meetings.

The project team met with representatives of TfNSW on 3 April 2019 and Hunter Valley buses in October 2018. TfNSW advised they had commenced bus network planning to provide direct connections from NMH to Victoria St Station and GreenHills shopping centre in both directions. TfNSW reviewed the proposed layout and requested that the project team consider providing a bus layover within the site to accommodate the potential for new and increased services in the future through the design development process. A bus layby capable of accommodating bus movements is included within the design.

A summary of meeting minutes and meeting details prepared by Health Infrastructure is provided at **Appendix F**.

NSW Government Architect

Representatives of Health Infrastructure and project architects BVN met with the Office of the Government Architect NSW on 20 February and 16 May 2019 to review the design of the NMH in line with ‘Better Placed – An integrated design policy for the built environment of NSW 2017’. The meeting minutes for the 20 February and 16 May and a detailed response to these meetings is provided at **Appendix F**. The design response has been presented to the Government Architect, which has been positively received.

The Government Architect was interested in the potential to use roof space for landscaping opportunities. In response the design of the building has included structural upgrades that will support the weight of additional outdoor landscaping in the future. The architectural plans at **Appendix B** indicate areas that may incorporate trafficable and non-trafficable landscaped areas to show where these spaces would be located. A conceptual design is shown (for information purposes only) within the Consultation Summary Report at **Appendix F** was presented to the Government Architect to show how the roof spaces may be used, should funding become available in the future.

Further consultation will be undertaken in accordance with requirements of the Government Architect.

Community Consultation

Health Infrastructure has undertaken ongoing consultation and engagement with the local community during the design development, including community consultation sessions between November 2018 and May 2019. A summary of the community consultation and engagement strategy and issues and responses is provided in **Table 4** below.

Table 4 Community Consultation Summary

Date	Consultation Approach	Community Group	Feedback / Response
Feb 2019 – ongoing	Project Website - Providing up to date information on the project and providing a feedback loop for all stakeholders	All Community and staff	A number of queries have been raised to the project email address listed on the website relating to employment opportunities during construction and operation, retail opportunities and provision of services.
16 November 2018 & 13 February 2019	Presentations – overview of project and opportunities for involvement	Hunternet	Positive engagement and demonstrated understanding of opportunities for involvement in the project.
8 January 2019	Site walk – review of potential artefact location and exclusion zone	Registered Aboriginal Persons	Agreed exclusion zone to remain in place for duration of works and ongoing consultation as documented in the Aboriginal Cultural Heritage Management Plan to continue.
11 December 2018	Smoking Ceremony	• Mindaribba Aboriginal Land Council • Maitland Public School • Hunter Valley Grammar School • Maitland Health Committee • Maitland Hospital Staff	Positive engagement. Recognition of the site's traditional landowners. Update on project status and program provided.
18 January 2018	SOD Turning	• Health Minister Brad Hazzard • Parliamentary Secretary Scot MacDonald • Maitland City Council • Maitland Health Committee • Maitland Hospital Staff • Health Services Union	Positive response to commencement of works on site in anticipation of the new hospital to be operational by early 2022.
5 February 2019	Presentation on project status and design	Maitland Sunrise Rotary Club	Positive feedback. Questions regrading clinical planning, car parking and the existing hospital were answered and not contentious.
21 February 2019	Presentation on project status and design	Maitland Business Chamber	Presentation well received. Feedback that members received significant value from their attendance.
28 March 2019	Presentation on project status and discuss ongoing engagement	Metford Public School	Positive interest and feedback. Questions regarding current congestion in the area and noise during construction. A Traffic study and noise assessment has been undertaken to identify and mitigate impacts.
10 April 2019	Letter Drop/ Invitation to community day	2,000 residents adjacent to the NMH site and existing hospital	175 residents met with the team at the community day to ask questions and provide feedback. Many more residents stopped by to view the façade, animation video and project updates. The area in which each visitor lived was captured through the utilisation of an interactive map.

Date	Consultation Approach	Community Group	Feedback / Response
12 April	Media Release – Project update and façade release	All Community and Staff	Significant positive feedback on the façade, specifically that it is relevant to the site, Maitland township and local industry
13 April 2019	Community Day at Stockland Shopping centre – present the hospital design	All Community and staff	Positive interest and feedback. Key themes of questions were regarding; Car Parking - It was confirmed that a Parking demand study has identified the no. of car parks required following a review of the Maitland Hospital and projected operations. Existing Traffic Issues - It was confirmed that the project had upgraded the Metford/ Fieldsend st Roundabout and a further upgrade of infrastructure as required would be undertaken. Public Transport – it was confirmed a bus stop is provided adjacent to the northern entry, ongoing consultation with TFNSW was occurring to achieve direct connection to Victoria St station and GreenHills Shopping Centre. Existing Hospital – it was confirmed that all services relocated to the New Maitland Hospital will cease at the existing Maitland hospital. With the strategy for community health services to be developed.
From late April 2019	Communication Hub at the existing Maitland Hospital	All Community and staff	Positive feedback received by staff and community stakeholders. The physical presence of the information hub has been well received with visitors frequenting the hub.
14 May	Project status, design and façade release	Mindaribba Aboriginal Land Council	Discussion well received with invitation extended to present again to additional members of the community group. Positive discussion regarding next steps and opportunities for engagement on the project.

The proposed development will be placed on public exhibition in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*. During the public exhibition period Council, State agencies and the public will have an opportunity to make submissions on the project.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed SSI application. It addresses the matters for consideration set out in the SEARs (see **Section 1.4**). The Mitigation Measures at **Section 7.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 5**.

Table 5 Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

Instrument/Strategy	Comments
Strategic Plans	
NSW State Priorities	The proposal seeks to develop a new hospital in the Lower Hunter Region, to become the new rural referral hospital. As the existing Maitland Hospital is operating at maximum capacity, there is a clear demand for new facilities and services to meet the need of the growing and ageing population. The proposal will meet the key priority of improving service levels for hospitals by providing a state-of-the-art facility which is easily accessible for the local community and the Lower Hunter Region. The proposal will therefore meet the state priorities as it will deliver Health Infrastructure for an ageing population, improve service levels in hospitals through the construction of new health facilities, and the creation of jobs during both the construction and operation phases of the development.
Hunter Regional Plan 2036	The Hunter Regional Plan 2036 provides the overarching framework to guide detailed land use plans and infrastructure funding decisions for the Hunter Region over the next 20 years. The vision for the Hunter Region is to become the leading regional economy in Australia with a vibrant new metropolitan centre. To achieve this vision, the Plan includes 4 goals: • The leading regional economy in Australia; • A biodiversity-rich natural environment; • Thriving communities; and • Greater housing choice. Of relevance to the proposed SSI application is Action 8.5 which contemplates a health precinct and hospital within the Metford Triangle and Action 26.2 which supports the development of health services within the region. The proposed development of the NMH will assist in achieving the strategic objectives. Specifically, the proposal will: • Provide a new hospital that will reduce waiting times by improving capacity and allowing for greater integration of services and create greater efficiencies by incorporating state of the art facilities and equipment; • Create employment opportunities in the short to long term; and • Strengthen the local and regional economy in terms of attracting new potential businesses to the health precinct.
Greater Newcastle Metropolitan Plan 2036	The GNMP 2036 sets out the strategies and actions that will drive sustainable growth and development across Greater Newcastle. The GNMP 2036 underpins the Hunter Regional Plan 2036 and helps to achieve the vision for the Hunter Region to become the leading regional economy in Australia. The proposed development will further enhance the Greater Newcastle's health network. It will provide further capacity for health services within the region and meet the demand for the growing population.
Future Transport Strategy 2056 and supporting documents	The Future Transport Strategy sets out a 40-year framework to guide investment, policy and reform service provision. The Future Transport Strategy focuses on the role of transport in delivering movement and place outcomes that support the desired character of the places and communities. It also emphasises the importance of integrating land use and transport planning in a way that activates public spaces, improves liveability and character, and promotes investment. The proposal includes improvements to the internal road system that will incorporate a dedicated bus stop in front of the NMH that will facilitate and encourage safe, convenient access by public transport. A review of the proposed improvements to transport infrastructure indicates that the existing road network will remain the same with an upgrade to the Chelmsford Drive roundabout and upgrades to the pedestrian network proposed.
Greater Newcastle Future Transport Plan	The Greater Newcastle Future Transport Plan considers the Greater Newcastle Area, supporting the overarching Future Transport Strategy 2056. It outlines the vision that will guide future transport

Instrument/Strategy	Comments	
	planning for the Greater Newcastle area, including the Cessnock, Lake Macquarie, Maitland, Newcastle and Port Stephens. The plan recognises the strong travel demand of over 1,000 trips per day between Maitland and Metford, via East Maitland. The proposal is not inconsistent with the plan and will ensure the local road network continues to operate at an acceptable level of service.	
Crime Prevention through Environmental Design (CPTED) Principles	Refer to **Section 5.4**.	
Better Placed NSW 2017	The Better Place Policy includes seven key considerations in the design of the built environment prepared by the Government Architect. A review of the proposal's consistency with the principles of Better Placed is provided below.	
	Objective 1. Better Fit – contextual, local and of its place	The NMH responds to the surrounding context and its location in proximity to Maitland and the Lower Hunter Region. The location and design of the NMH is appropriate in its scale and respects the surrounding land uses and local character. The location of the NMH is consistent with the future character of the area, being part of the Metford Triangle Hospital and Health Precinct. It is expected that the NMH will be a catalyst for further precinct planning of the area.
	Objective 2. Better Performance – sustainable, adaptable and durable	Health Infrastructure has taken a responsible approach to ensuring the principles of ESD are incorporated into the NMH, by ensuring effective and environmentally responsive ESD initiatives. The development has been designed with the ability to expand into the future and accommodate additional capacity.
	Objective 3. Better for Community – inclusive, connected and diverse	To cater for the varying needs of the patients, staff and visitors, the NMH incorporates accessible access to all spaces. The site will include pedestrian and vehicular access points that connect the new facility to the surrounding street network. It will also provide adequate vehicle parking and be serviced by existing and future public transport services. The hospital will offer essential services that respond to the demand and needs of the Lower Hunter Region and broader area.
	Objective 4. Better for People – safe, comfortable and liveable	The NMH has been designed as a state-of-the-art facility that will balance the operational needs of the hospital and provides for a comfortable and safe environment for patients, staff and visitors. In accordance with the CPTED principles, the facilities have been designed to provide passive surveillance to all spaces surrounding the building (refer **Section 5.4** below).
	Objective 5. Better Working – functional, efficient and fit for purpose	The hospital has been designed to provide an integrated facility that will meet the healthcare needs of the growing population, while improving performance and service provisions.
	Objective 6. Better Value – creating and adding value	The NMH will cater for the increased health demands of the region while meeting the budget allocated from the NSW Government. The carefully designed facility will deliver better facilities and services in the Lower Hunter Region.
	Objective 7. Better Look and Feel – engaging, inviting and attractive	The Architectural Statement outlines how the design of the NMH will allow for an engaging and inviting space while responding to the local context and surrounding landscape.
State Legislation		
EP&A Act	The proposed development is consistent with the objects of the EP&A Act for the following reasons: • It allows for the orderly economic development of the land by returning the land to a public use and providing improved health care infrastructure that is able to implement contemporary models of care; • It allows for additional employment opportunities throughout the construction and operation phases; • It will facilitate ecologically sustainable development; • It achieves a high-quality design outcome that will benefit patients, staff and visitors; and • It is a development for public purposes and will facilitate the delivery of community spaces. The proposed development is consistent with Division 5.2 of the EP&A Act, particularly for the following reasons:	

<table>
<tr><th>Instrument/Strategy</th><th>Comments</th></tr>
<tr><td></td><td>

The development has been declared to be state significant infrastructure;
The development has been evaluated and assessed against the relevant heads of consideration under section 5.16(2); and
The approval of Stage 1 (SSI 9022) does not have any effect to the extent that it is inconsistent with the determination of this SSI application in accordance with section 5.21(2).

</td></tr>
<tr><td>EP&A Regulations</td><td>
The EIS has addressed the specification criteria within clause 6 and clause 7 of Schedule 2 of the EP&A Regulation. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage (see Section 5.19).

As required by clause 7(1)(d)(v) of Schedule 2, the following additional approvals will be required in order to permit the proposed development to occur.
<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td colspan="2">Legislation that does not apply to State Significant Infrastructure</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>N/A</td></tr>
<tr><td>Heritage Act 1977</td><td>N/A</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>N/A</td></tr>
<tr><td>Rural Fires Act 1997</td><td>N/A</td></tr>
<tr><td>Water Management Act 2000</td><td>N/A</td></tr>
<tr><td colspan="2">Legislation that must be applied consistently</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No</td></tr>
<tr><td>Mine Subsidence Compensation Act 1961</td><td>No</td></tr>
<tr><td>Mining Act 1992</td><td>No</td></tr>
<tr><td>Petroleum (Onshore) Act 1991</td><td>No</td></tr>
<tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr>
<tr><td>Roads Act 1993</td><td>Yes</td></tr>
<tr><td>Pipelines Act 1967</td><td>No</td></tr>
</table>
</td></tr>
<tr><td>SEPP (Infrastructure)</td><td>
The aim of this SEPP is to facilitate the effective delivery of infrastructure across the State, including providing for consultation with relevant public authorities about certain development during the assessment process.

