

Tamworth Hospital Redevelopment

July 2012

Prepared for



State Significant Development (SSD 5204)
Environmental Impact Statement

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Quality Assurance

Reviewed by



Per: **Michael Harrison**
Director
Urban Design and Planning
Architectus Sydney Pty Ltd

13 July 2012

Date
This document is for discussion
purposes only unless signed.

- O Arborist's Report**
Prepared by Roy's Tree Services
- P Landscape Plans and Report**
Prepared by Site Image
- Q Energy and Sustainability Assessment**
Prepared by Steensen Varming
- R Fire Safety Strategy**
Prepared by Rawfire
- S Heritage Impact Statement**
Prepared by Urbis
- T Addendum Flora and Fauna Assessment**
Prepared by RPS
- U Tamworth Base Hospital and Health Service Waste Management Guidelines**
- V Hydraulic / Fire Services Report**
Prepared by Donnelly Simpson Cleary
- W Electrical Services Letter**
Prepared by Steensen Varming
- X Structural Engineer Letter**
Prepared by TTW
- Y Preliminary Construction Management Plan**
Prepared by Aurecon

Statement of Veracity

Submission of Environmental Impact Statement:

Prepared under Schedule 2 of the Environmental Planning and Assessment Regulation 2000.

Environmental Impact Statement prepared by:

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In respect of:

Tamworth Hospital Redevelopment, Environmental Impact Statement for State Significant Development Application for Tamworth Hospital Redevelopment (SSD 5204).

Declaration:

It is declared that this Environmental Impact Statement has been prepared:

- in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; and
- the statement contains all available information that is relevant to the environmental assessment of the proposed development; and
- to the best of my knowledge the information contained in this report is neither false nor misleading.



13 July 2012

(Signature and date)

John Riordan
Associate Director
Urban Design and Planning
Architectus Group Pty Ltd

Executive Summary

This Environmental Impact Statement has been prepared by Architectus Group on behalf of NSW Health Infrastructure to accompany a State Significant development application seeking approval for the redevelopment of Tamworth Hospital. The site is at 331 Dean Street, Tamworth.

Tamworth Hospital is a Rural Referral Hospital providing a range of emergency, acute, non-acute and community/primary health services to the people of the Tamworth area and its environs. As a Rural Referral Hospital it provides higher levels of service to the population of the northern part of the New England area than other facilities.

Tamworth Hospital has operated on the site since the late 1880's and has grown in a piecemeal manner since that time. The delivery of health services across the many separate buildings on the site has led to poor patient experiences and a lack of cohesion.

The application seeks consent for the redevelopment of the Tamworth Hospital to create a revitalised hub for medical, surgical and other specialties. The works are part of a broader strategy for the site based on a campus Masterplan prepared in 2010.

The proposed works facilitate the rationalisation of the site, particularly in terms of reducing dislocation between buildings and services, and wayfinding across the site. The development application seeks consent for:

1. Earthworks and associated excavation for site preparation.
2. Construction of a new five level Acute Services building with an overhead link to the Brudelin building.
3. New access and transport facilities including construction of a new Hospital entry road from Dean Street and additional parking areas.
4. Landscaping works.
5. Demolition of buildings within the footprint of the new Acute Services building.

The proposed new Acute Services building is a five level structure that is located behind the Brudelin and Main (1883) buildings. Its central location on the site will reinforce the precinct as the main activity area for the hospital.

The new entry from Dean Street provides a welcoming and well defined public entrance. A bridge will link the upper levels of the new building to the Brudelin building.

The new building utilises the natural slope of the land and results in a comparable height to the Brudelin building. The bulk and scale of the new building is appropriate to the site and context and does not result in any significant adverse impacts.

The proposal provides additional parking at the site and will reduce reliance on on-street parking in the streets adjoining the hospital. Two trees that are listed on Council's Significant Tree Register are required to be re-located as a result the proposed new building. The final location for

the trees will be determined in consultation with Tamworth Regional Council.

Other changes and effects of the development are:

- Changes to catchment management for stormwater
- Additional noise from plant during operation
- Traffic impacts during construction
- Improvements to bus movements through the site
- Improved wayfinding for visitors and patients
- Improved health services for the Tamworth region
- Improved visual amenity at the hospital, including landscaping of public areas and quiet spaces.

The new building is designed to target a 4 Star Green Rating. A Green Travel Plan will also be prepared to ensure a package of measures is available to promote use of public transport, walking and cycling for the site.

The project is consistent with the objects of the EP&A Act and is necessary to enable Tamworth Hospital to deliver a contemporary model of health care and an improved patient and clinical environment. The proposal is the outcome of background studies and investigations, and extensive stakeholder consultation.

The Tamworth Hospital redevelopment will benefit the New England area, providing updated health care facilities. The works will also enhance the workplace environment for staff.

The development results in positive changes to the hospital campus and facilities with minimal environmental impacts. The application is recommended for approval.

1 Introduction

1.1 Preliminary

This Environmental Impact Statement has been prepared by Architectus Group on behalf of NSW Health Infrastructure to accompany a State Significant development application seeking approval for the redevelopment of Tamworth Rural Referral Hospital (Tamworth Hospital), located at 31 Dean Street, Tamworth.

Tamworth Hospital is a Rural Referral Hospital providing a range of emergency, acute, non-acute and community/primary health services to the people of the Tamworth area and its environs. As a Rural Referral Hospital it provides higher levels of service to the population of the northern part of the New England area than other facilities.

Tamworth Hospital has operated on the site since the late 1880's and has grown in a piecemeal manner since that time. The delivery of health services across separate buildings has led to poor patient experiences and a lack of cohesion. The proposed redevelopment is necessary to enable Tamworth Hospital to deliver a contemporary model of health care and an improved patient and clinical environment.

The application seeks consent for:

1. Earthworks and associated excavation for site preparation.
2. Construction of a new five level Acute Services building with an overhead link to the Brudelin building.
3. New access and transport facilities including construction of a new Hospital entry road from Dean Street and parking areas.
4. Landscaping works.
5. Demolition of buildings within the footprint of the new Acute Services building.

The proposed new facilities will provide a hub for medical, surgical and other specialties in the region. The improvements will also provide for consultancy and outreach and support for chronic and complex disease management across the whole community.

The requirements of the Director-General were provided to Health Infrastructure on 29 March 2012 and form the basis for this Environmental Impact Statement. **The NSW Minister for Planning and Infrastructure is the consent authority.**

The EIS is to be read together with the architectural drawings provided at **Appendix A** (under separate cover) and the documentation, surveys and other plans provided at **Appendices B – Y**.

1.2 Structure of this Environmental Impact Statement

This EIS includes the sections as set out below. The structure is based on the Environmental Assessment Requirements contained in the Director-General's Requirements (DGRs) (refer **Appendix B**):

Statement of Veracity

Provides a statement on the veracity of the Environmental Impact Statement, including qualifications of persons preparing the assessment. Also includes a declaration as required by Schedule 2, Clause 6(f) of the *Environmental Planning and Assessment Regulation 2000*.

Executive summary

Provides a summary of the Environmental Impact Statement.

Section 1 – Introduction

Outlines the works for which consent is being sought and provides background to the development, details of the site, an overview of the DGRs and information on where the key issues are addressed in the Environmental Impact Statement, details about consultation undertaken and the project team who participated in the preparation of this Environmental Impact Statement. The introduction also identifies the relevant statutory requirements and policies, and the consent authority.

Section 2 – Site and contextual analysis

Provides a description of the site and its context including existing site conditions. Identifies the suitability of the site for the proposed development.

Section 3 – Description of the proposal

Provides a description of the overall concept, design approach and permissibility of the project. Describes the various components of the proposed development in detail.

Section 4 – Environmental assessment

Contains the environmental assessment of the proposed development and addresses the matters identified in the DGRs.

Section 5 – Project justification

Provides a summary statement of the project objectives, an analysis of any feasible alternatives including the consequences of not carrying out the development and the project justification.

Section 6 – Mitigation measures

Proposes specific measures for environmental impact management and monitoring of the project.

Section 7 – Conclusion

Concludes the Environmental Impact Statement with a brief summary and provides recommendations for the determination of the State Significant Development Application.

1.3 Location, legal description and site ownership

Location

The site comprises the existing Tamworth Hospital campus at 31 Dean Street, Tamworth. The hospital campus is approximately three kilometres north of the Tamworth town centre and is bounded by Johnston Street to the south, Dean Street to the west and the extension of Smith Street to the east.

Tamworth is within the Tamworth Regional Council area and is part of the Hunter New England Area Health Service.

The site location is shown in **Figure 1** below.

Legal description

The legal description of the site is Lot 99 and 335 in DP 753848, Lots 1 and 2 DP 533835 and Lot 1 DP 712550.

Site ownership

The owner of the land is identified as the New England Health Service and Health Administration Corporation. The land title is attached at **Appendix C**.

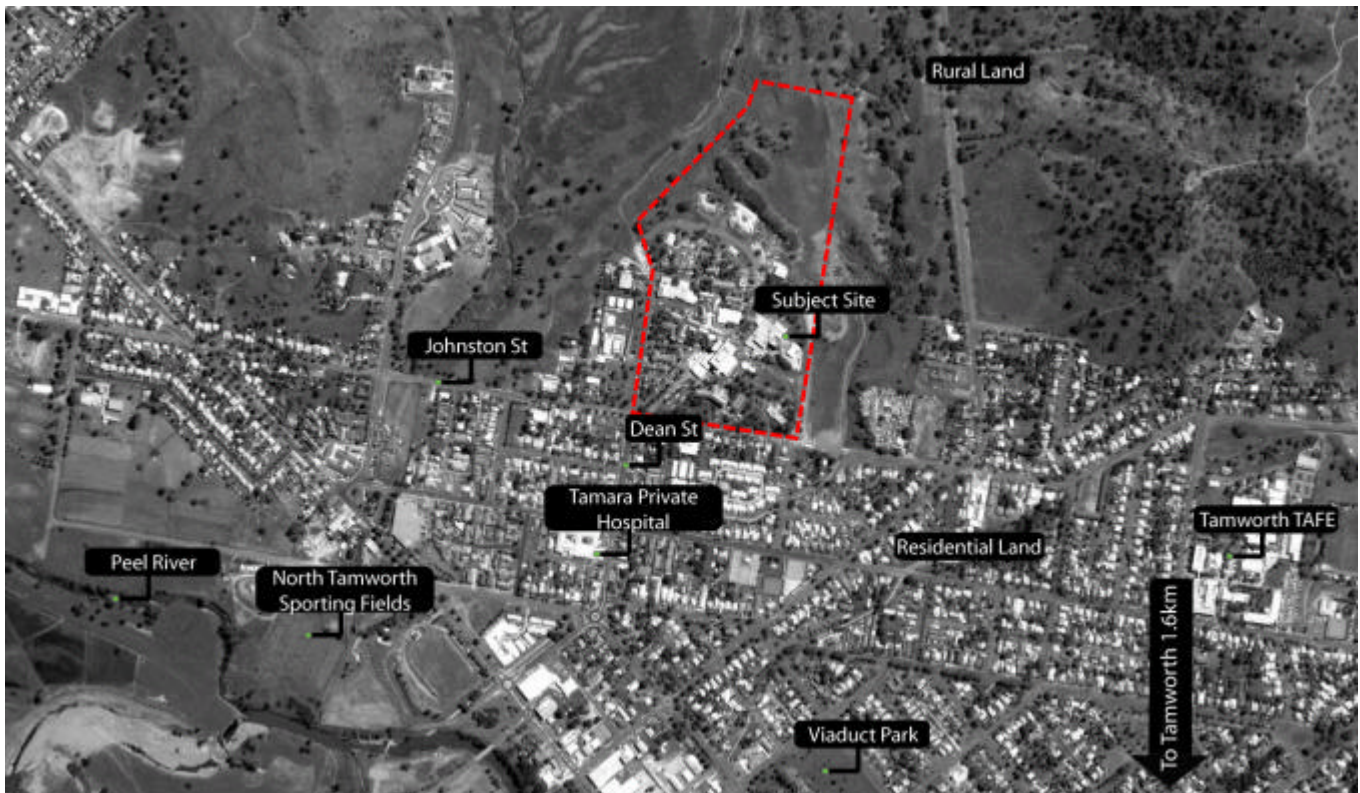


Figure 1 – Location plan

1.4 Background

Concept development

Tamworth Hospital has grown in a piecemeal manner over time. The buildings and facilities present a range of problems that prevent the delivery of optimum contemporary health services. Most of the health services delivered at Tamworth Hospital are from various independent stand alone buildings, or buildings that are poorly located.

A Health Services Plan (HSP) was commissioned for the Hunter New England Area Health Service in 2007. The HSP was approved and endorsed by NSW Health, Statewide Services Development Branch and the Hunter New England Health Service in 2009. It is accompanied by a Service Procurement Plan and Project Definition Plan.

The Tamworth HSP proposes a range of integrated service models and strategies to 2016 within the strategic framework of the Area's Strategic Plan *A New Direction for Hunter New England Health Services Strategic Plan – Towards 2010*.

In 2010 the Tamworth Health Services Redevelopment Masterplan was prepared to investigate concepts for future facilities on the site. The Masterplan process included stakeholder consultation. A Feasibility Development Report has recommended minor changes to the Masterplan and is the basis of the current application.

The vision is to develop a new hospital and integrated health service campus to provide a major enhancement of the referral services available to the region within the strategic framework. The new hospital is to be delivered in stages and will address the deficiencies of the existing campus associated with poor integration and outdated building infrastructure. The new facilities will meet the needs of Tamworth Health Services well into the future.

Other works on the site

Tamworth Integrated Cancer Care Centre

The Tamworth Integrated Cancer Care Centre development was approved in 2011 and is under construction. The Cancer Care Centre comprised the first element of the upgrading and redevelopment project for Tamworth Hospital.

The Cancer Care Centre is located on the eastern side of the Brudelin building towards the Johnston Street frontage. The Centre has a carpark under construction and access from a service road to Johnston Street.

Minor works (Parking and access)

Parking, access and circulation improvements to the Tamworth Hospital site are currently being considered under Part 5 of the EP&A Act. The primary focus is to create a ring road through the hospital site to improve traffic and access, and to provide additional parking.

The proposed minor works are shown in **Figure 2** and include:

- Construction of a new eastern road which will connect to the existing road on the northern side of the site creating a ring road through the hospital;
- Construction of two new carparks and upgrading of existing carpark

to provide additional parking for the hospital;

- Provision of a temporary contractor carpark off Johnston Street;
- Demolition of an existing water tank and shed;
- Provision of drainage, lighting, road controls and associated services, and
- Removal of trees.

The minor works are being considered by the Chief Executive of Health Infrastructure.

Brudelin and 1883 buildings

Some of the elements included in the Feasibility Development Report and Masterplan, including refurbishment of the Brudelin and 1883 buildings, will be undertaken as separate future works.

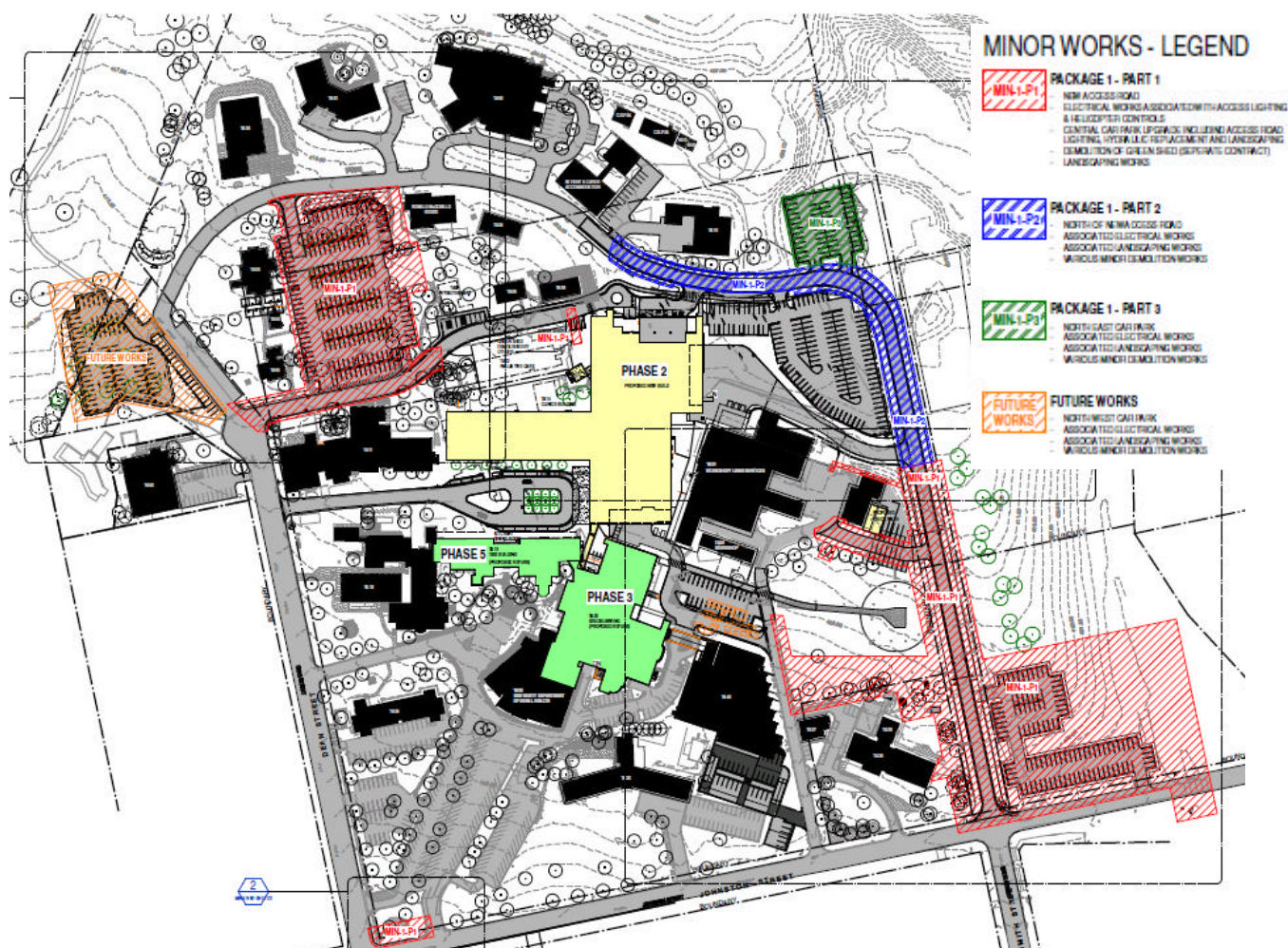


Figure 2 – Minor Works

1.5 Planning context

Relevant planning instruments and strategies

The following planning instruments apply to the subject site and the proposed development:

Legislation

- Environmental Planning and Assessment Act 1979

Environmental Planning Instruments

- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development; and
- State Environmental Planning Policy (Infrastructure) 2007.
- Tamworth Regional Local Environmental Plan (LEP) 2010.

Draft Environmental Planning Instruments

- Nil

Development Control Plans (DCPs)

- Tamworth Regional Development Control Plan 2010.

Other strategic planning policies

- NSW 2021 (State Plan);
- Tamworth Regional Strategy 2008.

Section 4 of this report provides an assessment of the proposed development against the above relevant environmental planning instruments and policies.

State Significant Development

Part 4, Division 4.1 of the Act contains the provisions for State Significant Development. Section 89C provides for state environmental planning policies to declare development to be State significant development, either as a class of development or by a particular description.

SEPP (State and Regional Development) 2011 declares hospital developments with a capital investment value of more than \$30 million to be State significant development. The capital investment value for the proposed development is above this threshold triggering the State significant development provisions.

The provisions of Section 79C of the Act apply to the assessment and determination of State significant development applications. The Minister for Planning and Infrastructure is the consent authority for State significant development.

1.6 Director-General's Requirements

The Director-General's Requirements (DGR's) for the proposal were provided to Health Infrastructure under Schedule 2 of the *Environmental Planning and Assessment Regulations 2000* on 29 March 2012. The DGR's are summarised in **Table 1** below, including reference to where they are addressed in this report.

A full copy of the DGR's is found at **Appendix B**.