Schedule 3 of the SEPP states the threshold for traffic generating development that is to be referred to RMS. This threshold is 100 or more beds for sites with access to a classified road, or 200 or more beds for sites with access to any road. The NMH will deliver 339 beds, accordingly the proposal will be referred to RMS.
</td></tr>
<tr><td>SEPP (State and Regional Development)</td><td>
Clause 15 states that development specified in Schedule 4 is declared to be SSI for the purposes of the EP&A Act. Schedule 4(5) identifies development for the purposes of a health services facility and associated car park that has a capital investment value of more than $100 million on land identified as being within the New Maitland Hospital Site on the State Significant Infrastructure Sites Map (being Lot 7314, DP 1162607 and part of Lot 401, DP 755237, Maitland) is declared to be SSI.

As the proposed development is for a health services facility and associated car park and has a capital investment value of more than $100million it is declared to be SSI. A CIV Statement is provided under a separate cover.
</td></tr>
<tr><td>SEPP 44 (Koala Habitat Protection)</td><td>
SEPP Koala Habitat Protection aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population and reverse the current trend of koala population decline.

The Maitland LGA Has been identified as land to which the SEPP applies. During the Stage 1 assessment no koalas were observed during the site survey, however, two koala feed tree species were found on the site including Forest Red Gum and Grey Gum. The number of individual trees of these species combined exceeds approximately 15% of the number of native trees on the site. Therefore, the site has the potential of being a Koala Habitat.

As part of Stage 1 an assessment of SEPP 44 was undertaken, and the site was found not to be a ‘core’ koala habitat. There are no current known records of koalas in Maitland and therefore, they have
</td></tr>
</table>

Instrument/Strategy	Comments
	been assessed as having a low likelihood of occurrence. General Flora and Fauna completed targeted koala surveys in 2014, which confirmed that no koalas nor signs of koalas (scats or claws) were recorded.
SEPP 55	Remediation works are approved to be undertaken on Lot 7314 DP1162607 by Stage 1 (SSI 9022). The approved Site Audit Statement is included in **Appendix O**. A Contamination Assessment Report has been prepared for part Lot 401 DP755237 and is included at **Appendix O**. The assessment confirms that detailed site investigations are required prior to the proposed development on Lot 401. Contamination is discussed at **Section 5.14**.
SEPP 33	A SEPP 33 screening assessment has been carried out at **Section 5.15**. The assessment details the quantities of dangerous goods to be held on the site and confirms that the threshold of dangerous goods is not exceeded. Therefore, SEPP 33 does not apply to the proposed NMH facilities.
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	Clause 7.5 of the Maitland LEP describes the site as an 'identified resource', meaning that clause 13 of the SEPP Mining, Petroleum Production and Extractive Industries applies. The operation of clay mining and brickworks ceased on the site in 2006. Remediation works have occurred on Lot 7314 to ensure that it is suitable for the proposed health services facility, with no intention to recommence extraction related activities, nor are there any of these activities located on surrounding land that will be affected from the proposed development.
SEPP 64 (Advertising and Signage)	Refer to **Section 5.1.1**.
Draft SEPP (Remediation of Land)	An ongoing review of the SEPPs by the DPE has resulted in the proposed repeal of the SEPP 55, retaining some of its elements and adding in new provisions to establish a modern approach to the management of contaminated land. In addition to the provisions addressed in SEPP 55 above, new provisions will be added into the new SEPP to: • Require all remediation work that is to be carried out without development consent to be reviewed and certified by a certified contaminated land consultant; • Categorise remediation work based on the scale, risk and complexity of the work; and • Require environmental management plans relating to post-remediation management of sites or ongoing operation. Maintenance and management of on-site remediation measures (such as contamination cell) to be provided by Council. Remediation works are approved to be undertaken on Lot 7314 DP1162607 by Stage 1 (SSI 9022). A Contamination Assessment Report has been prepared for part Lot 401 DP755237 and is included at **Appendix O**. The assessment confirms that detailed site investigations are required prior to the proposed development on Lot 401.
Draft SEPP (Environment)	The site is not identified as being subject to the provisions for waterways, catchments, world heritage and urban bushland under the draft Environment SEPP.

Local Planning Instruments and Controls		
Maitland Local Environmental Plan 2011	Clause 2.1 – Zone	The site is zoned RU2 Rural Landscape and hospitals are not a permissible use. Notwithstanding, section 5.22(2) of the EP&A Act provides that Part 3 environmental planning instruments of the EP&A Act do not apply to SSI. Therefore, the application can be approved subject to an environmental assessment under section 5.18 of the EP&A Act.
	Clause 4.3 – Height of Buildings	The site does not have a maximum height of buildings development standard.
	Clause 4.4 – Floor Space Ratio	The site does not have a floor space ratio development standard.
	Clause 5.10 – Heritage	The site does not contain any heritage items nor is it located in a heritage conservation area. There are no listed heritage items within close proximity to the site.
	Clause 7.1 – Acid Sulfate Soils	The site is located on land identified as Class 5 Acid Sulfate Soils. No further action is required.
	Clause 7.3 – Flood planning	The site is not identified as being located within a flood risk zone. Flood impacts are addressed in **Section 5.8**.

Instrument/Strategy	Comments	
	Clause 7.4 – Riparian land and watercourses	Two drainage lines run through the Metford Triangle. One of these runs through the south-western corner of Lot 7314 in DP 1162607. Water cycle management is further discussed at **Section 5.8**.
	Clause 7.5 – Significant extractive resources	The land is classified as an "identified resource" on the Mineral Resource Area Map. The site has previously operated as a clay mine and brickworks facility. There is no intention to recommence extraction related activities, nor are there any extraction related activities surrounding the site.
Maitland Development Control Plan 2011	Development control plans are not a matter for consideration in the assessment of SSI by virtue of section 5.22(2) of the EP&A Act provides that Part 3 environmental planning instruments of the EP&A Act do not apply to SSI.	

5.1.1 State Environmental Planning Policy 64 – Advertising and Signage

SEPP 64 applies to all signage that, under an Environmental Planning Instrument, can be displayed with or without development consent and is visible from any public place or public reserve.

For the purposes of this assessment under SEPP 64, the proposed signs are considered to fall under the definition of building identification signage. This is because the signs indicate the building name, and do not include any advertising relating to a third party who does not carry out business on the premises.

The proposed signage is consistent with the objectives of SEPP 64 and satisfies the criteria specified in Schedule 1 of SEPP 64 as follows:

Clause 3 states the aims and objectives of SEPP 64 which are:

(a) to ensure that signage (including advertising):
i. is compatible with the desired amenity and visual character of an area, and
ii. provides effective communication in suitable locations, and
iii. is of high quality design and finish, and
(b) to regulate signage (but not content) under Part 4 of the Act, and
(c) to provide time-limited consents for the display of certain advertisements.
(d) to regulate the display of advertisements in transport corridors, and
(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

The proposal is consistent with the above aims and objectives, in that it will:

- Feature a distinct and high-quality design;
- Effectively communicate to the public the location and use of the building at the primary public entrances;
- Positively contribute to the streetscape and ensure minimal visual disruption by integrating to the building design; and
- Make use of high-quality materials and finishes.

Schedule 1 of SEPP 64 contains a range of assessment criteria. The way in which the proposed development meets the assessment criteria is set out in **Table 4**.

Table 6 SEPP 64 Assessment

Schedule 1 Assessment Criteria	Comments	Compliance
Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed development is compatible with the desired character of the NMH Health precinct.	Y
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed development is generally consistent with the nature and siting of the building as a public building providing health services. Accordingly, the signage including type is clear and legible in communicating the use of the building for the public.	Y

Schedule 1 Assessment Criteria	Comments	Compliance
Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage is consistent a Hospital precinct. The location is not part of any heritage area or environmentally sensitive location.	Y
Views and vistas		
Does the proposal obscure or compromise important views?	The proposed signage is integrated with the existing buildings and therefore will not result in any obstruction of views, and the location and content of signage will not otherwise compromise important views within the precinct.	Y
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage is appropriate to the scale of the building and intended use as a building identification sign.	Y
Does the proposal respect the viewing rights of other advertisers?	The proposed signage does not impact upon the viewing rights of other advertisers.	Y
Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposed signage is consistent with the setting of the core facilities within a health precinct.	Y
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The proposed signage contributes to the visual interest of the streetscape by contributing to the identification and recognition of the Hospital.	Y
Does the proposal screen unsightliness?	The proposed signage is integrated with the architecture of the building and will enhance otherwise blank walls.	Y
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed signage does not protrude above the building.	Y
Does the proposal require ongoing vegetation management?	The proposed signage will not require ongoing vegetation management.	Y
Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage has been designed to be fully compatible with the building and is compatible with the architecture of the building.	Y
Does the proposal respect important features of the site or building, or both?	The proposed signage has been located in the most architecturally appropriate locations to assist in place identification and wayfinding.	Y
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage has been fully integrated with the building architecture.	Y
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	No safety devices, platforms, lighting devices or logos are incorporated as an integral part of the signage.	Y
Illumination		
Would illumination result in unacceptable glare?	Illumination of signage will not result in unacceptable glare, and the location of the proposed signage will not have an adverse impact on the safety of pedestrians, vehicles or aircraft.	Y
Would illumination affect safety for pedestrians, vehicles or aircraft?		Y
Would illumination detract from the amenity of any residence or other form of accommodation?	The location and orientation of signage is such that it will not impact on nearby residential receivers.	Y
Can the intensity of the illumination be adjusted, if necessary?	The signage will not have adjustable lighting. Due to the 24-hour nature of the use, it is anticipated that the signage will be illuminated throughout the night. However, due to the	Y
Is the illumination subject to a curfew?		Y

Schedule 1 Assessment Criteria	Comments	Compliance
	separation between the proposed development and residential receivers, it is not anticipated that the development will have any adverse lighting impacts.	
Safety		
Would the proposal reduce the safety for any public road?	The proposed signage has been located in order to avoid any adverse impacts on public roads, and views to building signage will generally be presented to the primary public entrance.	Y
Would the proposal reduce the safety for pedestrians or bicyclists?	The proposed signage will be located above ground level and will not distract from essential sight lines for pedestrian and cyclists.	Y
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage will be integrated with the buildings and will not obscure sight lines from public area.	Y

5.1.2 Stage 1 Concept Proposal

Section 5.21(2) provides that an approval granted on the determination of a staged infrastructure application for infrastructure does not have any effect to the extent that it is inconsistent with the determination of any further application for approval in respect of that infrastructure. Notwithstanding, the proposed development has been designed to be consistent with the approved Concept Proposal. The proposed development's relationship with key development parameters of the approval are reviewed at **Table 7**.

Table 7 Concept Proposal Analysis

Component	Concept Proposal	Proposed development	Generally Consistent
Land Use	Hospital	Hospital	✓
Height	9 storeys / RL 50.8m	8 storeys / RL 52.1	✓
GFA	60,000m^2	49,000m^2	✓

While the proposal remains generally consistent with the envelope approved at Stage 1, the proposal seeks to build on the established design framework, and some minor refinements are proposed to improve the internal and external amenity of the building, and to addresses the main entrance to the hospital at Metford Road. The principal refinements to the design are summarised as follows:

- Increased setback to Metford Road; and
- Increased separation between north-south 'towers.'

BVN have prepared a massing relationship diagram of the Stage 1 envelope at **Figure 34**.

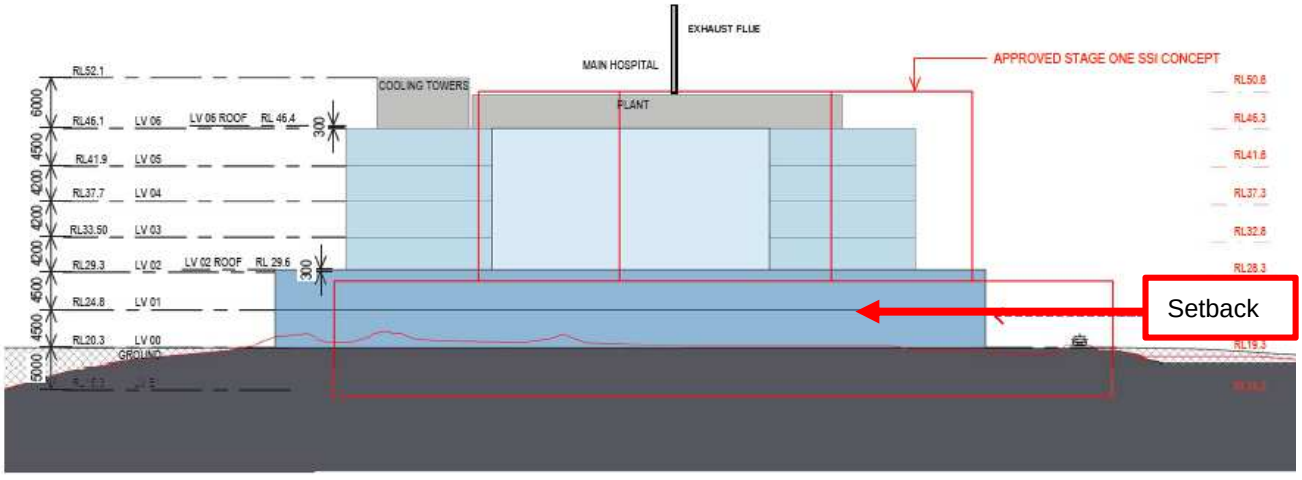

Figure 34 Relationship to Stage 1 massing envelope

Source: BVN

5.2 Built Form and Urban Design

5.2.1 Bulk, Scale and Urban Design

The proposed built form massing is the result of extensive design analysis undertaken by HI and BVN. The proposed design has been aimed at achieving the optimum urban design outcome for the site, with regard to a range of complex variables, environmental considerations and stakeholder requirements. The height, density, bulk and scale of the building, including the setback and position of the building in relation to the surrounding streetscape was approved as part of Stage 1 (SSI 9075).