Table 1 – Director-General's Requirements

| Director-General's Requirements | Section of report |
|--|-------------------|
| General Requirements | |
| <p>The Environmental Impact Statement (EIS) must meet the minimum requirements in Schedule 2 of the Environmental Planning and Assessment Regulation 2000, specifically:</p> <ul style="list-style-type: none"> • form specifications in clause 6; and • content specifications in parts (1) and (4) in clause 7. | |
| <i>The Environmental Impact Statement (EIS) must address the following specific matters:</i> | |
| <p>1. Environmental Planning Instruments (EPIs)</p> <p>Address the relevant statutory provisions applying to the site contained in all relevant EPIs, including:</p> <ul style="list-style-type: none"> • State Environmental Planning Policy (State and Regional Development) 2011; • State Environmental Planning Policy (Infrastructure) 2007; and • Tamworth Regional Local Environmental Plan 2010. <p><i>Permissibility</i></p> <p>Detail the nature and extent of any prohibitions that apply to the development.</p> <p><i>Development Standards</i></p> <p>Identify the development standards applying to the site. Justify any development standards not being met.</p> <p><i>Contamination</i></p> <p>Demonstrate that the site is suitable for the proposed use in accordance with SEPP55.</p> <p>Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Managing Land Contamination: Planning Guidelines – SEPP 55 Remediation of Land (DUAP)</i> | Section 4.1 |
| <p>2. Policies, Guidelines and Planning Agreements</p> <p>Address the relevant planning provisions, goals and strategic planning objectives in the following:</p> <ul style="list-style-type: none"> • NSW State Plan; • Tamworth Regional Development Control Plan (TRDCP) 2010; • Tamworth Regional Development Strategy. | Section 4.2 |

| Director-General's Requirements | Section of report |
|--|---------------------|
| Detail how the development promotes or is consistent with these provisions and strategic objectives. | |
| 3. Built Form and Urban Design <ul style="list-style-type: none"> Address the height, bulk and scale of the proposed development within the context of the locality. Design quality, with specific consideration of the overall site layout, axis, vistas and connectivity, open spaces and edges, primary elements, gateways, façade, rooftop, mechanical plant, massing, setbacks, building articulation, materials, choice of colours. | Section 4.3 |
| 4. Amenity <p>Provide information detailing the impact and provision of solar access, overshadowing, acoustic impacts, visual privacy, view loss and wind. A high level of environmental amenity must be demonstrated.</p> | Section 4.4 |
| 5. Ecologically Sustainable Development (ESD) <ul style="list-style-type: none"> Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design, construction and ongoing operation phases of the development. Include a description of the measures that would be implemented to minimise consumption of resources, water and energy, including any Integrated Water Management Plan which details any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design. | Section 4.5 |
| 6. Noise <p>Identify the main noise generating sources and activities at all stages of construction, and any noise sources during operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.</p> <p>Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> <i>NSW Industrial Noise Policy (EPA)</i> <i>Interim Construction Noise Guideline (DECC)</i> | Section 4.4 |
| 7. Transport and Accessibility (Operation) <ul style="list-style-type: none"> Detail access arrangements at all stages of operation and measures to mitigate any associated traffic impacts. Demonstrate how users of the development will be able to make travel choices that support the achievement of State Plan targets. Detail existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport and pedestrian and cycle access. Describe the measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan. Demonstrate the provision of sufficient on-site car parking having regard to the availability of public transport, including a detailed parking analysis if demand generated relies on existing or on-street car parking spaces. <i>(Note: reduced car parking provision maybe supported in areas well serviced by public transport.)</i> Estimate the total daily and peak hour trips generated by the proposed development, including accurate details of the current and future daily vehicle movements and assess the impacts of the traffic generated on the local road network, including intersection capacity and any potential | Section 3.8 and 4.8 |

| Director-General's Requirements | Section of report |
|--|-----------------------|
| <p>need for upgrading or road works, having regard to local planning controls. The analysis shall consider impacts to connections with Peel Street; the Dean Street and Johnston Street intersection; and the connection between Johnston Street and the internal ring road.</p> <p>Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Guide to Traffic Generating Developments (RTA)</i> • <i>EIS Guidelines – Road and Related Facilities (DoPI)</i> • <i>NSW Planning Guidelines for Walking and Cycling.</i> | |
| <p>8. Transport and Accessibility (Construction)</p> <p>Detail access arrangements at all stages of construction and measures to mitigate any associated pedestrian, cycleway or traffic impacts.</p> | Sections 3.4 and 4.9 |
| <p>9. Heritage</p> <p>A statement of significance and an assessment of the impact on the heritage significance of any heritage items and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual.</p> | Section 4.6 |
| <p>10. Aboriginal heritage</p> <p>The EIS shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.</p> | Section 4.6 |
| <p>11. Sediment, Erosion and Dust controls (Construction and Excavation)</p> <p>Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.</p> <p>Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Managing Urban Stormwater – Soils and Construction Volume 1 2004 (Landcom)</i> • <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)</i> | Section 3.7 |
| <p>12. Utilities</p> <p>In consultation with relevant agencies, the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure shall be addressed.</p> | Section 3.10 |
| <p>13. Staging</p> <p>Details regarding the staging of the proposed development (if proposed).</p> | Section 3.8 |
| <p>14. Contributions</p> <p>Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.</p> | Section 4.17 |
| <p>15. Flooding</p> <p>An assessment of any flood risk on site in 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.</p> | Section 4.10 |
| <p>16. Drainage</p> <p>Drainage associated with the proposal, including stormwater and drainage infrastructure.</p> | Sections 3.6 and 4.10 |
| <p>17. Servicing and Waste</p> <p>Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to</p> | Section 3.13 and 4.12 |

| Director-General's Requirements | Section of report |
|--|------------------------------------|
| 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. | |
| Plans and Documents | |
| The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i> . | |
| <ul style="list-style-type: none"> Name and address of applicant; | Application form |
| <ul style="list-style-type: none"> Description of development to be carried out; | Section 3 |
| <ul style="list-style-type: none"> Address and formal particulars of title of land; | Section 1.3 |
| <ul style="list-style-type: none"> Ecological information; | Section 4.7 |
| <ul style="list-style-type: none"> List of concurrence authorities; | N/A |
| <ul style="list-style-type: none"> List of authorisations under section 89K of the Act; | N/A |
| <ul style="list-style-type: none"> Capital investment value of development; | Section 3.1 |
| <ul style="list-style-type: none"> Landowner's consent; | Application form |
| <ul style="list-style-type: none"> List of documents accompanying the application; | List of Appendices at front of EIS |
| <ul style="list-style-type: none"> Site plan of land; | Appendix A |
| <ul style="list-style-type: none"> Sketch plan of development; | Appendix A |
| <ul style="list-style-type: none"> Services information; | Section 3.10 |
| <ul style="list-style-type: none"> Fire safety provisions for change of use of building; | N/A |
| <ul style="list-style-type: none"> Scaled plan of existing building. | Appendix A |
| In addition, the EIS must include the following: | |
| <ul style="list-style-type: none"> Survey Plan; | Appendix E |
| <ul style="list-style-type: none"> Stormwater Concept Plan; | Appendix M |
| <ul style="list-style-type: none"> Shadow Diagrams; | Appendix A |
| <ul style="list-style-type: none"> View Analysis/Photomontages; | Section 4.4 |
| <ul style="list-style-type: none"> Landscape Plan; | Appendix P |
| <ul style="list-style-type: none"> Construction Management Plan, inclusive of a Construction Traffic Management Plan and construction methodology; and | Section 6 and Appendix Y |
| <ul style="list-style-type: none"> Geotechnical and Structural Report. | Appendix J and X |
| Consultation | |
| During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. | Section 1.8 |

| Director-General's Requirements | Section of report |
|---|-------------------|
| <p>In particular you must consult with:</p> <ul style="list-style-type: none"> • Tamworth Regional Council. <p>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.</p> | |

1.7 Preparation of the application

The following consultants were engaged to work on this project:

| Environmental Assessment component | Company / consultant |
|---|---|
| Project Management | Aurecon |
| Architect | MSJ Architects |
| Town Planner | Architectus Group |
| Surveyor | Bath Stewart |
| Transport and traffic consultant | Arup |
| Quantity surveyor | Davis Langdon |
| Civil / hydraulic engineer | TTW |
| Hydraulic engineer | Donnelley Simpson Cleary |
| Fire engineer | Rawfire |
| Electrical engineer | Steensen Varming |
| Structural engineer | TTW |
| BCA consultant | McKenzie Group |
| Accessibility consultant | Michael Small Consulting |
| Geotechnical engineer | Douglas Partners |
| Environmental / contamination consultant | Douglas Partners |
| Heritage consultant | Urbis |
| Landscape architect | Site Image |
| Arborist | Roy's Tree Service |
| Ecological consultant | RPS |
| Bushfire consultant | Australian Bushfire Protection Planners |
| Acoustic consultant | WGE |

1.8 Consultation

In accordance with the DGRs the EIS process has included consultation with Tamworth Regional Council and stakeholders of the hospital. A presentation was made to Tamworth Regional Council on 14 March, 2012. Pre-lodgement meetings were held with Council officers on March 28 and May 16, 2012. Issues raised at the meetings included:

- parking, traffic and access
- construction management issues
- stormwater management
- landscape and other general planning matters.

Matters raised at the pre-lodgement meetings are reflected in the DGRs and have been taken into consideration in the design and documentation of the project.

Consultation with other stakeholders of the hospital has included presentations to the Hunter New England Local Health District Board and Medical Staff Council and presentations and newsletters to staff.

2 Site and contextual analysis

2.1 Regional context

Tamworth Regional local government area is located on the Great Dividing Range and North-West slopes and Plains within northern NSW. Tamworth, which is approximately 500km north of Sydney and 600km south of Brisbane, is within the New England and North West region and at the junction of the Oxley and New England Highways.

Tamworth is located within the Tamworth Regional Local Government Area. As the principal centre of the region Tamworth serves a population catchment of around 182,000 people.

Refer Regional Context plan at **Figure 3** below.



Figure 3 – Regional context plan

Tamworth Rural Referral Hospital is located on the northern side of Tamworth

2.2 Socio-economic context

The catchment area for Tamworth Hospital has a relatively stable population base. The key demand drivers that support the redevelopment of the Hospital include:

- Significant numbers of children and young people within the population who require access to a full complement of community and hospital-based services;
- An ageing population structure which is expected to continue to 2021 when it is expected that the number of people aged 65 and above will have increased from 27,406 persons (15.3% of total population in 2006) to 38,152 persons (21.3% of total population) in 2021;
- A significant proportion of Aboriginal and Torres Strait Islander peoples (14,479 or 13.1% of the total population of the northern HNE Health in 2006) who suffer higher levels of social disadvantage and ill health than other groups in the community.

2.3 Local context

Tamworth Hospital is on the northern side of the Tamworth town centre. The hospital site is on the mid-slopes of a south-facing hill within an undulating landscape. There are views out towards the surrounding areas from various locations across the site.

A Site Analysis Plan at **Figure 4** is reproduced below.



Figure 4 – Site Analysis Plan

Adjoining and nearby land uses include:

- Tamworth Correctional Centre on the western side of Dean Street
- A mix of residential and non-residential/commercial properties fronting Johnston Street
- Residential development to the south
- Former road base quarry to the east of the site
- Rural land to the east and north.

The former quarry adjoining the eastern boundary of the site has more recently been a landfill site.



Figure 5 – Tamworth Hospital from Dean Street



Figure 6 – Johnston Street looking west



Figure 7 – Tamworth Correctional Centre



Figure 8 – Tamworth Correctional Centre



Figure 9 – Residential development to the south



Figure 10 – Residential development to west



Figure 11 – Rural land to north



Figure 12 – View to the east

2.4 Site history

The land on which Tamworth Hospital currently stands was granted to the Trustees of the Benevolent Society in 1881. The Hospital opened on the site in 1884 and has been in continuous use for hospital purposes since that time.

The hospital buildings and facilities have grown in a piecemeal manner around the original 1883 building. Some of the following major additions and phases of development have included:

- 1920s: Isolation Block (now Renal Unit, 1921);
- 1930s: Dean House (1934), Private and Intermediate Ward (1938, front section only);
- 1940s: New Children's Ward and Obstetrics (1942);
- 1950s: New Kitchen Block (1951), domestic services facility and TB wing (1956);
- 1960s: Johnston House (1965) former Nurses training school and medical Superintendants cottage; and

- 1970s: Various additions including the Pool (1970), Brudelin Wing (1973), Children's Ward (1979), Dental Clinic and Pathology New England, Blood Bank, ambulance workshop and Dean House.

There have been various additions and modifications to buildings and facilities since the 1980s.

2.5 Site characteristics

Existing land uses and buildings

The site is currently used for hospital, medical and allied health purposes in association with the Tamworth Rural Referral Hospital. This includes a regional linen service.

The existing hospital operations are spread across the 38 individual buildings as illustrated below.



Figure 13 – Extract from Site Plan (Source: MSJ Architects)

Zoning

The site is zoned R1 General Residential under Tamworth Regional Local Environmental Plan (LEP) 2010. The R1 General Residential zone provides for a range of housing types and additional uses that provide facilities and services to residents. Hospitals are within the definition of 'Health services facilities' and are permissible with consent in the R1 zone.

An extract of the zoning plan is provided in Figure 14 – Tamworth Regional LEP 2010 zoning plan below.

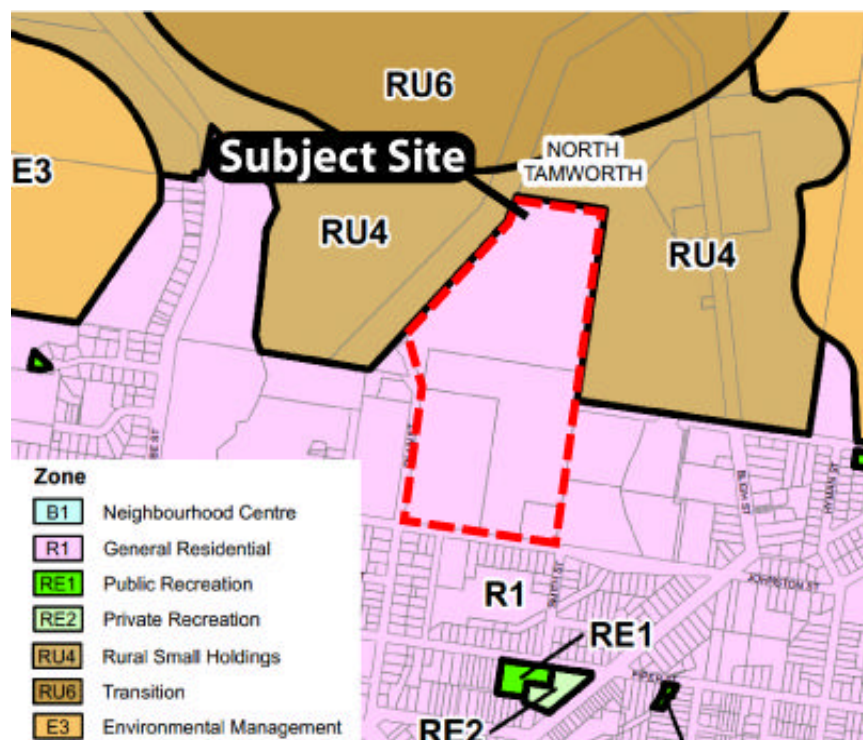


Figure 14 – Tamworth Regional LEP 2010 zoning plan

Topography and natural features

The topography of the locality is moderately undulating with slopes generally falling to the south, south-east and south-west. There is a slope of approximately 6.5 percent across the site falling from north-east to the south-west.

Two watercourses run parallel to the eastern and western boundaries of the site.

Vegetation

The hospital grounds are highly modified and are characterised by landscaped lawns, gardens and scattered ornamental and native trees. There are many plants of native origin within the grounds although few locally endemic species are present.

Land to the north is generally cleared and has been used for grazing and other pastoral land uses.

Soils and geotechnical conditions

Subsurface investigations (refer Geotechnical Report at **Appendix J**) find that development on the site is feasible from a geotechnical perspective.

Site investigations indicate an elevated residual site with the soil profile comprising shallow hard Colluvial and Residual Clay soils approximately 0.2m deep in the eastern portion and 0.8m trending towards the centre of the site overlain by extremely and highly weathered Shale.

Fill was found to be present in all test pits at varying depths. The presence of fill across the site may affect foundation designs.

Soil stability is unlikely to be a concern due to the relatively shallow depth to weathered rock. Deeper seated instability and landslides are not considered likely as the rock mass structure is steeply dipping and unfavourable discontinuities were not observed. Further geotechnical assessment may be required for any high load structures or deep excavations.

Signs of moderate erosion were noted in exposed subsoils, and minor erosion in exposed residual clay soils. The soils are considered to be moderately to highly erodible and sediment control plans are recommended during construction.

The soils on the site were found to be moderately acidic to moderately alkaline with no detrimental effects to plant growth. The soils are considered to be non-saline with no detrimental effect on plant growth or limitations on reuse. However, the geotechnical assessment cautions that non-saline Silty soils with low organic content are prone to high dispersion when exposed or disturbed.

Built form

As noted earlier, there are 38 individual buildings spread across the site. The buildings date from the late 1800s to more recent structures. The existing buildings are predominantly single and two storeys. The largest buildings, including Brudelin building and Johnston House, are three to four storeys in height. The Brudelin building has a maximum height of 5 storeys including roof top plant.

The arrangement of buildings reflects the incremental growth of the Hospital over time. The early buildings were sited centrally on the sloping site, oriented at a slight angle to Johnston Street. Construction of the Brudelin building in the 1970s on the eastern side of the original Main (1883) building created a central focus for the hospital. More recent buildings have been constructed on the north and north eastern sides of the site.

The diagonal entry road off the intersection of Dean and Johnston Streets is thought to reflect the location of the original drive. The date palms lining the driveway were planted in the 1920s and are distinctive landmark elements (**Figure 25**) delineating the approach to the hospital.

Images of hospital buildings in the vicinity of the proposed work are below.



Figure 15 – Emergency entrance



Figure 16 – Brudelin building east elevation



Figure 17 – Rear 1883 building



Figure 18 – Rear of 1883 heritage building



Figure 19 – Entrance to Emergency department



Figure 20 – View from rear of Linen building



Figure 21 – Ambulance bay beside Brudelin building



Figure 22 – Chapel and rear of Brudelin building

Heritage

The site is subject to the following heritage listings:

- Main group of hospital buildings - Tamworth Regional LEP 2010 (Schedule 5, local heritage item);
- Main Hospital Block, 31 Dean Street – Register of the National Estate.

The hospital has historic significance at a local level for its establishment in 1881 and consistent use as a hospital since that time. The Hospital has social significance as a focus of the Tamworth community for over 150 years and for its connections with Brudelin and other local identities who were instrumental in establishing and donating to the hospital.

The site is representative of institutional sites in continual use in terms of the variety of building types. It is a product of organic rather than planned growth. Existing buildings include representative examples of buildings from the 1920s, 30s and 50s, including Dean House, the Children's Wing and Johnston House.

A number of buildings on the site were found to be worthy of heritage investigation. This included the Main Block, Renal Unit, Dean House, the Kitchen Wing, Johnston House and the Children's Wards 8, 9 and 10. Of these the Main Block and Dean House are considered worthy of conservation.

The Main Block (1883 building) is the original 1884 building on the site and has aesthetic significance at a state level for its design by JW Pender and additions in 1906 and 1909 by Walter Liberty Vernon. The Main Block is a single storey (with basement) Victorian face brick and painted brick building with a rectangular form and hipped slate roofs. The building is no longer visible "in the round".

Dean House was constructed in 1934. It is a two storey face brick building with a terra cotta tiled roof and simple brick chimneys. The floor plan and internal areas are largely intact.

A number of trees within the site are also included on Tamworth Council's Significant Tree Register:

- Avenue of Date Palms, Moffitt Ave

- White Box between Dean House and Ward 9
- Canary Island Date Palm in the garden behind the Physiotherapy building
- Cotton Palm (Washingtonia) planted between the renal/paediatrics unit and the Nioka Palliative Care unit.



Figure 23 – Entrance of main block heritage building



Figure 24 – Main block heritage building



Figure 25 – Avenue of Date Palms lining main entrance to hospital, Moffitt Ave



Figure 26 – Significant palm tree

Archaeology

A review of previous regional and local archaeological studies, landforms and past land uses has been undertaken to predict the likelihood of the site containing Aboriginal archaeological relics. The investigations confirm that occupation sites (open camps or artefact scatters), isolated finds, scarred trees and stone quarries are the most predominant site types in the locality. The most common locations for sites in the district are close to water sources (creeks, streams, rivers, billabongs and the like).

The site is not near a reliable water source and is therefore considered to have a low potential for archaeological sites. While there may be potential for isolated finds on the site these are likely to have been disturbed by past natural (erosion) and human disturbances such as clearing, cultivation and construction.

No archaeological sites were found during the preliminary site investigation. Similarly no potential archaeological deposits were identified. However, an Aboriginal camp (or mission) known as the Tamworth Camp Reserve was located to the east of Tamworth Hospital.

While a number of families lived in the camp near the site it is not within the area subject to the Hospital development.

Transport and access

The main access route to the hospital from the Tamworth city centre is along Peel or Marius Street to Jewry/Dean Street. The Hospital's primary frontages are to Johnston and Dean Streets with a number of entry points along both roads.

Johnston Street is a two way road with an undivided carriageway and on street parking along its southern side. Johnston Street carries an estimated daily traffic volume of 3000 vehicles per day along the section east of Dean Street with an hourly two-way traffic volume of around 200 vehicles in the morning peak and 270 vehicles in the evening peak.

Dean Street is a two way street with two travel lanes and on street parking on both sides. The average daily traffic volume along Dean Street is 5,000 vehicles per day south of Johnston Street, with two-way hourly traffic volumes of 295 vehicles in the morning peak and 456 vehicles in the evening peak.

The existing access road through the site extends from Dean Street, looping through the middle of the site before turning south towards Johnston Street. The internal road divides the hospital between the Linen/Workshop Building and the Brudelin Building.

There is no clear hierarchy of primary and secondary road routes through the site. As a result the existing access conditions are unnecessarily complex, inefficient and with poor wayfinding outcomes. This is exacerbated by the number of separate buildings and parking areas across the site.