The design has evolved as part of the planning for Stage 2 which includes a slender width and added length. The design is generally consistent with the Stage 1 concept design.

The proposed building includes a 2-storey podium with 4 levels above and 1 level below ground. The density of the proposed building envelope is reflective of the importance of the new, modern, ASB within a large SSI designated site. The building is taller than surrounding development, which are generally 1-2 storeys in height, however, the massing and density is located centrally and away from more sensitive uses.

The design achieves high design quality featuring materials and finishes that reflect the locality and community. The building provides a direct architectural response to the history of buildings sitting in the Australian landscape, such as homesteads and functional agricultural buildings (see **Section 3.3**). A detailed urban design analysis including consideration of design quality, site layout, streetscape, façade and articulation is provided by BVN within the Architectural Design Report at **Appendix C**.

5.2.2 Setbacks

The NMH building is located centrally within the hospital grounds with significant setbacks to surrounding sensitive receivers. The NMH is located approximately:

- 86 metres from Metford Road to the west;
- 220 metres from light industrial development on Metford Road to the west; and
- 180 metres from residential development to the south; and
- 400 metres from residential development to the east.

These setbacks result in a suitably scaled development, with the resultant setbacks being informed by the operational and functionality needs of the hospital as well as surrounding land uses. These include paths of travel, pedestrian and vehicular access, efficient use of land and surrounding sensitive receivers. The siting, orientation and setbacks will also ensure there is no adverse overshadowing to other surrounding land uses (refer to **Section 5.3.1**).

5.3 Environmental Amenity

5.3.1 Solar Access and Overshadowing

Shadow diagrams are included in **Appendix B** illustrating the extent of overshadowing generated by the proposed development. The diagrams show the greatest impact of overshadowing throughout the year, being the winter solstice on June 21 at 9am, 12pm and 3pm.

The shadow diagrams show that the proposal will only shadow land within Lot 7314 and Lot 401, with no overshadowing on any residential land to the south of the site as shown in **Figure 35** - **Figure 37**.

Due to the orientation of the building shadows generally fall to the south and east, preserving sun to landscaped public open spaces across the day.

Within the development, the proposal will shadow the mortuary courtyard on Level B1 in the morning and afternoon periods. The mental health courtyard and rehabilitation courtyard areas on Level 3 will experience shadowing in the afternoon period, after 12pm. In general, these spaces are co-located to functional areas of the hospital and seek to gain high quality amenity while serving a functional purpose within the building layout. In this respect the solar access to these spaces are appropriate.

In addition, the proposed development provides a variety of outdoor landscaped areas for patients, staff and visitors with shelters that respond to the climate of Maitland. The design of these spaces ensures access to sunlight in a landscaped setting across the day.

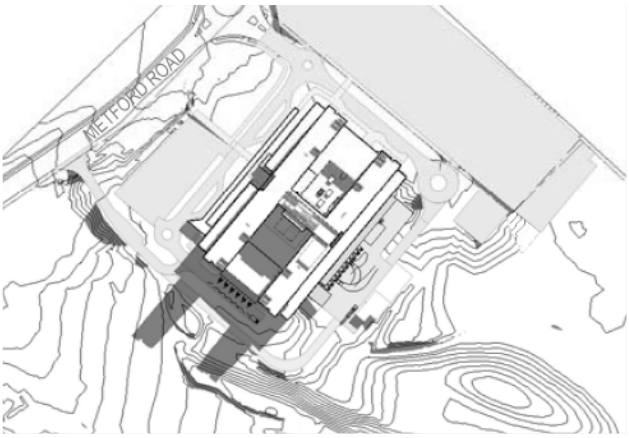

Figure 35 21 June 9am

Source: BVN

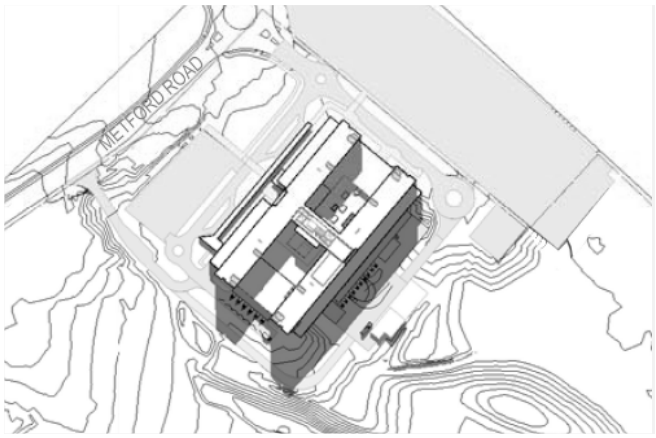

Figure 36 21 June 12pm

Source: BVN

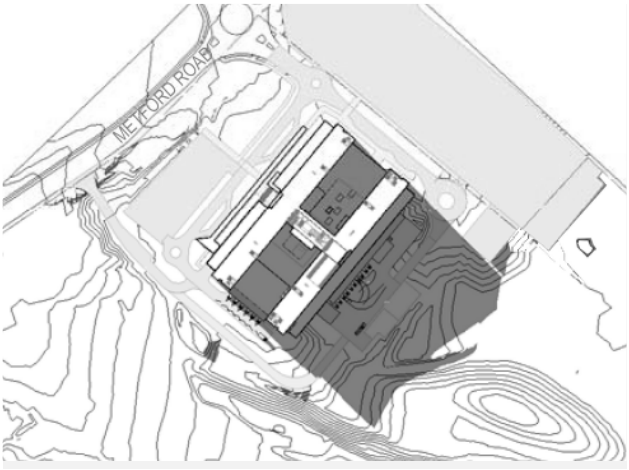

Figure 37 June 21 3pm

Source: BVN

5.3.2 Visual Privacy

The hospital mass has been positioned to the north of the site and orientated to minimise the extent of windows facing residential areas to the south. In addition, extensive remnant forest vegetation has been retained across the entire southern boundary, providing an extensive screen and buffer between the hospital and residential areas to the south.

As a result, there is a negligible impact on visual privacy for these areas. In addition to this, there is extensive vegetation surrounding the site and appropriate setbacks ensure visual privacy and no resultant view loss.

Within the NMH hospital building, the east and west ‘towers’ are separated by 33.6m which is sufficient to prevent overlooking and increase privacy to patient rooms.

5.3.3 View Impacts

Consideration has been given to the proposed development on existing views from the surrounding area. Two viewpoints were selected for the view impact analysis that are publicly accessible locations from Metford Road and the main entrance at the Metford Road and Fieldsend Street intersection. These locations have been chosen to illustrate the visual impact of the proposed development from the public domain. Photomontages of the proposal have been prepared by BVN and are shown at **Figure 38** - **Figure 41** and at **Appendix C**.

Figure 38 Existing view from Metford Road

Source: BVN

Figure 39 Proposed view from Metford Road

Source: BVN

Figure 40 Existing view from Fieldsend Street / Metford Road entrance

Source: BVN

Figure 41 Proposed view from Fieldsend Street / Metford Road entrance

Source: BVN

As shown, existing views to the site include vacant land, with some vegetation in the form of undercover grasses and well-established trees along the western boundary fronting Metford Road. While the proposed development will change the existing view from the public domain, it does not result in the loss of any significant regional views. The 86m setback of the built form will ensure it does not overly dominate Metford Road. In addition, the architectural design of the building has been planned so as to provide visual interest and complement the history of the area. The building materials and façade treatments directly relate to the landscape and heritage of the area and being set amongst extensive vegetation and formal landscaping will provide a development that is suitable for the area and its intended use.

Given the distance and vegetation screening of sensitive land uses from the site, there will be minimal view loss. This is due to the orientation, massing and scale of the built form and provision of substantial setbacks and retention of remnant forest along the south of the site, from these land uses. The existing development along Metford Road comprises a range of commercial, light industrial and residential development further south. As such, the design of the development is unlikely to have any impact on views and vistas from the existing neighbouring properties.

5.3.4 Lighting Strategy and Impacts

Due to the 24-hour nature of the hospital use, lighting will be required throughout the night. The lighting strategy includes façade and pole mounted lights that will be directed downwards to eliminate the potential for glare to surrounding neighbours and the roadway. All lights will be carefully selected to include tight cut-off distributions and controlled lighting so as not to spill beyond the boundaries of the site. Notwithstanding, all neighbours are a considerable distance from the site and are screened by dense vegetation which limit any light spill.

The lighting design will be in accordance with the following:

- AS/NZS 1158.3.1-2005 Lighting for Roads and Public Places (Part 3.1: Pedestrian Area (category P)
- AS4282-1997 Control of Obtrusive Effects of Outdoor Lighting
- Building Code of Australia (Amendment 1) - Clause J6.5

5.3.5 Reflectivity

Given the orientation of the NMH Building on a north-south axis and with Metford Road located directly to the west, there is limited direct east-west reflectance onto roadways. In addition, any glare emitted from the building would be limited to the north west elevation from the afternoon sun.

To mitigate any glare the project commits to selection of glazing and cladding materials that is limited to a 20 percent reflectivity value. This commitment forms a mitigation measures at **Section 7.0**.

5.3.6 Wind Impacts

The site is affected by wind from three predominant directions for the Maitland region, namely the west-north-westerly, north-easterly and southerly winds. The development benefits from the shielding provided by the building and use of effective wind mitigating features in the development design including screens, awnings and vegetation along the primary outdoor trafficable areas.

There is an existing wind condition for the site that was identified from the three prevailing wind directions, this is primarily due to the relatively open terrain surrounding the site. It is expected that the wind effects can be ameliorated with the inclusion of the following treatments proposed in the design:

- Awnings / canopies along the northern and western frontages of the site;
- Densely foliating trees along the various pedestrian footpaths and entrances (particularly around the corners of the building); and
- Impermeable screen along the exposed perimeter edges of the communal outdoor area on Level 3.

5.4 Crime Prevention through Environmental Design

The development implements the principles of Crime Prevention Through Environmental Design (CPTED), as identified in the Department of Planning's guidelines titled Crime Prevention and the Assessment of Development Applications (2001) as follows:

Principle 1 – Natural Surveillance

Good surveillance means that people can see what others are doing. People feel safe in public spaces when they can easily see and interact with others. Would-be offenders are often deterred from committing crime in areas with high levels of surveillance. The development provides adequate natural surveillance in accordance with this principle.

The development has been designed to provide surveillance over public areas, through the introduction of active uses at ground level and different materiality at the site's entry points. The proposal also includes fixed lighting to public areas. This will create the reality and perception that open spaces are under casual surveillance during both the day and night. The well-lit nature of the hospital environment will also enhance passive surveillance providing continuous activation throughout the site.

In addition, a number of strategies can be adopted to further improve the safety and security of the development:

- Appropriate signage should reinforce the building's main entrance;
- Utilise strategically placed capable guardians, such as reception staff, to provide natural surveillance to the building's entry; and
- Utilise trees with a high canopy that provide good shade for pedestrians, complemented with low groundcover landscaping to ensure good viability for pedestrians.

Principle 2 – Access Control

Access controls use physical and symbolic barriers to attract, channel or restrict the movement of pedestrians. As noted in Crime Prevention and the Assessment of Development Applications, effective access controls make it clear where people are permitted to go or not go and makes it difficult for potential offenders to reach and victimise people and damage property.

The public will be free to enter the site during the day. However, all the entry points into the NMH Building are located in areas which will be subject to high user traffic, as well as surveillance from passing pedestrians and motorists. This will ensure that people entering and exiting the building can be clearly seen from public spaces and monitored, if necessary.

In addition, several strategies can be adopted to further improve the safety and security of the development. Including:

- Using symbolic barriers, such as coloured or different paving materials to clearly define the publicly accessible areas and routes in and around the building; and
- Ensure all access points to the building are appropriately controlled by key / code locks (where necessary) in conjunction with the level of security to be provided to staff and patients.