Figure 27 – Johnston Street



Figure 28 – Internal access road

Public transport and taxis

Two bus services operate through the hospital site as shown on Figure 29 – Existing bus routes and stops. Pedestrian access to the bus stops from hospital services is generally poor.

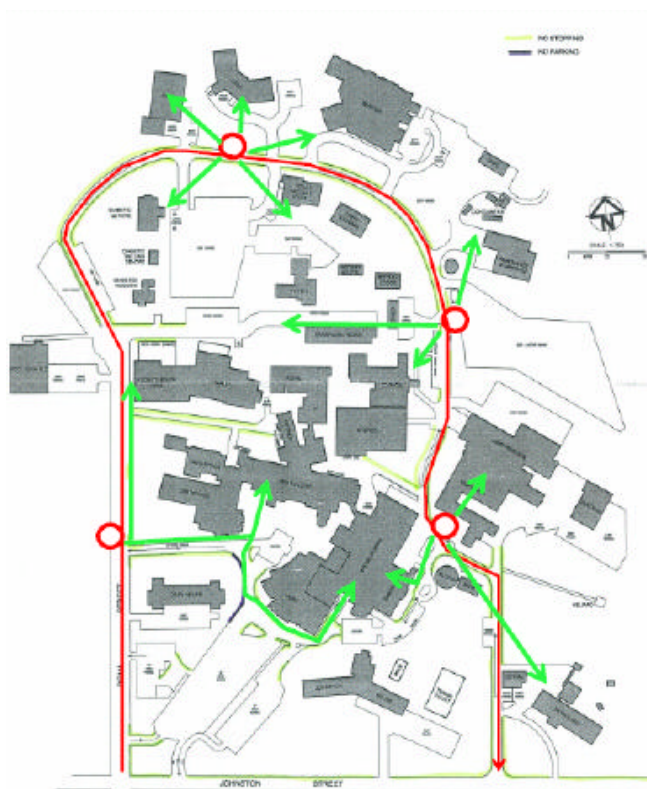


Figure 29 – Existing bus routes and stops

Parking

There are currently 944 parking spaces spread across the hospital grounds. Public parking areas are predominantly on the southern side of the site and staff parking is mainly on the northern side. In addition up to 90 further parking spaces are available on the surrounding streets including Johnston and Dean Streets.

The Minor Works approval will increase parking spaces on the site through the upgrading of the existing central carpark. A new carpark to service the Cancer Care Centre is also currently under construction as part of that project.

Parking at the site is typically in high demand and most spaces are taken before 8.30am. Parking is also in high demand at the shift changeover times for nursing staff between 2.30-3pm on weekdays. Existing issues associated with parking at the hospital include:

- A high demand for staff parking as around 95 percent of staff drive to work
- Need for improved lighting and security
- Need for improved pavement and line marking.



Figure 30 – Main hospital parking area

Cycling

An off-street cycle path provides a connection from the town centre and Jewry Street. From Jewry Street cyclists enter Dean Street leading to the hospital site.

Pedestrian access and movement

Pedestrian paths and wayfinding is currently very difficult through the site. This is exacerbated by the dislocation of existing buildings, numerous entry points and lack of appropriately designed and designated paths and ramps.

Helipad

Helicopters currently access the hospital campus at a helipad on the eastern side of the site.

Contamination

The site contains a number of potential sources of contamination including previous landfill operations affecting the eastern side of the site, presence of fill below buildings and structures also affecting roads and parking areas, contaminants from the previous demolition or earlier buildings and demolition of buildings associated with the current proposed works and importation of fill affecting staff parking areas.

A former landfill close to the eastern boundary presents a moderate risk for the migration of landfill gas through the filling or the bedrock, particularly where excavation is proposed.

3 The Project

The proposal seeks consent from the Minister for Planning and Infrastructure for approval of the State Significant Development Application for the development as outlined in this section of the report.

Information is provided about the full scope of works contained in the Tamworth Hospital site Masterplan. This application seeks consent for the work as described in detail in this section.

3.1 Overview

Scope of works

The proposal seeks consent for Stage 2 of the redevelopment of Tamworth Hospital. The works include construction of a new Acute Services building to provide a hub for medical, surgical and other specialities in the region, together with access and parking improvements and landscaping.

The works combine with a new ring road and upgraded parking facilities to rationalise the layout and functional operations of the site. The public areas, including access and parking, will be contained on the western side of the site oriented towards Dean Street. Staff, emergency access and servicing will generally be on the eastern side of the site.

The project will facilitate a greater focus on patient focussed care. The revitalised campus layout will improve ease of access for patients, staff and visitors, and provide new opportunities for staff collaboration, research and teaching.

The elements of the work include under this application:

1. Excavation, demolition and early works to prepare the site for construction.
2. Construction of a new five level Acute Services building with an overhead walkway to the Brudelin building.
3. Access and parking improvements including construction of a new Hospital entry road from Dean Street, 162 car parking spaces and traffic management measures along Dean Street.
4. Demolition of a number of buildings within the footprint of the Acute Services building.
5. Modifications to the Brudelin building associated with construction of the overhead walkway to the new Acute Services building.
6. Construction of new loading facilities at the rear of the existing Workshops/Linen building.
7. Designation of a zone for temporary accommodation for the medical uses that will be displaced during construction of the Acute Services building.

These are discussed in detail further in this report.

Design approach

The Stage 2 redevelopment will unify a disparate campus by concentrating clinical services in close proximity. This enables a clinical and inpatient hub to be collocated with an ambulatory hub. Smaller buildings on the periphery of the site will be used for functions that are not required to have a close relationship with the hospital clinical services.

The built form design is driven by a need to consider the patient's perception, and to reflect an understanding of the role the hospital plays in the local community and the sense of community ownership. It is therefore important that the built form of the hospital:

1. Presents a non-institutional form while representing a welcoming environment for patients and carers.
2. Respects the scale, form and materials of the Tamworth built environment.
3. Capitalises on the views, outlook and natural landscape of the site.
4. Ensures wayfinding is largely intuitive with views to outdoor and memorable spaces orienting patients through their care regime.

Jobs

The proposed staff (operational) workforce is estimated to be around 1,284. This in response to bed/cots/chairs increase from 308 to 332 and treatment areas 42 to 44 within the Acute Services Building.

The project is expected to generate an average of 180 construction workers on the site during peak construction period.

Capital investment value

The Capital investment value (CIV) for the project is in the order of **\$137,251,000.00**.

Confirmation of the CIV prepared by quantity surveyors Davis Langdon, is provided at **Appendix D**.

3.2 Acute Services building

Description

A new Acute Services building will be constructed in the central area of the site. The five level building utilises the natural slope of the land with three storeys to the northern elevation and five towards the existing Brudelin building. The T-shape allows natural daylight into the building, particularly to uses within the east-west wing.

The building will become the new main public focus for the hospital. A new main ground level entry will face the new entry road and will give the Hospital significantly improved public interface.

The new facility is expected to accommodate the following medical areas/uses:

Lower ground: Mortuary and plant

Ground floor: Main entrance and public interface, palliative care, inpatient unit, pharmacy, food services, waste, linen and supply unit.

Level 1: Emergency, inpatient unit, imaging and plant

Level 2: Operating suites, day units, ICU and other critical care units, offices

Level 3: Maternity and birthing unit, special care nursery.

The proposed development will provide for 332 beds and 44 treatment areas to service a range of hospital uses including intensive care / high dependency unit, coronary care, medical / surgical, paediatrics, maternity, palliative care, perioperative, and short stay procedures.

A loading dock is to be constructed on the building's eastern side to service the waste and linen services, supply unit and pharmacy bulk store. The new loading docks will connect with new docks at the rear of the Workshops/Linen building to become the central hub for deliveries to the hospital. Trucks will access the new dock from the new Johnston Street/Smith Street intersection.

An ambulance bay is to be constructed at the end of the northern wing to service the emergency department.

Building form

The proposed Acute Services building has a gross floor area of 32,600m². The maximum height of 25m is similar to the existing Brudelin building. An overhead walkway will provide an at-grade link to the upper levels of the Brudelin building.

The natural fall of the site allows the main entry to be at grade one level below the Emergency Department entrance located on the level above.

Materials, finishes and colours

The materials for the new building have been selected taking into consideration a range of factors including cost, availability, ease of maintenance and sustainability. Materials have also been selected that:

- are of low toxicity and embodied energy

- possess a quality that has empathy for the rural character of Tamworth
- facilitate a harmonious connection between the old and new.

The finishes include Alpolic panels, Fundermax panels, timber, aluminium and glass. A materials board accompanies the application.

The proposed colour palette has been selected to be engaging and non-institutional, and to reference the colours of the Tamworth City palette. The colours reference tones of the surrounding countryside and the brickwork of the 1883 and Brudelin buildings. Tones have also been selected to be acceptable to the local indigenous population.

The internal colour schemes will be selected to support a healthy, productive, safe and healing environment for staff, patients and their families/visitors. The internal finishes will be integrated with the architectural design to create a recognisable place and also assist in way finding. Stronger colours will be used at significant public locations and more subtle colours in private and patient areas.

3.3 Excavation and demolition

Demolition will occur in two phases. The first group of buildings listed below will require demolition before the commencement of the main works acute services building construction project. Services currently delivered from these buildings will be decanted in or close to March 2013 with preparation of temporary location facilities to be completed by February 2013. This group of existing buildings includes the following:

Group 1 Relocations – required at or before commencement of main works contract:

- Area stores building
- Clinics building
- Small shed building north of clinics (demolished separately)
- Renal unit building
- Karamuka to vacate and be relocated to an off-site location.

Excavation for the acute services building site is scheduled to commence in March or April 2013. All functions and services operating out of the Group 1 buildings are to be relocated by the end of February 2013 to allow time for demolition prior to commencement of main works excavation.

Group 2 Relocations – Buildings that may be demolished later in the project delivery cycle:

The following buildings will also need to be demolished, however the timing of demolition is dependent on key construction milestones. Indicative dates below are extracted from the current project master program as at July 2012.

Building or Function (Indicative dates)

- Kitchen and related buildings (March 2014)
- Mortuary (Sept 2014)
- Palliative care (Late 2014)
- Physiotherapy (Late 2015)

- Blood bank (Late 2015)

The total floor space to be demolished is 5472m². Following completion of the project, bed/cots/chairs will increase from 308 to 332 and treatment areas from 42 to 44 within the Acute Services Building.



Figure 31 – Buildings to be demolished (Source: MSJ Architects)

3.4 Access, circulation and parking

New main entry

A new entry road is to be constructed off Dean Street creating a formal new drop off and pick up location at the new main hospital entrance. The new entry is generally in the location of the existing road between the Hydrotherapy Pool/Ward 11 that leads to the Kitchen and rear of the 1883 building.