Principle 3 – Territorial Reinforcement

Territorial reinforcement refers to the clear identification of public spaces, and the creation of a sense of community ownership over such spaces. As noted in the Crime Prevention and the Assessment of Development Applications people feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals.

Landscaping around the site will differentiate spaces. In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Continue after hours management measures such as regular security patrols; and
- Ensure building entrances are either locked or well monitored after hours to increase the territorial reinforcement of the building.

Principle 4 – Space Management

Space management refers to providing attractive, well maintained and well used spaces. As noted in Crime Prevention and the Assessment of Development Applications, space management strategies include site cleanliness, rapid repair of vandalism and graffiti and the removal of damaged and physical elements.

Durable and high-quality materials are proposed which will ensure that minimal maintenance is required for the proposed development. The use of durable façade treatments will also discourage graffiti or vandalism of the building facades. The continued maintenance of the building will ensure that it does not become degraded and will ensure that vandalism of the property is strongly discouraged.

In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Ensure graffiti is rapidly removed and all public spaces are kept clean and tidy; and
- Use robust materials and graffiti resistant surfaces where possible to mitigate against potential malicious damage.

5.5 Traffic, Access and Parking

GTA Consultants have undertaken a Transport Impact Assessment (refer **Appendix H**) outlining the traffic, access and parking impacts as well as mitigation measures associated with the proposed NMH. The assessment includes consideration for the transport conditions surrounding the road network at the opening of the NMH and at the 10-year horizon to ensure the road network is able to accommodate the operation and expected traffic generation of the NMH.

The Stage 1 (SSI 9075) traffic assessment concluded that road improvements are required at the intersection of Metford Road and Chelmsford Road intersection to accommodate the forecast traffic growth in the area as a result of the NMH development. Health Infrastructure will upgrade the existing roundabout (under Part 5 of the EP&A Act), prior to the operation of the NMH. The Transport Impact Assessment confirms that these works will have an acceptable impact on the capacity of the surrounding road network.

5.5.1 Operational Traffic

Traffic generation rates have been estimated using the Roads and Maritime Services *Guide to Traffic Generating Developments* 2002 to understand the impact of the proposed development on the surrounding traffic network. The trip generation rates are based on the number of beds and average staff numbers. The ratio of staff trips to visitor trips for the peak hour have been calculated based on the proposed number of car parking spaces provided for staff compared to visitors, as follows:

- Staff – 76 per cent of total trips
- Visitors – 24 per cent of total trips.

The resulting traffic generation is summarised in **Table 8** below.

Table 8 Estimated traffic generation

Peak Period	Traffic generation (vehicles per hour)				
	IN		OUT		Total
	Staff	Visitors	Staff	Visitor	
AM	125	39	31	10	205
PM	104	33	242	76	454

Source: GTA Consultants

Background Growth

Roads and Maritime Services provided GTA with outputs for the Maitland area from their Strategic Traffic Forecasting Model (STFM). These outputs included forecasted mid-block traffic volumes for 2021, 2026, and 2031, accounting for the growth in traffic volumes as result of the development of the surrounding areas.

Metford Road Intersection Performance

Based on these trip generation rates, traffic growth and distribution analysis, the impacts on surrounding key Metford Road intersections has been undertaken. The road network performance has been measured against three parameters, being:

- Level of Service (LOS)
- Degree of Saturation (DOS)
- Average Vehicle Delay (AVD)

The results of the modelling against these three parameters are shown at **Table 9** below. The table identifies intersection performance at the opening of the NMH in 2022 without and with the development.

Table 9 Metford Road - 2022 Intersection performance modelling results

Intersection	Peak Period	Leg	Degree of saturation		Average delay (sec)		Level of service	
			Existing	Proposed	Existing	Proposed	Existing	Proposed
Chelmsford Drive / Metford Road (Roundabout)	AM	South East	1.25	1.28	150	162	F	F
		North East	1.00	1.03	35	42	C	C
		North West	0.27	0.28	11	12	A	A
	PM	South East	0.72	0.90	21	37	B	C
		North East	0.86	1.14	24	89	B	F
		North West	0.43	0.44	11	11	A	A
		South East	0.00	0.04	8	9	A	A

Intersection Peak Period Leg			Degree of saturation		Average delay (sec)		Level of service	
			Existing	Proposed	Existing	Proposed	Existing	Proposed
Metford Road / Fieldsend Road (Roundabout)	AM	North East	0.66	0.77	9	12	A	A
		North West	0.12	0.16	11	12	A	A
		South West	0.43	0.53	11	11	A	A
	PM	South East	0.00	0.20	4	6	A	A
		North East	0.48	0.65	9	12	A	A
		North West	0.15	0.23	13	16	A	B
		South West	0.59	0.73	11	12	A	A
Metford Road / Raymond Terrace Road (Roundabout)	AM	South East	0.74	0.75	19	20	B	B
		North East	0.50	0.50	13	13	A	A
		North West	0.41	0.42	12	12	A	A
		South West	0.58	0.58	15	16	A	B
	PM	South East	0.61	0.61	14	14	A	B
		North East	0.34	0.36	12	13	A	A
		North West	0.58	0.61	15	16	B	B
		South West	0.76	0.81	20	22	B	B

Source: GTA Consultants

As outlined in **Table 9**, the analysis shows that the Fieldsend Street roundabout will operate with spare capacity in the year of opening.

The existing roundabout at Chelmsford Drive will operate over capacity in both the AM and PM peaks in 2022 and will further degrade in 2032. This is due to the insufficient opportunities for northbound traffic to enter the roundabout at Chelmsford Drive. Health Infrastructure propose to upgrade the roundabout to minimise the adverse effects of forecast additional traffic, including:

- Increasing the number of circulating lanes on the east and south side of the roundabout to two lanes; and
- Provision of an additional 50-metre lane on the Chelmsford Drive east approach and Metford Road north approach.by.

The proposed layout of the Chelmsford Drive / Metford Road roundabout is shown at **Figure 42** below.

The intersection works will be undertaken by Health Infrastructure separate to this SSI application (under Part 5 of the EP&A Act), as outlined in **Appendix H**, with the upgraded roundabout to be operational prior to the opening of the NMH.

GTA has assessed the impacts on the surrounding road network during peak periods for the 2032 growth scenarios, with and without the NMH development. The intersection of Raymond Terrace Road and Metford Road is currently controlled by a roundabout. As a result of the expected traffic increase from the Thornton North and Chisholm residential developments, the roundabout is expected to be at capacity by 2032.

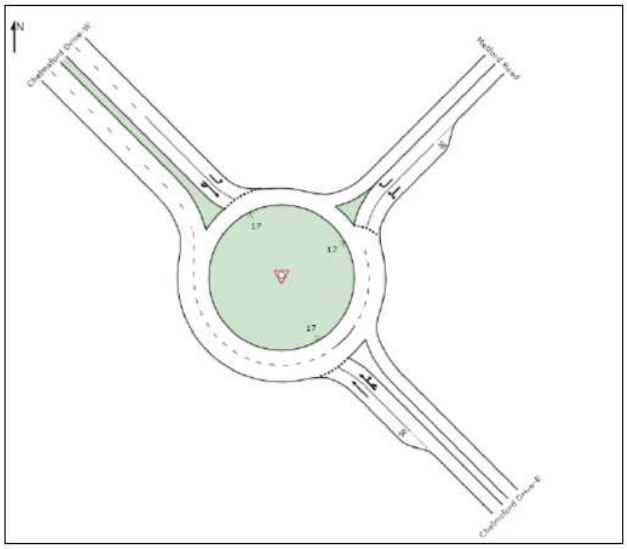

Figure 42 Proposed layout of the Chelmsford Drive / Metford Road roundabout

Source: GTA Consultants

New England Highway Performance

Performance modelling was also undertaken for key New England Highway intersections. The results of the modelling against the three parameters are shown at **Table 10** below. The table identifies intersection performance at the opening of the NMH in 2022 without and with the development.

Table 10 New England Highway - 2022 Intersection performance modelling results

Intersection Peak Period Leg			Degree of saturation		Average delay (sec)		Level of service	
			Existing	Proposed	Existing	Proposed	Existing	Proposed
Chelmsford Drive / New England Highway	AM	South East	0.60	0.64	25	16	B	B
		North East	0.50	0.98	39	59	C	E
		North West	0.83	0.93	35	45	C	D
		South West	0.41	0.40	60	42	E	C
		Overall	**0.93**	**0.98**	**35**	**38**	**C**	**C**
	PM	South East	0.60	0.95	20	22	B	B
		North East	0.87	0.96	47	61	D	E
		North West	0.87	0.97	36	52	C	D
		South West	0.58	0.90	54	56	D	D
		Overall	**0.90**	**0.97**	**31**	**43**	**C**	**D**
Mitchell Drive / New England Highway	AM	South East	0.47	0.54	14	19	A	B
		North East	0.40	0.55	58	46	E	D
		North West	0.63	0.92	20	21	B	B
		South West	0.54	0.53	51	40	D	C
		Overall	**0.92**	**0.92**	**24**	**24**	**B**	**B**
	PM	South East	0.55	0.65	21	23	B	B
		North East	0.33	0.69	54	52	D	D
		North West	0.80	0.91	25	26	B	B
		South West	0.94	0.94	56	51	D	D
		Overall	**0.90**	**0.94**	**30**	**32**	**C**	**C**
		South East	0.51	0.65	12	15	A	B

Intersection Peak Period Leg			Degree of saturation		Average delay (sec)		Level of service	
			Existing	Proposed	Existing	Proposed	Existing	Proposed
Chisholm Road / New England Highway	AM	North West	0.97	0.64	14	6	A	A
		South West	0.71	0.96	55	46	D	D
		Overall	**0.96**	**0.96**	**13**	**13**	**A**	**A**
	PM	South East	0.57	0.71	11	15	A	B
		North West	0.89	0.71	8	6	A	A
		South West	0.80	0.89	56	48	D	D
		Overall	**0.89**	**0.89**	**13**	**14**	**A**	**B**

The analysis in **Table 10** and detailed findings of GTA shows that the New England Highway intersection of Mitchell Drive and Chisolm Road will operate near to capacity in the PM peak with and without the NMH development. However, the modelling shows that overall, all intersections will continue to operate with spare capacity in peak conditions.

5.5.2 Intersection performance at 2032

GTA have modelled intersection performance for the Metford Road and New England Highway intersections, inclusive of anticipated growth to 2032. The results show that with the inclusion of the proposed upgrades to the Chelmsford Drive / Metford Road roundabout and Metford Road / Raymond Terrace roundabout, all intersections will operate satisfactory with spare capacity in the peak periods.

5.5.3 Operational Parking

A Parking Demand Study was prepared by GTA to inform the car park requirements for the NMH. The demand requirement has been drawn from a combination of the following:

- Health Infrastructure parameters and scope;
- Other hospital developments;
- Maitland City Council Development Control Plan (DCP) and various other Council DCPs;
- Roads and Maritime Guide to Traffic Generating Developments (2002); and
- Empirical Assessment of Car Parking Demand.

These assumptions are explored in detail by GTA at **Appendix H**. The assessment has considered the parking demand of the NMH at the proposed year of opening, five year and ten-year horizon. The results are shown at **Table 11**.

Table 11 Car park requirements

Source	Opening Year	5-year horizon	10-year horizon
	2021/22	2026/27	2031/32
Staff	461	554	578
Visiting medical officer	24	30	30
Public	164	175	184
Local health district / fleet vehicles	30	30	30
Total demand	**679**	**789**	**822**

To meet the required parking provision, the proposal includes 682 spaces (**Figure 43**) comprised of 516 staff parking spaces and 163 public/visitor parking spaces. The proposed parking provision meets the demand upon opening.

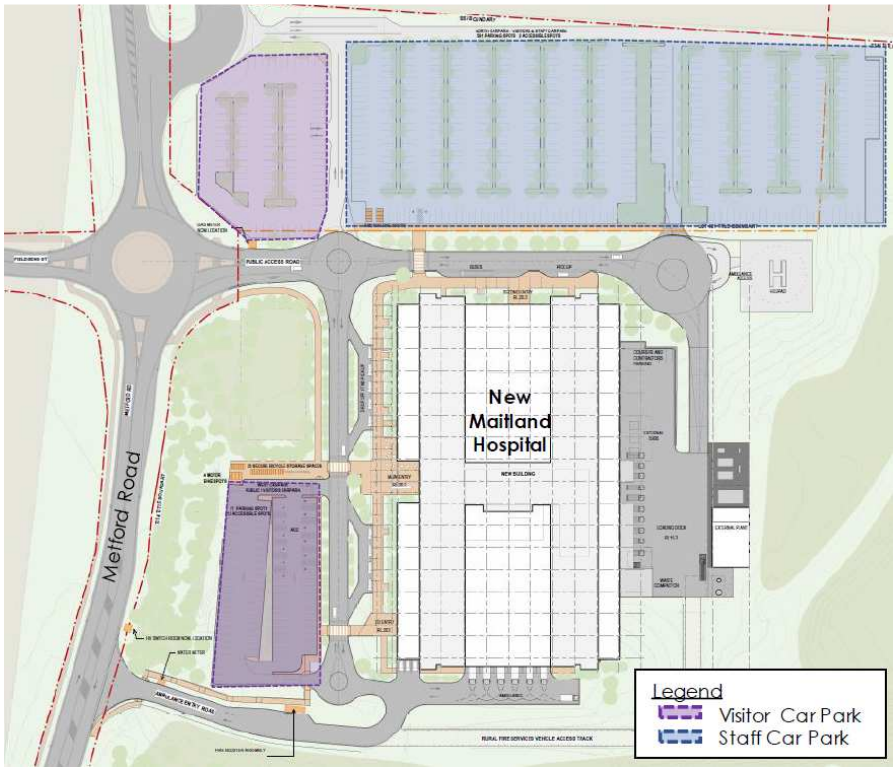

Figure 43 Staff and visitor parking arrangement

Source: GTA Consultants

To accommodate the additional 140 parking spaces and demand to the 10-year horizon, additional at-grade parking is proposed within the 19.57ha site, which is large enough to accommodate the required parking. A staged approach will allow the opportunity to accommodate broader planning and design efficiencies to be considered ahead of the additional car parking infrastructure being constructed, as needed. Local Health District will monitor car park utilisation following opening of the NMH. A review of parking demand is therefore proposed to be undertaken within three years of opening to verify the parking demand estimated in the Parking Demand Study.

Accessible Parking

Based on the provision of 682 car parking spaces, the proposal will be required to provide up to 14 accessible parking spaces in order to be compliant with the BCA. The proposed development will provide a total of 14 accessible parking spaces, located in the at-grade visitor car park on the western side of the building. This is compliant with the BCA requirements.

Motorcycle Parking

The Maitland DCP 2011 does not provide specific guidance on motorcycle parking provision requirements, however GTA recommends that four motorcycle spaces be provided. The proposed development provides 12 motorcycle spaces. The provision of these spaces will encourage motorcycle travel to the hospital and allow safe parking without occupying a space allocated for car parking.

5.5.4 Construction Traffic

A Construction Traffic Management Plan has been prepared by Multiplex and is included at **Appendix H**. The assessment confirms how the principal contractor will manage the traffic aspects of the Project.

The predicted truck delivery routes will come from the south east end on New England Highway and eastern end of Raymond Terrace Road, entering the site from the Metford Road and Fieldsend Street intersection and the southern access road once it has been constructed.

During the peak construction phase there may be up to a total of 460 vehicles arriving and departing the site per day, with 352 occurring within the PM peak hour. The NMH would generate 454 vehicles in the peak during operation (which is greater than the worst-case scenario during construction). Accordingly. as the majority of construction workers would finish prior to the PM peak, it is expected that the road network will continue to operate well throughout the construction period.

5.5.5 Construction Parking

Temporary contractor parking will be provided on site, within Lot 7314 and south of the proposed NMH building. Part Lot 401 will be used for contactor parking when construction of the North Carpark is completed.

Multiplex will encourage the use of public transport and carpooling to lessen the demand of parking and traffic movements generally.

5.5.6 Bicycle Parking

The Maitland DCP 2011 refers to the Austroads Guide to Traffic Engineering, Part 14 for bike parking rates and facilities. Based on these requirements, the NMH would be required to provide 35 bicycle parking spaces, including 23 staff and 12 visitor spaces.

A total of 23 secure bicycle storage spaces and 12 bike loops are proposed on to be located north of the Western Carpark, meeting these requirements.

End of Trip Facilities

The Maitland DCP 2011 does not specify any requirements for end of trip facilities. Notwithstanding, the following requirements have been adopted by the project:

- One bathroom and change area be provided, containing at least one toilet, wash basin, mirror, clothing hooks and power points;
- One bathroom and change area per 10 required bicycle parking spaces; and
- Clothes lockers for every required bicycle parking space.

Based on the provision of 23 bicycle spaces for staff, the development proposes to extend the back of house change facilities to accommodate a total of seven showers rather than provide a standalone facility. This approach will provide greater flexibility and increased amenity and efficiencies.

5.5.7 Emergency Services

One emergency vehicle area with six (6) drop off bays are proposed on the ground level at the southern side of the hospital. This area will be accessed from Metford Road via a dedicated road for use by emergency vehicles only.

5.5.8 Loading Facilities

One loading facility and servicing area is proposed on the lower ground level at the rear (eastern side) of the hospital, providing direct access to the hospital building. The loading area can be accessed through the eastern internal access roundabout. A swept path analysis has been undertaken by GTA who confirm the loading area can accommodate vehicles up to and including 12.5m vehicles within six loading bays.

5.5.9 Vehicular Access

As detailed in the Transport Impact Assessment, access and circulation have been designed to minimise queuing and congestion within the site that could potentially impact on the operation of the external road network. Three vehicular access points from Metford Road will be provided as follows:

- Metford Road / Fieldsend Street roundabout (which has been recently constructed) which will provide the primary access to the site;
- Emergency vehicle access from Metford Road, approximately 130m south of the Metford Road / Fieldsend Street intersection; and

- Secondary (left in / left out) site access, approximately 60m north of the Metford Road / Fieldsend Street intersection on Metford Road.

Within the site, two roundabouts are proposed. The first roundabout will provide entry only access to the northern car park for staff and visitors, as well as access to the front entrance for drop off, emergency and visitor parking. The eastern roundabout will provide access for buses to turn around to access the bus zone on the northern side of the hospital building, the loading dock and an exit point for vehicles from the northern (staff) car park.

The internal roundabouts have been designed to operate as separated entry and exit points for the main northern car park. This is to ensure that there is no potential for queuing or congestion within the site that could impact on the operation of the Metford Road / Fieldsend Street intersection.

GTA conclude that the vehicular access arrangements and internal circulation provide an appropriate level of load capacity, with the internal roundabouts and access points designed to reduce congestion on the public road network.

5.5.10 Pedestrian Access

Council has recently constructed a shared path along the northern side of Fieldsend Street, between Metford Road and Curtin Street. The path extends to Brunswick Street where it connects to the existing shared path travelling adjacent to the railway line towards Victoria Street Station. As well, the Metford Road upgrades (refer to **Section 1.1.2**) included the construction of a pedestrian path on the north-western side of Metford Road between Fieldsend Street and the Council depot. The upgrades also include the construction of pedestrian refuges on the western, southern and eastern leg of the upgraded Metford Road / Fieldsend Street intersection.

Pedestrian volumes across Metford Road are expected to be relatively low. This is primarily due to the railway station being 1.4km from the NMH. A pedestrian refuge has been constructed on Metford Road to safely accommodate pedestrian movements.

It is noted that Health Infrastructure will be making a separate application under Part 5 of the EP&A Act for the installation of a footpath on Metford Road that will connect the NMH site with the existing footpath at the Chelmsford Road roundabout.

Accordingly, the pedestrian connections within the NMH site have been designed to correspond and connect with the external footpath network. The internal pedestrian network will provide a connection to Fieldsend Street, as well as clearly delineated footpaths in the northern and western car parks. The internal access roads will also include associated pedestrian crossings.

5.5.11 Public Transport

The site is accessible via public transport with a bus stop located within 650m, providing local connections. The nearest train station is located 1.4km from the site. The proposed NMH includes provision for an on-site bus stop to allow the NMH to be incorporated into the Hunter Valley network.

The bus stop bay has been designed in accordance with the State Transit Bus Infrastructure Guide. GTA conclude that one designated bus stop would provide sufficient capacity to accommodate the expected future bus services, and the internal roundabouts have been designed to accommodate bus movements.

Health Infrastructure is currently consulting with Transport for NSW and Hunter Valley Buses to include the proposed new bus stop and Victoria Street Station into the 189-bus route or other routes, in addition to the extension of this service on weekends.

5.5.12 Green Travel Plan

A Green Travel Plan (GTP) has been prepared by GTA Consultants and is included at **Appendix H**. The GTP provides measures to reduce the environmental impact of travel during the operation of the NMH. The plan aims to encourage more efficient use of motor vehicles and alternative solutions to single occupant private vehicles.

The GTP details a range of strategies aimed at encouraging walking, cycling, public transport and car-pooling for travel to and from the NMH. The GTP will be finalised in consultation with Health Infrastructure and hospital user ground following opening. Suggested strategies to encourage and influence sustainable travel include:

- Identifying a staff member to complete travel coordinator duties for up to one year at a time;
- Provide a welcome pack for each new staff member, including a Travel Access Guide and information on how to become involved in the staff car pool system;
- Identify employees that live nearby to work that may be interested in walking to work and produce a map showing safe walking routes rather than distances;
- Take part in National Walk to Work Day;
- Introduce new staff to end of trip facilities as part of their induction;
- Establish an internal Bicycle Users Group and develop a bike buddy scheme;
- Review bicycle parking infrastructure to ensure it meets demand;
- Review condition of existing on-site bicycle routes and upgrade as required;
- Provide onsite bicycle maintenance services and toolkits;
- Develop a map showing public transport routes to work;
- Provide a bus service that links with public transport services;
- Introduce a formal carpooling scheme to encourage staff to share rides and set up a database to inform staff;
- Allocate priority parking spaces for car-poolers in preferred and visible locations; and
- Identify the priority users of car park, which will be located closer to preferred and visible locations.

The GTP recommends that these measures can be implemented via a strong communication strategy in order to promote active and public transport, thereby reducing the incentive for private car use.

5.5.13 Helipad

An Aviation Report has been prepared by AviPro and is included at **Appendix I**. The report assesses the on-grade helipad and outlines any issues relating to the site and aviation matters. The location of the helipad has been planned to allow for two approach and departure paths, which are positioned up to 180˚ apart. This will allow for adequate patient access to the emergency and critical care facilities.

The Aviation Report has also reviewed the Obstacle Limitation Surface associated with the Maitland Airport and the Newcastle Airport, confirming that there is no risk of penetration of protected airspace by cranes (during construction) or the final development.

The Report also provides recommendations which have been considered in the overall design of the NMH. This includes a transitional surface survey to meet Performance Class 1 requirements prior to the operation of the new helipad, incorporating a design overlay for the protection of airspace from future development below the approach and departure paths and transitional surfaces.

5.6 Noise and Vibration

5.6.1 Construction Impacts

Acoustic Logic Consultancy has prepared an acoustic assessment for the proposed construction works at NMH (refer **Appendix L**). The assessment identifies nearby noise sensitive receivers and anticipated noise and vibration sources, predicted noise emissions and management controls necessary to mitigate noise and vibration impacts.

Noise sensitive developments in the vicinity of the site comprise residential development to the south and active recreation development to the west. The site and sensitive receiver locations are shown at **Figure 44**.

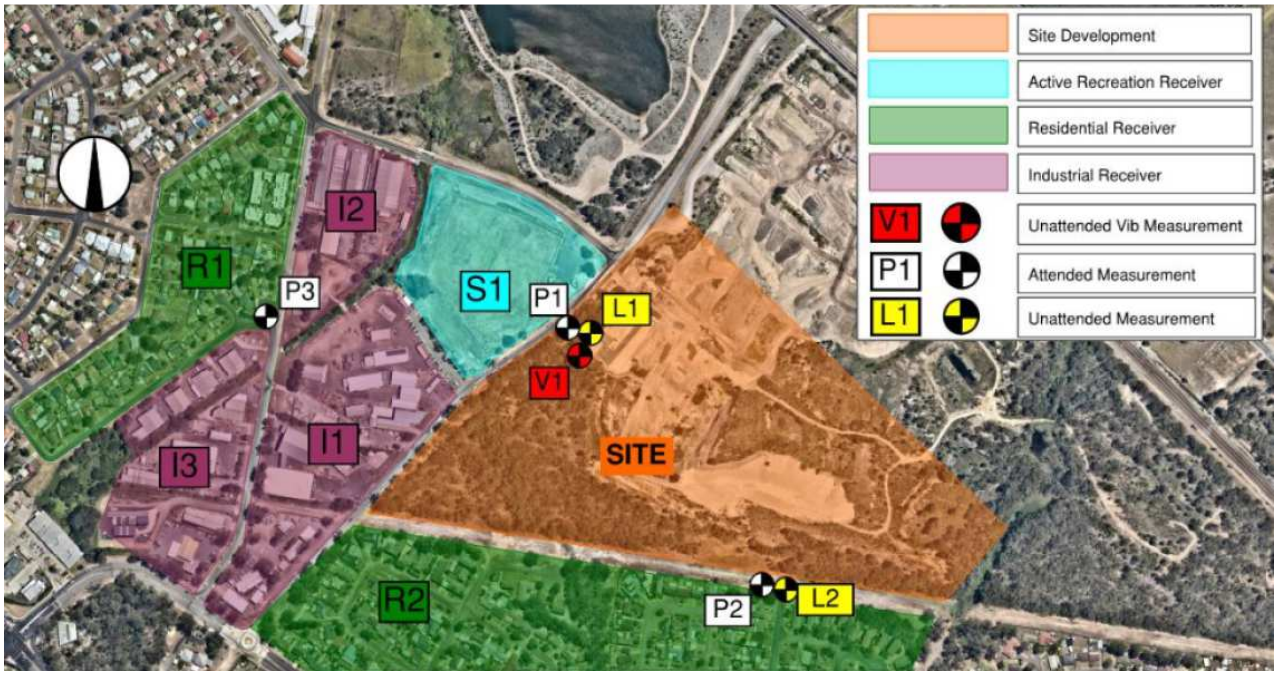

Figure 44 Site and surrounding sensitive receivers

Source: Acoustic Logic

Construction Noise

EPA guidelines adopt different strategies for noise control depending on the predicted noise level at the nearest residences. For the nearest sensitive receivers, the noise effected levels occur when the construction noise exceeds ambient noise levels by:

- More than 10dB(a)$L_{eq(15min)}$ for work during standard construction hours (7am to 6pm Monday to Friday and 8am to 1pm on Saturdays); and
- More than 75dB(a)$L_{eq(15min)}$ at nearby residence.