The two lane road is designed with a shared zone arrangement at the approach to the hospital entry. It will include a dedicated bus zone and turning circle and a taxi rank close to the main door. The urban design treatment of this space will be subject to detailed resolution as part of the mitigation measures for the project.

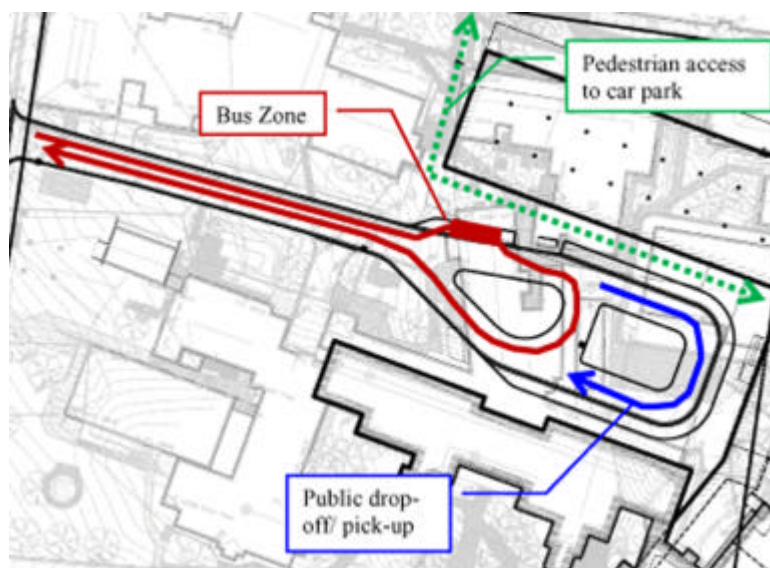


Figure 32 – New main hospital entrance

Traffic and transport

Vehicle access and circulation

A new ring road within the hospital site is subject to separate approval. The road will link Dean Street to Johnston Street as an extension of Smith Street. The new ring road is on the eastern side of the helipad.

The new two-way road will improve traffic management and wayfinding through the site. It will facilitate restructuring of access at the site so that staff, servicing and emergency access is on the eastern side of the site and public access is contained to the western side.

The public entries to the site will include:

- the new from Dean Street hospital entrance road connecting to the main entrance of the Acute Services building
- Dean Street northern entry providing public access to the upper public carpark and new Emergency Department existing driveways from Johnston Street providing access to the existing lower carparks, Johnston House and the new Cancer Care Centre.
- existing driveway entry to the lower carparks from Dean Street.

Service and staff access to the site will include:

- northern extension to Dean Street/new ring road
- Smith Street extension/new ring road from Johnston Street.

Ambulance and emergency access will be from the Smith Street entry to the new ring road. Ambulance access to Johnston Street and Dean Street is expected to use the existing routes from the main road system. The proposed ambulance route leads directly to a purpose built entrance to the new Emergency Department.

Servicing associated with truck deliveries and the like will be from the Smith Street entry to the ring road. Trucks and deliveries will have a dedicated loading dock on the eastern side of the Acute Services building.

The ring road is to be configured as a 7m wide carriageway with one travel lane in each direction. The edge of the carriageway will be defined by dish drains and formed shoulders. Parking will not be allowed along the ring road.

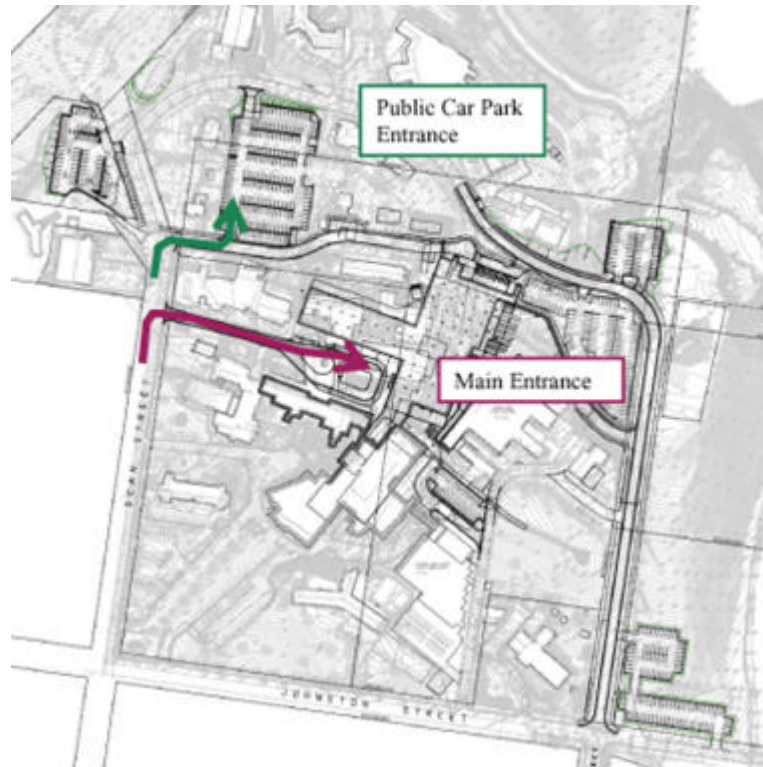


Figure 33 – Dean Street access points

Buses

Buses will continue to service the hospital site via the ring road. Discussions have been held with local bus operators to consider opportunities for the bus route to operate anticlockwise around the site. The buses would enter the site from the Smith Street extension and exit via Dean Street. The route would include a diversion into the new main entrance road to service the entry at the Acute Services building.

The location of bus stops within the site is to be determined in consultation with the local bus operators. This is reflected in the project's mitigation measures.

Taxis

A taxi waiting area is to be provided at the new main entry to the Hospital. The ring road will enable taxis to access the more remote locations of the hospital campus.

Helipad

The existing helipad is to be retained. A signal and gate system will be installed on the ring road to control traffic when a helicopter is landing or taking off. Advanced signs at the Johnston Street intersection will provide information to drivers to redirect to Dean Street for access to the campus.

Parking

This application provides for a total of 162 carparking spaces on the site, including a 134 space staff carpark on the eastern side of the proposed Acute Services building and the Ambulatory carpark with 28 spaces.

All carparks will be constructed in accordance with User Class 3 AS2890.1:2004. Car spaces will be 2.6m by 5.4m with aisle widths of 6.0m.

Roads and Maritime Services has recently endorsed parking and kerb side restrictions on the hospital campus. This will allow the hospital to enforce No Stopping and No Parking restrictions along the ring road and other roads of the campus, and a 4 hour parking time limit in the lower public carpark.

The new carparks have been designed with entry/exit driveways that are capable of being fitted with boom gates to control entry, including future opportunities to implement staff access card measures if required.

Lighting within the carparks and along the internal roads will conform with AS/NZ 1158 (2005) for exterior light levels and AS/NZ 4282 (1997) to control obtrusive light.

Traffic and access during construction

The preferred construction access route between the arterial road network and the hospital is via Dean Street. This reflects the most direct route from Peel Street and Johnston Street for access into the eastern portion of the hospital campus and will minimise disturbance to residents during the construction works by avoiding longer routes along residential streets.

The ring road within the site will enable all construction traffic activity to be focused on the eastern side of the campus. This is illustrated in the construction management traffic routes in **Figure 34** below.

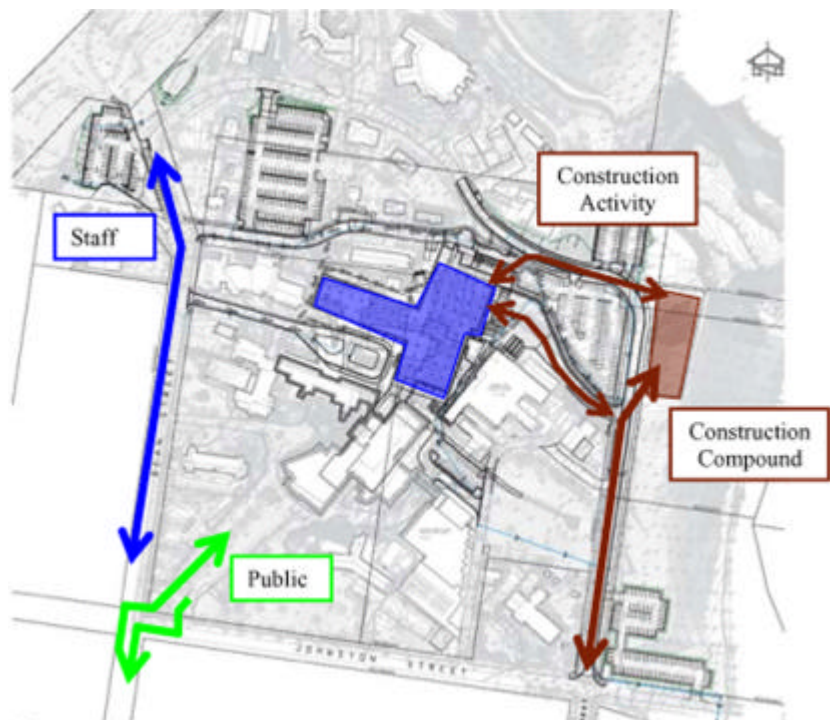


Figure 34 – Construction traffic management routes

3.5 Landscaping

Landscape plans and report have been prepared by Site Image (refer to **Appendix P**). The landscaping is described in this section.

Acute Services building drop-off area

Small to medium tree species will line the new road and turning area and the adjacent footpath. The trees will be planted among low groundcovers with timber edging between turf to the verge. Two feature Phoenix species are proposed in the central traffic island in keeping with existing cultural plantings around the site.

Groundcovers and shrubs are proposed to be planted on the northern side of the entry road to soften the palliative care building edge and provide a green buffer between the pedestrian footpath and treatment rooms. Benches are to be located along the edge of the pathway to provide amenity outside the building for resting and waiting adjacent the drop off area.

Palliative Care courtyard

The new palliative care courtyard provides a number of smaller spaces for outdoor amenity in a garden setting. The courtyard is formed through two oval areas which will feature paving with lineal banded coloured concrete in contrasting and harmonious colours interspersed with grasses and groundcovers.

Small to medium deciduous trees will be planted along the perimeter providing summer shade to the spaces and screening from the ramp above. The Western space has a small turf area creating a flexible space and less hardstand area.

Carparks

Landscaping in the carparks is to follow WSUD principles to control and treat runoff, and to minimise hardstand areas. Where space allows approximately 1.2m will be installed and planted with appropriate grasses and edges. Where possible trees are to be planted increase shade cover.

'Hit and miss' kerbing and wheel stops will be used to allow runoff into the swales. The mitigation measures include a commitment to ensure that any plantings in the carparks are consistent with CPTED principles in terms of maintaining clear sightlines to prevent crime and help with traffic safety.

Where required and appropriate screening planting of low shrubs and trees will be installed to the carpark perimeters to lessen the visual impact from neighbouring buildings and allow for privacy of the buildings when viewed from the carpark.