The construction hours for the proposed development are:

- Monday to Friday – 7:00am to 6:00pm;
- Saturday – 7:00am to 5:00pm; and
- No work on Sundays and Public Holidays.

The construction hours are proposed to be extended 7am – 8am and 1pm to 5pm on Saturdays. This is to enable efficient construction and to reduce the overall construction timetable, which will in turn benefit the surrounding community. Due to the remote nature of the site, the construction program will have limited amenity impacts and extended construction hours are appropriate. Detailed justification of extended construction hours is discussed further by Acoustic Logic at **Appendix L**.

A summary of the noise emission management levels for the proposed hours of construction is detailed in **Table 12** below.

Table 12 Construction noise management levels

Location	"Noise Affected" Management Level – dB(A)$L_{eq(15min)}$	"Highly Noise Affected" Management Level – dB(A)$L_{eq(15min)}$
Residences (south of the site)	52dB(A)/47dB(A)[1]	75dB(A)
Industrial Development (east of the site)	75dB(A)	75dB(A)
Active Recreation Spaces (east of the site)	65dB(A)	75dB(A)

[1] The report prepared by Acoustic Logic (**Appendix L**) notes that during the proposed extension to construction hours from 7am – 8am and 1pm to 5pm on Saturdays, all noise affected levels are to be background plus 5dB(A) instead of background plus 10dB(A).

The level of construction noise will be dependent on the activity being undertaken and where on the site the activity is taking place. The predictions of the construction noise levels for specific construction activities are detailed in the Construction Noise and Vibration Management Plan (**Appendix L**). The assessment confirms that while there are minor exceedances to the 65dB(A) Noise Management Level, there is no exceedance to the 75dB(A) Highly Noise Effected Level. These minor exceedances primarily occur at the southern site boundary and at the site boundary. Given the distance of the nearest noise sensitive receivers to the site, it is considered that any potential noise impacts are able to be ameliorated.

Further, the EPA Guidelines are general guidelines that are applicable in more sensitive situations. In this instance, the nearest residential properties are located a significant distance away from the construction site. As well, other recent major projects in the area including Stockland Green Hills (approximately 2km away) was afforded similar construction hours. Therefore, provided appropriate amelioration methods are employed then any potential construction noise impacts will be negligible.

Work during the extended construction hours would be subject to noise management levels outlined above, and reasonable work practices should be applied to minimise construction noise levels. The recommended mitigation measures are outlined below.

Construction Vibration

Ground vibration criteria have been set in the report to safeguard existing structures and vibration to sensitive receivers proximate to the site. Vibration associated with the construction phase is not expected to exceed building damage or amenity acoustic criteria. Vibration caused by construction at any residence or structure outside the subject site must be limited to:

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

While the report notes that vibratory compaction is likely to be used extensively, the assessment confirms that given the distance of the proposed works to residential properties, the vibration criteria is not expected to be exceeded during the construction phase. In addition, all other construction items are not expected to generate vibration exceeding building damage or amenity acoustic criteria.

Construction Mitigation Measures

The report has made a number of recommendations to mitigate acoustic and vibration impacts. If adopted, these measures will mitigate noise and vibration impacts to surrounding sensitive receivers. These include:

- No works to commence on site prior to 7am;
- All excavation and construction equipment shall be well maintained;
- Excavation using hydraulic hammers is to be avoided;
- Stationed equipment shall be located as far as practicable from residents;
- 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; and
- Noise management techniques should be employed in the event of a complaint. This may include community consultation and scheduling of loud construction processes, in accordance with the Mulitplex Communication Management Plan.

General management techniques and acoustic treatments are also included in the assessment report which may be implemented on a case-by-case basis to reduce noise emissions to surrounding sensitive receivers.

5.6.2 Operational Impacts

As part of the Stage 1 application, Wood and Grieve prepared a Noise and Vibration Impact Assessment which assessed the concept proposal in accordance with the Wood and Grieve 'Acoustic Performance Criteria.' This criterion is based on the NSW EPA guidelines, NSW National Pollutant Inventory, NSW Road Noise Policy and the OEH guidelines for 'Assessing vibration: a technical guideline.'

In accordance with the Stage 1 Noise and Vibration Assessment, Acoustic Logic have assessed the Stage 2 application with reference to the previous results. The Operational Noise Emission Assessment is included in **Appendix L**.

Operational Noise

At this early stage the selection of plant for the proposal has not been finalised and accordingly detailed acoustic design assessment cannot be undertaken. However, an indicative assessment of primary plant items has been undertaken. It is noted that the NMH is located approximately 180 metres from the nearest off-site receivers, assisting in mitigating acoustic intrusion.

In general, plant will be acoustically treated to prevent noise emissions from adversely impacting the surrounding properties. This may include selecting the quietest plant practicable, or treating the plant with enclosures, barriers, duct lining and silencers as required to comply with noise criteria.

The main operational noise sources associated with the development are expected to be:

- Air handling units located on Level B1;
- Cooling towers located on the southern end of the building;
- Emergency generators located on the north-eastern side of the site; and
- Supply / exhaust fans located within the Level B1 plant room or rooftop plant areas.

The assessment confirms that while some of the mechanical plant equipment may emit high noise levels and require acoustic treatments such as silencers, internally lined ductwork and lightweight cladding, the requirement for these amelioration measures will be considered once the specific plant equipment is determined.

Other minor plant items such as bathroom and kitchen exhaust fans may also be required. These items typically emit relatively low noise levels and may require standard acoustic treatments.

The assessment confirms that subject to the determination of specific mechanical plant, the noise emitted from the equipment is capable of complying with the NSW EPA noise policy requirements subject to the implementation of appropriate mitigation measures (refer **Appendix L**).

Helipad Operations

The number of helicopter movements for the existing Maitland Hospital is approximately 2 per month and given the growth of the area and increased availability and capacity of the NMH, the use of the helipad may increase. Based on this, it is expected that the frequency may result in 3 flights per month.

While there are no mandatory acoustic criteria for emergency vehicles, the EPA guidelines - *Noise Policy for Industry* and Australian Standard 2021:2015 are commonly adopted to assess noise emissions from aircraft. Other relevant guidelines are the EPA Noise Control Manual and the Air Services Australia *Environmental Principles and Procedures for Minimising the Impact of Aircraft Noise*. However, it is considered that these guidelines are not appropriate for use in assessing helicopter noise as the operation is more infrequent than industrial noise or noise from commercial aircraft and they do not directly apply to emergency vehicles.

Nevertheless, given the location of the helipad in the north-eastern portion of the site, more than 50m from the closest hospital building façade and at the furthest feasible location away from sensetive receivers, a worst-case helicopter movement is predicted to not exceed 85dB at the nearest residential receivers. This is 10dB less than the Air Services Australia noise guideline of 95dB.

Accordingly, the infrequency and location of the helipad is not considered to result in any adverse acoustic impacts.

5.7 Waste Management

A Construction and Operational Waste Management Plan (WMP) has been prepared by Multiplex and is included at **Appendix P**. The WMP identifies the waste streams during construction and operation, management measures and the appropriate servicing arrangements for the site.

5.7.1 Construction Waste Management

The WMP identifies likely waste streams including the possible volume of waste during construction of the proposal. An external contractor will be engaged to manage the collection of waste and sort off-site at a purpose made facility. Waste volumes will be recorded and collated for each month of the waste collection and will be reported monthly until the completion of the project.

Further measures to manage construction waste are detailed in the WMP at **Appendix P**.

5.7.2 Operational Waste Management

The management of operational waste will be in accordance with all relevant regulations and Codes of Practice, including infraction control guidelines, Department of Environment and Conservation Guidelines and the industry code of practice for the Management of Clinical and Related Wastes.

The likely waste streams include:

- General waste;
- Clinical waste;
- Anatomical waste;
- Cytotoxic waste;
- Sharps;
- Cartridges; and
- Intershred.

The areas allocated within the development for waste management include 265m^2 of waste storage space on Level B1 with supplementary rooms throughout the building totalling 211m^2. This equates to a total of 467m^2 dedicated to waste storage and disposal, excluding the waste compactor zone.

The assessment details the spatial requirements for waste rooms with regard to landfill waste, recyclable waste and medical waste. The assessment confirms that 405m^2 is required for the storage of waste for one day. The proposed development provides a total of 467m^2 which exceeds the total area required for storage and disposal for one day.

The waste compactor zone will comprise 2 compactors, which will be serviced by an external provider and all waste will be sorted at an external facility. The system will swap in new compactors up to 4 times per week.

Waste will be moved to a central disposal hold which will then be transferred to the central waste disposal. From there, the waste management contractor will collect the waste for treatment, disposal and recycling. NMH will also develop guidelines for hygiene to ensure the correct disposal of sharps and syringes.

5.7.3 Hazardous Waste

Hazardous waste will be managed and disposed of as per the Safety Data Sheet requirements and Environmental Protection (Controlled Waste) Regulations 2004. A site-specific Contamination Management Plan will be developed and methods for the containment of airborne fibre emissions will be included in the plan.

All hazardous waste will be disposed of at approved waste facilities, in accordance with the requirements of the relevant legislation.

NSW Health operates under existing waste disposal guidelines for collection, control, storage and transport of clinical wastes that accord to NSW Health, NSW EPA, Safework NSW, relevant Australian Standards and industry best-practice guidelines.

5.8 Water Cycle Management

5.8.1 Stormwater

Stormwater management for the site is described in the Civil Report prepared by TTW and included at **Appendix M**. Maitland City Council DCP and Manual Engineering Standards define the requirements for the control, treatment and discharge of stormwater from development sites within the Council area. TTW confirm the DCP and relevant Australian Standards have been used as the basis for the design of the proposed stormwater system.

On site detention is provided to each of the three main sub catchments of the development and site discharges are via existing open channels. The hospital development is located at the high point of the local catchment with discharges proposed to the south west to Council's piped stormwater network and to the north to the local upper tributaries of the Hunter River.

The discharge point to the south west of the site is via an existing grass swale drain connected to a drainage culver under Metford Road. To the east of the site, existing low points in the topography of the land form natural overland flow paths and swale drains diverting stormwater to a large wetland area prior to the discharge below the main northern railway line. The proposed design seeks to minimise the impact on the receiving environment and via OSD provided on the site, will not discharge any additional stormwater runoff. Therefore, there is no impact on the capacity of downstream open channels, pits and pipes and natural watercourses.

5.8.2 Flooding

TTW have undertaken a flood assessment based on previous studies and reports completed for the site and the surrounds (**Appendix M**). Based on these, the highest regional flooding levels were determined at RL 7.8m, which are considerably lower than the minimum floor levels on the proposed development which are RL15m. Further, it was established in an assessment undertaken for Stage 1, that the local catchment impacts did not exceed RL6.2m on the northern boundary of the site.

The development is outside of the Hunter River Floodplain Storage or Flood Fringe areas and will therefore not impact on those flood levels (**Figure 45**). Accordingly, no further analysis on local or regional flooding is required.