New roads

Grasses and groundcovers will be planted along the new ring road to help stabilise embankments and soften areas of the verge. Informal copses of trees are proposed to merge the immediate road into the wider park like landscape setting. Attention will be paid to the helicopter zone keeping planting under the 300mm height restriction.

Entry nodes

Entry nodes will be treated with a variety of feature planting differing from the regular streetscape treatment, to highlight entry points along Johnston

and Dean Streets.

Materials and species

Landscape materials are to be of a general low maintenance nature. Low water use plants, minimal lawn areas and large garden beds will be used to achieve an aesthetically pleasing and functional landscape which requires only moderate attention and maintenance.

The species will be a combination of natives and exotics with native groundcovers and shrubs selected for their hardiness and low water demand, and exotic deciduous trees used so as to allow for solar access during winter while still providing shelter and shade during summer. Plant materials which create risk hazards are to be minimised.

The hardstand areas comprise of coloured and broom finished concrete. Materials are chosen for their low maintenance qualities as well as reducing trip hazards and being of harmonious tones.

3.6 Stormwater management

A Stormwater Management Plan has been prepared for the Tamworth Hospital site (refer **Appendix M**). The existing stormwater network on site drains the existing buildings, car parks and roads to three outfalls – to the southeast, southwest and northwest.

The existing stormwater network, along with the natural topography and outfall locations determine the sub-catchment areas within the site. Catchment 1 discharges to the eastern creek, whilst catchments 2 and 3 discharge to the western creek. Details of the outfall locations and existing catchment areas are available in the Stormwater Management Plan.

The proposed development alters the catchment characteristics and increases the impervious areas of the site. This increases the surface water runoff from the site which could potentially increase the risk of downstream flooding, particularly in relation to Catchment 3.

An on-site detention basin with a storage capacity of 500m³ is proposed to capture the additional runoff generated within Catchment 3. An overland flow channel will be constructed between the detention basin and settling basin with a dispersion channel to reduce downstream erosion.

3.7 Sediment and erosion control

A Sediment and Erosion Control Plan for the hospital site is attached at **Appendix L**. The Plan shows the locations on the site of the proposed measures and the details of the various measures to be used, including siltation fence, temporary construction vehicle exit, geotextile filter pits, sandbag sediment traps and catch drains.

3.8 Construction phasing

Construction will be undertaken through the following phases:

1. Excavation and site works for the Acute Service building.
2. Erection of temporary hospital accommodation, storage compounds and associated elements, relocation of services.
3. Demolition of buildings within the footprint of the new building and

works.

4. Relocation of the clinics, renal unit and stores operations to the temporary accommodation and construction of the new Acute Services building.

3.9 Geotechnical suitability and approach

A Structural Report including core samples, strength assessments, and reviews of previous investigations has been prepared for the site by Douglas Partners (refer **Appendix J**).

Ground conditions

The results of the site investigations indicate typical profiles of:

- Filling / topsoil: Up to 0.5m depth;
- Clay : Stiff to hard, depths of 0.5-2.5m;
- Siltstone: Extremely low strength increasing to high strength at approximately 5.5m depth.

Excavations will require conventional equipment until the low to medium strength rock is encountered. If high strength rock is to be excavated, then heavy rock breaking and rock sawing is likely. It is expected that sections of the lower ground and ground floors will require excavation of hard siltstone. The existing water table is below the level of the lowest floor for the proposed development.

Foundations

The foundations for the new building are anticipated to comprise shallow pad footings in the siltstone, with some short bored piers into the high strength siltstone required in the dock/entry road area. This is based on the outcomes of geotechnical investigations and review of available drawings of existing buildings.

The foundations for the existing Brudelin Building are shown to be typically square pad footings throughout the building. The new construction therefore continues to use this solution which is site specific and demonstrated as buildable.

Retaining structures

Where excavations are required, the method of retention shall consist of a mix of permanent retaining walls and permanent batters.

The external retaining walls to the new loading dock will be designed as either a contiguous piled shoring wall or a soil nailed retaining wall depending on cost and constructability. Both options have been used previously in similar situations.

During the bulk earthworks temporary batters will be formed in accordance with the advice of the Geotechnical Engineer.

3.10 Services

Electrical

The existing electrical infrastructure for the site will be upgraded to accommodate the increased electrical load. Essential Energy has been advised of the proposed development and has provided design advice to facilitate the required network upgrade design. Details are included in **Appendix W**.

Communications

Existing incoming communications services to the hospital campus are sufficient for the proposed development with no additional upgrade required.

Hydraulic and fire services

Donnelley Simpson Cleary have prepared a report (refer **Appendix V**) which provides the following information in relation to hydraulic and fire services. Details of the works to be undertaken are included in technical reports appended.

Cold water services

A new 150mm ring main for cold water services is to be installed to the site. The existing individual connections to the Tamworth Council Mains are to be disconnected and reconnected to the site ring main. The site ring main will have individual connections to the 150mm and 300mm mains in Dean Street with a separate connection to the water main located in Johnston Street. The purpose of the connections is to improve the reliability of the water supply to the site.

A 50,000 litre storage tank is currently proposed and this tank will be in accordance with the TS11 design guides. The tank will be located under the new building. Refer to drawings within **Appendix V**.

Sewer drainage

A new gravity connection is proposed to the existing 150mm Tamworth Regional Council sewer main located in Smith Street. The new connection will collect all of the sanitary plumbing and drainage for the Acute Services building. Additional provision points are to be provided in the line for future extensions. The Acute Services building will be provided with trade waste pits i.e. grease arrestor and the like as required.

Gas services

The proposed development will require a new gas connection into the authority's Dean Street and Johnston Street gas main. The site gas ring main will connect via a boundary regulator in two locations. The ring main will service both the new and existing buildings. The Acute Services building will be provided with a localised gas meter and regulator assembly. Further details are provided in the Donnelley Simpson Cleary report at **Appendix V**.

Hot water supply

All previous connections to the hot water system supplied by the existing boilers located in the Workshop Building are to be made redundant.

The Acute Services building will be supplied with a separate Rotex solar/gas boosted hot/warm water system. The hot/warm water system will be a flow and return system to provide the hot water requirements for

the Acute Services building.

3.11 Lighting

The exterior car park and roadway lighting is designed in compliance with AS/NZ 1158 (2005) for exterior light levels and AS/NZ 4282 (1997) to control obtrusive light.

3.12 Bulk earthworks

Approximately 40,000 cubic metres of cut material will be removed from the excavation for the Acute Services building basement and loading dock area. The proponent commits to determining the final location for disposal of the fill in consultation with Tamworth Regional Council as part of the Construction Management Plan. Further details of the excavation activities are contained in the Concept Civil Engineering Report at **Appendix K**.

3.13 Waste management

Waste management

Tamworth Hospital's Waste Management Guidelines, 2004 are contained at **Appendix U**. The Guidelines provide detailed information on:

- waste streams generated by the hospital including hazardous materials;
- organisational issues such as employer's and employee's responsibilities;
- the process for hospital waste audits;
- waste handling, containment and transport;
- waste treatment and disposal of radioactive waste and other particularly sensitive waste materials; and
- occupational health and safety processes at the hospital.

The Guidelines will be updated to reflect the revised layout and new facilities.

Hazardous materials

Potentially hazardous materials including medications, chemicals and clinical wastes will be used and generated on site. The Tamworth Hospital Disaster Plan, January 2008 (refer **Appendix V**) sets out how gas tanks and other hazardous goods are stored and managed.

The Disaster Plan includes details of various products held at the site and their location on the site. The Plan also includes information on Dangerous Goods classifications, storage quantities and access measures. Appendix 7.3 contains control measures to ensure the safety of the gas tanks, petrol tanks, pool chemicals and the like. The mitigation measures at **Section 6** include a requirement to review and, if necessary, update the Disaster Plan.

4 Environmental assessment

The following section contains the environmental assessment of the proposed development. The assessment addresses the matters identified in the DGRs.

4.1 Statutory context

State and Regional Planning Instruments

The State and regional planning instruments applicable to the site and proposed development are:

- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy (Infrastructure) 2007.

State Environmental Planning Policy (State and Regional Development) 2011

Clause 8 of SEPP (State and Regional Development) 2011 contains the following declaration of State significant development:

“8 Declaration of State significant development: section 89C

(1) Development is declared to be State significant development for the purposes of the Act if:

(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and

(b) the development is specified in Schedule 1 or 2.”

Hospital developments with a capital investment value (CIV) of more than \$30 million are listed within Schedule 1 of the SEPP.

“Schedule 1 State significant development – general

Hospitals, medical centres and health research facilities

Development that has a capital investment value of more than \$30 million for any of the following purposes:

(a) hospitals,

(b) medical centres,

(c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).”

The CIV of the proposed Tamworth Hospital Redevelopment is \$137,251,000 (refer **Appendix D**). The proposed development comprises State significant development pursuant to the SEPP declaration.

State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 requires the consent authority to consider whether land is contaminated prior to granting consent to any development. The consent authority must be satisfied that any necessary remediation has occurred before use of the land is permitted.

Comment:

A Phase 1 Contamination Assessment of the Tamworth Hospital site has been prepared (**Appendix H**). The assessment identifies a number of potential sources of contamination across the site, particularly in relation to former landfill operations to the east, fill beneath buildings and contaminants from buildings to be demolished and from structures that previously existed on the site.

Phase 2 assessments are currently underway in response to concerns about the presence of landfill gases from the former landfill operation. Groundwater and gas monitoring bores are to be installed in the landfill, together with a gas monitoring bore between the landfill and the proposed basement excavation of the new hospital building. If any landfill gas is found in the vicinity, this could impact upon the detailed design of the basement.

The Phase 2 Assessment is expected to be completed prior to issue of the Crown Certificate. This is reflected in the mitigation measures in **Section 6** and should satisfy the considerations of SEPP 55.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

SEPP 33 in part aims to ensure that the consent authority has sufficient information to assess whether a development is potentially hazardous or offensive. Conditions can be imposed to reduce or minimise any adverse impacts as appropriate.

The SEPP defines a “potentially hazardous industry” as:

“Potentially hazardous industry” means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:

(a) to human health, life or property, or

(b) to the biophysical environment,

and includes a hazardous industry and a hazardous storage establishment.”

Clause 12 of the SEPP requires a preliminary hazard analysis for a potentially hazardous industry. The analysis is to be prepared in accordance with the current circulars or guidelines published by the Department of Planning and Infrastructure and submitted with the development application.

Comment:

The Tamworth Hospital Disaster Plan 2008 currently applies to the site. Appendix 7.3 of the Disaster Plan contains a detailed list of the hazardous materials located at the Tamworth Hospital campus, along with safety control measures that are currently in place. These measures provide mitigation of potential hazards within the hospital site.