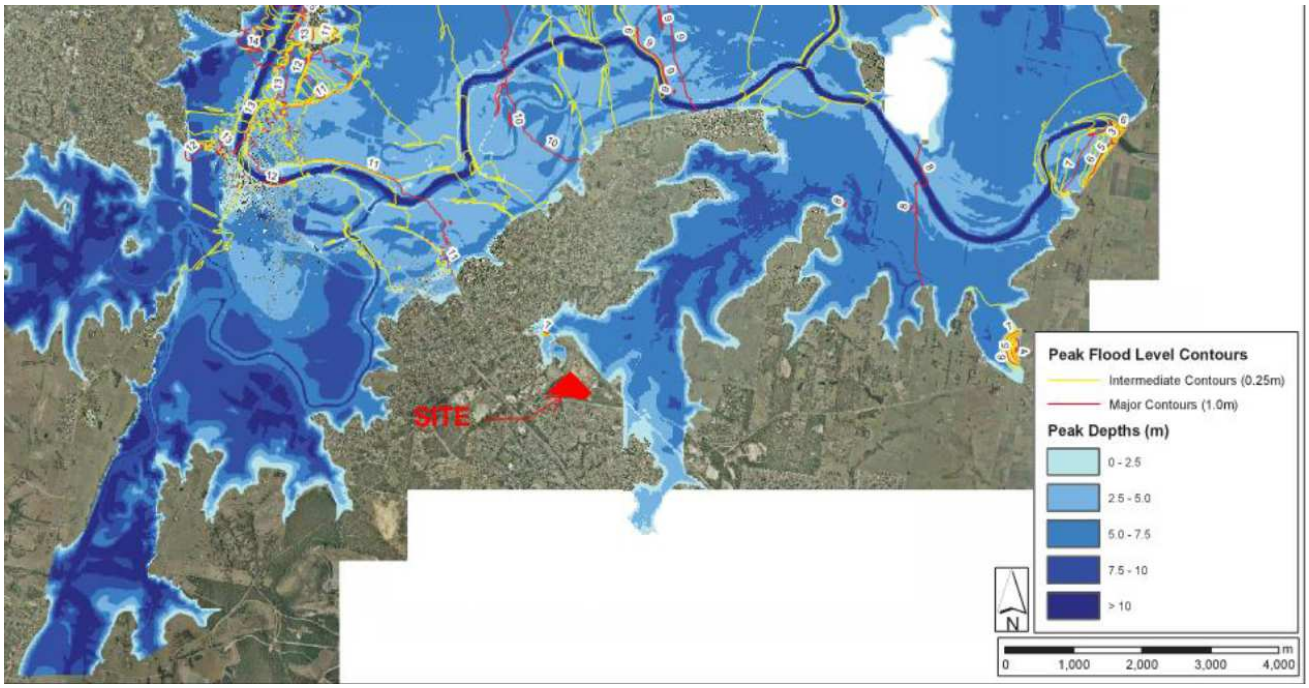

Figure 45 Extreme Flood Levels. (Hunter River (Branxton to Green Rocks) Flood Study)

Source: TTW

5.8.3 Water Sensitive Urban Design

Water quality treatment devices and water sensitive urban design features will be incorporated into the stormwater network to provide the required reduction in pollutant and nutrient loads. The proposed design includes bio filtration to reduce maintenance burdens and increase efficiencies with prefiltration via gross pollutant traps or in pit filtration devices such as enviropods. Further discussion is provided in the Civil Report at **Appendix M**.

5.9 Sediment and Erosion Control

An Erosion and Sediment Control Plan has been prepared by TTW (**Appendix M**) which addresses sediment, erosion and dust controls for the site. The report has been based on providing sediment basins on the downslope side of each section of the development due to the presence of potentially dispersive soils.

A number of catch drains will convey sediment laden runoff from disturbed areas during the construction phase to sediment basins. The basins have been sized to cater for the 7-day rainfall depth event, which will allow sufficient time after rainfall to treat and remove sediment from captured water prior to discharging to local watercourses.

5.10 Biodiversity

The Stage 1 approval included a Biodiversity Assessment Report (BAR), including a Biodiversity Offset Strategy (BOS), prepared in accordance with the Framework for Biodiversity Assessment: NSW Offsets Policy for Major Projects. The BAR provides an assessment of the likely impacts on biodiversity, including predictions of vegetation clearing, potential impacts on any threatened species or populations, and a detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts.

The Stage 1 BAR identifies the relevant credit requirements to offset the biodiversity impacts of the proposal under the Threatened Species Conservation Act. Impacts are mitigated through biodiversity offsets, including purchasing and retiring appropriate credits established under the Biobanking scheme, or undertaking supplementary measures where credits are not available. The BAR identified 156 ecosystem credits required for offsetting the removal of 5.15 hectares of the following vegetation types:

- 2.45 hectares of Lower Hunter Spotted Gum Ironbark Forest (LHSGIF – PCT ID 592) in moderate to good condition;
- 2.53 hectares of native plantings (assessed as low condition LHSGIF PCT ID 592); and
- 0.17 hectares of man-made ponds (assessed as freshwater wetlands).

No species credit species were deemed to be impacted by the proposal and thus no species credit species requirements were generated.

A review of the consistency of the Stage 2 design with respect of the approved Stage 1 BAR has been undertaken by Sclerophyll (**Appendix J1**). The results are provided at **Table 13**.

Table 13 Comparison of Stage 1 and Stage 2 vegetation clearing areas

Vegetation Zone	Extent of clearing approved under Stage 1 BAR - TOTAL	Extent of clearing completed under Stage 1 Early Works	Extent of clearing proposed in Stage 2	Total extent of clearing proposed
1. PCT 1592 – Spotted Gum – Red Ironbark – Grey Gum open forest shrub-grass open forest of the lower Hunter (Medium condition class)	**2.05**	0.49	0.43	**0.91**
2. PCT 1592 – Spotted Gum – Red Ironbark – Grey Gum open forest shrub-grass open forest of the lower Hunter (Poor condition class)	**0.40**	0.07	0.33	**0.39**
3. Native Plantings (assessed as Low condition class PCT 1592)	**2.53**	2.75	0	**2.75**
4. Man-made ponds (assessed as coastal freshwater wetlands PCT 1071)	**0.17**	0.17	0	**0.17**
Total area of clearing	**5.15**	**3.47**	**0.75**	**4.23**

The analysis shows that there is an overall reduction in total vegetation clearing required, being 0.92ha less than approved under the Stage 1 BAR.

Overall the results show that the Stage 2 proposal remains consistent with the biodiversity impacts considered and approved by the Stage 1 BAR.

A Biodiversity Development Assessment Report has been prepared by Sclerophyll (**Appendix J2**).

5.11 Tree Removal

Tattersall Lander has prepared an Arborist Report to identify and evaluate the trees on site and determine the impact of the development (**Appendix G**). There are 450 trees that form part of the Stage 2 assessment. The proposal will require removal of 209 trees to accommodate the Stage 2 development while 241 trees are identified for retention.

Existing trees on the site, outside of the development footprint are proposed to be retained. All trees identified for retention have a Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) identified as provided by AS4970-2009 Protection of Trees on Development Sites. Tattersall Lander have recommended a protocol to mitigate adverse impacts and to ensure tree retention during and following the tree clearing program, as follows:

- Tree protection fencing (in accordance with AS4970-2009) is to be installed for trees that are located within close proximity to the works;
- Trees to be removed which are not in the direct location of proposed works but are within the TPZ of trees which are to remain, are to be felled without removal of the root ball, thereby ensuring no disturbance to the TPZ of trees to remain;
- Where root balls are required to be removed but the tree is within the TPZ of a tree to be retained, then the root ball shall be removed in such a way as to minimise ground disturbance and therefore minimise disturbance to the other TPZ;
- Should works result in the disturbance of the SRZ for a retain tree or trees, then advice shall be sought from a suitably qualified arborist; and
- Upon completion of works, any retained trees adjacent to the works should be checked to ensure that there has not been any encroachment into the SRZ and no more than 10% encroachment into the TPZ; should either of these have occurred, then a suitably qualified arborist is to be consulted. Retained trees in the vicinity of the works should also be assessed for faults and defects to ensure that such faults and defects do not present a safety risk.

These recommendations form mitigation measures that are included at **Section 7.0**.

5.12 Bushfire

A Bushfire Assessment Report has been prepared by Newcastle Bushfire Consulting and is included in **Appendix R**. The site is identified as being located on bushfire prone land as shown on Council's Bushfire Prone Land map. The required asset protection zone is available entirely within the site.

The assessment confirms that given the small area of bushland on site and the inclusion of significant asset protection zones accommodated on the site, being 70m to south west and 40m to the east, evacuation of the hospital during a bushfire emergency would not be required. The assessment confirms the proposal can comply with the requirements of Planning for Bushfire Protection 2006 guidelines as required under section 100b of the Rural Fires Act (1997) and the requirements of draft Planning for Bushfire Protection (2018). The report recommends that a Bushfire Maintenance Plan and an Emergency Evacuation Plan be prepared for the site in accordance with the Rural Fire Service document guidelines.

5.13 Geotechnical

A Geotechnical Investigation has been undertaken by Douglas Partners (**Appendix N**) to assess the subsurface conditions. The investigation comprised the drilling of seven bores, excavation of seven test pits, laboratory testing of selected samples and review of existing geotechnical investigations undertaken for the site.

The majority of the site is highly disturbed and is characterised by bare soil and rock surfaces, with numerous stockpiles. The stockpiles are typically 5m to 10m in height above the ground level. The stockpiles comprise cohesive soils and ripped bedrock (including clay, sandy clay, silty clay and weathered rock) or gravel, chitter and coal. The area around the existing pond is characterised by weak sandy elements and surface water, with the remainder of the area covered by sediments and low vegetation. Sandstone bedrock was identified in the southern area of the site in generally very low strength.

Groundwater was recorded at levels ranging from 6.5m AHD to 8m AHD (in the north western and eastern areas of the site) and at RL 16 to 17m AHD in the western corner. It is noted that groundwater levels are affected by factors such as climatic conditions and soil permeability and will therefore vary with time.

Based on the results of the site investigations, the report provides advice on the geotechnical aspects of the proposed civil and structural design. The recommendations relate to excavation, footings, pavements and drainage. These recommendations have been considered in the proposed design of the NMH.

5.14 Contamination

Approval for site remediation was provided as part of Stage 1 which included the hospital use of Lot 7314 with part Lot 401 containing no development. The site is currently being remediated under the approved Remediation Action Plan. The corresponding Site Audit statement for Lot 7314 is included at **Appendix O**.

Since the Stage 1 approval, part Lot 401 is now proposed to incorporate an at-grade hospital car park. In preparing the Stage 2 contamination assessment for part Lot 401, GHD has undertaken a review of existing documentation, including previous preliminary and detailed site investigations (**Appendix O**), as outlined below.

- EA 2011 – Preliminary Contamination Assessment – February 2011
- LeVert 2011 – Stage 2 Soil Investigation – September 2011
- VGT 2014 – Mine Operation Plan and Mine Closure Plan – June 2014
- VGT 2015 – Closure Mine Operations Plan – March 2015
- DLA 2014 – Phase 2 Detailed Environmental Site Assessment – January 2014
- DLA 2015a – Additional Detailed Site Investigation (Pit 2 Area) – June 2015
- DLA 2015b – Additional Environmental Investigation – December 2015
- Golder 2015 – Screening Health and Environmental Risk Assessment – December 2015

This review indicates that there may be contamination present that may require management. Accordingly, further investigation is required to address SEPP 55 for the proposed hospital car park use. GHD have prepared a Detailed Site Investigation (DSI) scope and methodology statement (**Appendix O**) that outlines how the DSI will be prepared once access to part Lot 401 is obtained. The DSI will be submitted to the Department upon completion.

5.15 Hazards and Risks

State Environmental Planning Policy Number 33 - Hazard and Offensive Development (SEPP 33) establishes a protocol for planning for development that can be categorised as Potentially Hazardous or Potentially Offensive Development. The Department of Planning's SEPP 33 Guidelines (2011) establish screening thresholds for Dangerous Goods stored on site. If storage and transportation of dangerous goods is below these risk screening thresholds then, under SEPP 33, the facility is not considered to be potentially hazardous development and a Preliminary Hazards Analysis (PHA) is not required.

It is not known at this stage the actual quantities of Dangerous Goods that will be stored at the site in all cases, however an assessment of the screening thresholds for the relevant dangerous goods has been carried out, and the hospital will be operated such that these thresholds are not exceeded.

Site Assessment

Substances proposed to be stored onsite that are hazardous or dangerous goods include cleaning agents and medical supplies such as drugs, sterilising resources and diagnostic materials. Of these, the substances that are classified as a Dangerous Goods are listed in **Table 14**, along with the screening thresholds applicable under the

SEPP 33 Guidelines. The assessment confirms that the SEPP 33 screening threshold is not exceeded and accordingly SEPP 33 does not apply.

Table 14 Dangerous Goods Summary and SEPP 33 Screening Assessment

Classification	SEPP 33 Screening Threshold	Assessment
Class 2 non-flammable gases, non-toxic gases, and cryogenic liquids	No limit is set for Class 2.2 gases	SEPP 33 - does not apply
Class 3 dangerous goods (flammable liquids)	Lower threshold of 5 tonnes (assuming goods are of PG II & III)	Maximum of 500 L SEPP 33 - does not apply
C1 combustible liquids (Class 3 Category 4 as defined by GHS)	No limit is set	SEPP 33 - does not apply
Class 4	Threshold quantities: • 1 tonnes	None reported SEPP 33 - does not apply
Class 5.1	Threshold quantities: • 5 tonnes	Bulk Class 5 Chemical Store will house 250 L SEPP 33 - does not apply
Class 5.2	Threshold quantities: • 10 tonnes	None reported SEPP 33 - does not apply
Class 6.1	Threshold quantities: • 0.5 tonnes for PG I; • 2.5 tonnes PG II/III	Less than 40 L SEPP 33 - does not apply
Class 6.2	Threshold quantities: • 0.5 tonnes	Maximum quantity not to exceed 250 kg SEPP 33 - does not apply
Class 8	Threshold quantities: • 5 tonnes for PG I • 25 tonnes PG II; • 50 tonnes PG III	Only small quantity (<250 L in aggregate) SEPP 33 - does not apply

In addition to the above chemicals, the hospital will include the storage of dangerous goods that are not subject of screening criteria in the SEPP 33 Guidelines, as follows:

- Class 2.2 Non-flammable Non-toxic Compressed Gases: gases which are neither flammable nor poisonous whether compressed, including medical air, oxygen, nitrous oxide, and nitrogen. Oxygen would be stored externally in two tanks of 5.5 tonnes and 1.7 tonnes capacity and would be refilled in-situ. Other medical gases would be delivered in individual tanks for use within the hospital. Class 2.2 compressed gases are non-flammable and non-toxic and do not pose any potential off-site risk to human health or the environment, and as such as not subject of screening under Applying SEPP 33.
- Class 9 Miscellaneous Dangerous Goods: miscellaneous dangerous goods, which pose little threat to people or property, and so are not subject of screening under Applying SEPP 33, but which may pose an environmental hazard. The hospital will store drugs and cleaning agents, sanitisers, sterilising agents, and lithium ion batteries that are classed as Class 9 Dangerous Goods. All of these materials will be stored within cabinets inside the hospital building in small quantities, individually packaged for use by staff and patients within the hospital. As they are appropriately packaged, and will be stored and used within the hospital, these materials pose very little potential risk to the environment as a result of spills or accidental release.
- Class C1 Combustible Liquid: Diesel is a C1 combustible liquid but is not considered to be a Dangerous Good if it is stored separately from Class 3 flammable liquids. No Class 3 flammable liquids will be stored in the vicinity of the diesel tanks. As such, the diesel fuel storage is not assessed as a Dangerous Good under the SEPP 33 Guidelines.

5.16 Heritage

As part of Stage 1 an assessment of historic heritage was undertaken by Umwelt (2018). To support Stage 2 an adjunct heritage assessment has been undertaken by Archaeological Management and Consulting (AMAC) Group and is included at **Appendix K**.

There are no historical structures or buildings on site and the site is not identified as an item of heritage significance and is not located within a heritage conservation area.

AMAC Group's assessment of the location of the Stage 2 works identified no new relics outside those assessed in the 2018 assessment conducted by Umwelt. The CSR Brickworks former brick press building is located on part Lot 401, outside of the SSI site boundary of the NMH. These items are not proposed to be used as part of the NMH; however, these items are expected to form part of and be incorporated in the redevelopment of the other Metford Triangle land, where they are historically located.

There is an opportunity for a precinct approach to issues outside the SSI boundary and impacts not directly resulting from the NMH but relate to the broader precinct, including heritage interpretation. In this respect, the Metford precinct renewal is being led by the Hunter and Central Coast Development Corporation and the Department. Health is committed to engaging with Precinct Planning for the Metford area and working with other agencies in this regard.

The assessment identified that the potential for additional archaeological relics to be found on the site is unlikely. AMAC confirm that notwithstanding minor differences between the Stage 1 and Stage 2 applications, the findings of the Stage 1 assessment remain unchanged.

5.17 Building Code Compliance and Accessibility

Group DLA have prepared an Accessibility Compliance Report (refer **Appendix T**). The report assesses the proposed development's compliance with the Disability (Access to Premises – Buildings) Standards 2010 ("DDA Premises Standards"), the access provisions of the Building Code of Australia 2016 – Amendment One and relevant standards.

The report confirms that the proposed development is capable of complying with the relevant codes and standards subject to further design development and review.

5.18 Structural Adequacy

A Structural Design Statement has been prepared by TTW and is included at **Appendix S**. The Statement provides structural advice for the proposed development. The structural design associated with the proposal will be conducted in accordance with the current revision of all relevant Australian Standards, the Building Code of Australia and other statutory requirements, including:

- AS / NZS 1170.0 – Structural design actions Part 0: General Principles;
- AS / NZS 1170.1 – Structural design actions Part 1: Permanent, imposed and other actions;
- AS / NZS 1170.2 – Structural Design Actions Part 4: Earthquake loads;
- AS 2159 – Piling – Design and installation;
- AS 3600 – Concrete Structures;
- AS 3700 – Masonry Structures;
- AS 4100 – Streel Structures;
- Health Infrastructure Design Guidance Note 1 – Structural Design Criteria Guidelines; and
- Health Infrastructure Design Guidance Note 24 – Building importance levels for NSW Health Projects.

5.19 Ecologically Sustainable Development

The environmental performance of the proposed development has been assessed using clause 7(4) of Schedule 2 of the EP & A regulations and the EIS is accompanied by an ESD Statement prepared by EMF Griffiths at **Appendix Q**. The detailed design of the development incorporates the principals of ESD into the design by:

- Providing energy performance 10% improved above the requirements of NCC Volume 1 Amendment 1 2016 Part J - i.e. 10% lower energy use than required for JV3 compliance;
- The proposal will target a Green Star Health Care 4 Star equivalency rating, noting that Green Star 4 Star is considered 'Australian Best Practice'; and

- The design measures are outlined in **Section 3.7** and as discussed by EMF Griffiths in **Appendix Q**, demonstrate the way in which ESD is entrenched into the design proposal. Through the incorporation of the ESD measures, the NMH will be designed in accordance with the best practice principles, which are capable of being applied throughout the design and ongoing operation phases of the development.

Further, the proposed development is consistent with the four accept principles of ESD. The Regulation lists four principles of ESD to be considered in assessing a project. These include:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of the propose development against these principles is provided below.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

Intergenerational Equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- Implementing management measures to protect environmental values;
- Facilitating job creation during the construction and operation phases; and
- Improving the access to health services and facilities in a growing region.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

The Biodiversity Statement outlines that 5.09ha is proposed to be removed, and the BBAM calculated that 156 ecosystem credits are required to offset the unavoidable impacts on the site.

The proposal is considered to have a limited impact on biological diversity and ecological integrity of the site, requiring a small area to be impacted in the context of the overall development.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance.

Additional measures will be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases.

5.20 Public Benefit

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the

EP&A Act specifies that such a justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project can proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not. The proposal involves the development of a new rural referral hospital located on currently underutilised land. The assessment must therefore focus on the identification and appraisal of the effects of the proposed development, particularly given the demand for upgraded health services within the broader region.

Social and Economic

The social and economic benefits associated with the proposed development include:

- A development that will provide a significant piece of social infrastructure, providing critical health services for the Lower Hunter Region and a state-of-the-art facility that will cater for future demand;
- A development that will provide additional employment in the construction and operation phases. This will in turn have added social benefits for the region, in terms of providing adequate employment in a rural area;
- The development of the NMH is a major health and economic benefit for the local community and Lower Hunter Region. To not invest in the development would exacerbate the service offering and capacity of existing Health Infrastructure in the region and require patients to continue to travel significant distances to receive adequate health care.

Biophysical

The environmental impact of the proposed development has demonstrated that:

- The development is located on land that has been heavily modified by its historic use. The impacts to biodiversity remain consistent with that approved by at Stage 1.

5.21 Development Contributions

In accordance with Section 5.22(3) of the EP& Act, Division 7.1 (Development Contributions) do not apply to SSI that is out by or on behalf of a public authority. Accordingly, local infrastructure contributions under Section 7.11 (previously Section 94) and voluntary planning agreements under Section 7.4 of the EP&A Act cannot be imposed.

6.0 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the new Maitland Hospital has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 46 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 46 Risk Assessment Matrix

				Risk Assessment		
Item	**Phase**	**Potential Environmental Impact**	**Proposed Mitigation Measures and / or Comment**	**Significance of Impact**	**Manageability of Impact**	**Residual Impact**
Key: C – Construction O – Occupation						
Traffic and Parking	C / O	• Increase in construction traffic on local roads • Increase in traffic and parking on local roads during operation	• Appropriate measures have been prepared to minimise any impacts arising from construction traffic • Additional parking demand generated from the proposed development will be accommodated within the site, and future expansion of the car park has been assessed to meet the 10-year estimated parking demand targets • HI have committed to upgrading the Chelmsford Road roundabout to provide further capacity	C = 2 O = 3	C = 2 O = 2	C = 4 (low / medium) O = 5 (low / medium)
Visual and Built Form	O	• Visual impact of the development when viewed from the public domain • Visual impact from sensitive land uses to the south	• The proposed development has been setback from Metford Road and residential development located to the south to reduce any adverse visual impacts • The architectural design, massing and façade treatments have been carefully considered to integrate with the existing built form on Metford Road and surrounding landscape • The proposed development is located a substantial distance away from sensitive land uses. No views will be impacted.	O = 2	O = 1	O = 3 (low / medium)
Noise and Vibrations	C / O	• Increase in noise and vibrations levels during construction • Increase in noise levels during operation	• The proposed development will implement a Construction Noise and Vibration Management Plan which details specific mitigation measures to ameliorate any potential noise or vibration impacts to surrounding sensitive receivers • The proposed development will implement an Operational Noise Management Plan to ameliorate any potential operational noises • Given that the site is located a substantial distance from sensitive receivers, any potential noise impacts are considered manageable in the context of the development	C = 3 O = 1	C = 2 O = 2	C = 5 (low / medium) O = 3 (low / medium)
Air and Water Quality	C	• Potential for reduced air and water quality during construction	• A detailed Construction Management Plan will be developed once a contractor has been appointed to implement appropriate measures and ensure that air and water quality is maintained	C = 2	C = 2	C = 4 (low / medium)

7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 15** below. These measures have been derived from the previous assessment in **Section 5.0** and those detailed in appended consultants' reports.

Table 15 Mitigation Measures

Mitigation Measures
Transport and Accessibility Construction and operational traffic will be in accordance with the Contrstuction Traffic Management Plan prepared by Multiplex and dated 20 February 2019 and the Transport Impact Assessment prepared by GTA and dated 28 March 2019.
Reflectivity The proposed façade treatments and materials will be selected to ensure that the reflectivity of the NMH building does not exceed the normal 20% reflectivity limit.
Tree Protection and Retention • Tree protection fencing (in accordance with AS4970-2009) is to be installed for trees that are located within close proximity to the works; • Trees to be removed which are not in the direct location of proposed works but are within the TPZ of trees which are to remain, are to be felled without removal of the root ball, thereby ensuring no disturbance to the TPZ of trees to remain; • Where root balls are required to be removed but the tree is within the TPZ of a tree to be retained, then the root ball shall be removed in such a way as to minimise ground disturbance and therefore minimise disturbance to the other TPZ; • Should works result in the disturbance of the SRZ for a retain tree or trees, then advice shall be sought from a suitably qualified arborist; and • Upon completion of works, any retained trees adjacent to the works should be checked to ensure that there has not been any encroachment into the SRZ and no more than 10% encroachment into the TPZ; should either of these have occurred, then a suitably qualified arborist is to be consulted. Retained trees in the vicinity of the works should also be assessed for faults and defects to ensure that such faults and defects do not present a safety risk.
Waste Construction and operational waste will be managed in accordance with the Waste Management Plan prepared by Multiplex dated April 2019.
Stormwater The proposal will be in accordance with the Civil Report prepared by TTW and dated 27 March 2019.
Noise and Vibration Noise and vibration impact for the construction and operation of the NMH will be in accordance with the recommendations of the Construction Noise and Vibration Management Plan dated 26 March 2019 and the Operation Noise Emission assessment dated 5 April 2019.
Construction Impacts A detailed Construction Management Plan (CMP) will be prepared by the appointed contractor prior to the commencement of works. The CMP will establish site management principles in accordance with the relevant standards and policies.
Contamination A Detailed site investigation will be carried out on part Lot 401 and submitted to the Department prior to a consent being issued.
Environmentally Sustainable Development The detailed design of the development is to incorporate ESD principles and measures set out in the ESD Statement prepared by EMF Griffiths and dated 1 April 2019.

8.0 Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed development of the New Maitland Hospital. The EIS has addressed the issues outlined in the SEARs (**Appendix A**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of relevant planning instruments, built form, social and environmental impact including traffic, noise, construction impacts, biodiversity and stormwater.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- The proposal will facilitate the development of a new state-of-the-art health facility in the Lower Hunter Region which will alleviate pressures on the existing Hunter New England health services;
- The proposed development will provide short term and long-term job opportunities during the construction and operation phases;
- The design of the development has been carefully considered so as to complement the natural landscape and surrounding land uses, without resulting in significant environmental impacts;
- The assessment of the development has demonstrated that it will not result in any environmental impacts that cannot be appropriately managed and is consistent with the relevant planning controls for the site; and
- The proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the EP&A Regulation as well as Section J of the Building Code of Australia.

Given the merits described above it is requested that the application be approved.