The current Disaster Plan will continue to operate following the hospital redevelopment. Some changes will be required, primarily in relation to locations of some of the materials to reflect the new site layout. The mitigation measures at **Section 6** require Appendix 7.3 of the Disaster Plan to be updated to reflect the new arrangements at the hospital.

The Hospital's Waste Management Guidelines (**Appendix U**) define the various waste streams generated by the hospital including hazardous materials and the organisational responses and responsibilities. The proponent also commits to reviewing and updating the Guidelines to reflect the Hospital redevelopment.

State Environmental Planning Policy (Infrastructure) 2007

The proposed development is defined as a 'health services facility' under clause 56 of SEPP (Infrastructure). Clause 57 allows health services facilities to be carried out with consent on land in a prescribed zone.

The Tamworth Hospital site is zoned R1 General Residential. The General Residential zone is a prescribed zone for the purposes of the SEPP. It is noted that health services facilities are also permissible with consent in the R1 zone under the Tamworth Regional LEP 2010.

Clause 101 of the Infrastructure SEPP does not apply to the project as the site does not have frontage to a Classified Road.

Clause 104 (Traffic Generating Developments) is applicable to the project based on the number of beds. Pursuant Schedule 3 hospitals or expansions to hospitals involving 200 or more beds with access to any road are traffic-generating developments and require referral to Roads and Maritime Services.

Clause 104 requires the consent authority to:

(a) give written notice of the application to the RTA within 7 days after the application is made, and

(b) take into consideration:

(i) any submission that the RTA provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, the RTA advises that it will not be making a submission), and

(ii) the accessibility of the site concerned, including:

(A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and

(B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and

(iii) any potential traffic safety, road congestion or parking implications of the development.

Comment:

Tamworth Hospital currently has 350 beds, cots, chairs and treatment spaces. It is anticipated that the application will be referred to Roads and Maritime Services during the assessment process.

Tamworth Regional Local Environmental Plan (LEP) 2010

The subject site is zoned R1 – General Residential by the Tamworth Regional LEP 2010. The proposed development is permissible with consent in the zone as a health services facility.

The relevant controls in the Tamworth Regional LEP for the proposed development are set out in **Table 2** below.

Table 2 – Compliance with Tamworth Regional LEP 2010

| Tamworth Regional LEP 2010 Controls | Compliance | Comment |
|--|-------------------|--|
| 1.2 Aims of Plan (2) The particular aims of this Plan are as follows: (a) to encourage the orderly management, development and conservation of natural and other resources within the Tamworth region by protecting, enhancing or conserving: (i) important agricultural land, and (ii) timber, minerals, soil, water and other natural resources, and (iii) areas of significance for nature conservation, and (iv) places and buildings of archaeological or heritage significance, (b) to allow flexibility in the planning framework so as to encourage orderly, economic and equitable development while safeguarding the community's interests and residential amenity, (c) to manage and strengthen retail hierarchies and employment opportunities, promote appropriate tourism development, guide affordable urban form and provide for the protection of heritage items, (d) to promote ecologically sustainable urban and rural development and control the development of flood liable land, and (e) to secure a future for agriculture by expanding Tamworth's economic base and minimising the loss or fragmentation of productive agricultural land. | Yes | The proposed hospital redevelopment is consistent with the aims of the LEP as it provides for the orderly redevelopment of the hospital site through replacement of outdated facilities while ensuring that heritage items on the site are protected and no other resources are adversely impacted upon. In addition, the hospital redevelopment will safeguard the community's interests through enhancing Tamworth's health facilities. |
| 2.1 Land use zones The site is zoned R1 General Residential in the LEP. Zone R1 General Residential 1. Objectives of zone <ul style="list-style-type: none"> To provide for the housing needs of the community. To provide for a variety of housing types and densities. To enable other land uses that provide facilities or services to meet the day to day needs of residents. 3. Permitted with consent Attached dwellings; Boarding houses; Child care centres; Community facilities; Dwelling houses; Food and drink premises; Group homes; Home industries; Hostels; Kiosks; Markets; Multi dwelling housing; Neighbourhood shops; Places of public worship; Residential flat buildings; Respite day care centres; Semi-detached dwellings; Seniors housing; Shop top housing; Any other development not specified in item 2 or 4. | Yes | The proposed hospital redevelopment is consistent with the objectives of the R1 zone as the hospital is a land use that provides for the needs of residents. The hospital is within the land use category of a health services facility. Health services facilities are not listed as either development that is permissible without consent (Item 2) or prohibited (Item 4). The proposed hospital redevelopment is therefore permitted with consent in the General Residential zone. |

| Tamworth Regional LEP 2010 Controls | Compliance | Comment |
|--|------------|--|
| <p>5.9 Preservation of trees or vegetation</p> <p>(1) The objective of this clause is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation.</p> <p>(2) This clause applies to species or kinds of trees or other vegetation that are prescribed for the purposes of this clause by a development control plan made by the Council.</p> <p>(3) A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by:</p> <p>(a) development consent, or</p> <p>(b) a permit granted by the Council.</p> <p>(5) This clause does not apply to a tree or other vegetation that the Council is satisfied is dying or dead and is not required as the habitat of native fauna.</p> <p>(6) This clause does not apply to a tree or other vegetation that the Council is satisfied is a risk to human life or property.</p> <p>(7) A permit under this clause cannot allow any ringbarking, cutting down, topping, lopping, removal, injuring or destruction of a tree or other vegetation:</p> <p>(a) that is or forms part of a heritage item or that is within a heritage conservation area, or</p> <p>(b) that is or forms part of an Aboriginal object or that is within an Aboriginal place of heritage significance,</p> <p>unless the Council is satisfied that the proposed activity:</p> <p>(c) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or heritage conservation area, and</p> <p>(d) would not adversely affect the heritage significance of the heritage item, Aboriginal place of heritage significance or heritage conservation area.</p> | Yes | <p>Three individual trees and a row of trees on the site are included on the Council's significant tree register:</p> <p>Significant trees that are not affected by the proposed development include:</p> <ul style="list-style-type: none"> • Eucalyptus Albens (White box) located between Dean House and Ward 9 on the southern side of the exit road is not affected by the proposal. • Row of Phoenix Dactylifera (Date palms) planted on either side of Moffit Drive. <p>Two significant trees that are within the development area and which should be transplanted:</p> <ul style="list-style-type: none"> • Phoenix Canariensis (Canary Island Date Palm) in the garden behind Physiotherapy • California Washingtonia (Cotton Palm) growing between Renal/Paediatrics Unit and the Palliative Care Unit. <p>The Heritage Impact Statement recommends that a suitable location be found for these trees on the site. Measures for their relocation are included in the mitigation measures in Section 6.</p> |
| <p>5.9AA Trees or vegetation not prescribed by development control plan</p> <p>(1) This clause applies to any tree or other vegetation that is not of a species or kind prescribed for the purposes of clause 5.9 by a development control plan made by the Council.</p> <p>(2) The ringbarking, cutting down, topping, lopping, removal, injuring or destruction of any tree or other vegetation to which this clause applies is permitted without development consent.</p> | Yes | Noted. |
| <p>5.10 Heritage conservation</p> <p>(1) Objectives</p> <p>The objectives of this clause are as follows:</p> <p>(a) to conserve the environmental heritage of the Tamworth Regional Council area,</p> <p>(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,</p> <p>(c) to conserve archaeological sites,</p> <p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p> <p>(2) Requirement for consent</p> <p>Development consent is required for any of the following:</p> <p>(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):</p> <p>(i) a heritage item,</p> <p>(ii) an Aboriginal object,</p> | Yes | <p><u>Impact on trees</u></p> <p>Two significant trees on the site will require relocation as a result of the proposed development. The Heritage Impact Statement recommends that these trees be relocated on the site in the vicinity of the main building (if possible).</p> <p><u>Impact on heritage buildings</u></p> <p>The two buildings of heritage significance (Main 1883 Building and Dean House) are to be retained in their current form.</p> <p>The buildings that are proposed to be demolished have been assessed for potential heritage value and have been determined to not be of such significance or have been altered so that they do not reach the threshold for conservation.</p> <p><u>Archaeological relics</u></p> |

| Tamworth Regional LEP 2010 Controls | Compliance | Comment |
|---|------------|---|
| <p>(iii) a building, work, relic or tree within a heritage conservation area,</p> <p>(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,</p> <p>(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,</p> <p>(d) disturbing or excavating an Aboriginal place of heritage significance,</p> <p>(e) erecting a building on land:</p> <p>(i) on which a heritage item is located or that is within a heritage conservation area, or</p> <p>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,</p> <p>(4) Effect of proposed development on heritage significance The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).</p> <p>(5) Heritage assessment The consent authority may, before granting consent to any development:</p> <p>(a) on land on which a heritage item is located, or</p> <p>(b) on land that is within a heritage conservation area, or</p> <p>(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),</p> <p>require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.</p> | | <p>There are no known archaeological relics on the site. A watching brief is recommended to ensure appropriate actions are taken should relics be uncovered during construction.</p> <p><u>Aboriginal archaeology</u> There are no known Aboriginal archaeological sites on the site.</p> <p><u>Affect on setting of the heritage items</u> The proposed new building is set back from the rear of the Main building. The building maintains an appropriate separation from the heritage building and will not impact on an appreciation or understanding of the Main building. Dean House is not affected by the proposed new building.</p> <p><u>Conservation Management Plan</u> The Heritage Impact Statement has determined that a Conservation Management Plan is not necessary for the application.</p> <p>The mitigation measures at Section 6 require work to cease and the National Parks and Wildlife Service to be contacted should any items of Aboriginal heritage significance be found. If any items of European heritage significance are found, work is to cease and the NSW Heritage Office is to be contacted.</p> |
| <p>7.1 Earthworks</p> <p>(1) The objectives of this clause are as follows:</p> <p>(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,</p> <p>(b) to allow earthworks of a minor nature without separate development consent.</p> <p>(2) Development consent is required for earthworks unless:</p> <p>(a) the work is exempt development under this Plan or another applicable environmental planning instrument, or</p> <p>(b) the work is ancillary to other development for which development consent has been given.</p> <p>(3) Before granting development consent for earthworks, the consent authority must consider the following matters:</p> <p>(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,</p> <p>(b) the effect of the proposed development on the likely future use or redevelopment of the land,</p> <p>(c) the quality of the fill or the soil to be excavated, or both,</p> <p>(d) the effect of the proposed development on the existing and likely amenity of adjoining properties,</p> <p>(e) the source of any fill material and the destination of any excavated material,</p> <p>(f) the likelihood of disturbing relics,</p> | Yes | <p>All earthworks to be undertaken on the site are ancillary to the works for which consent is being sought.</p> <p>A description of the proposed earthworks is provided in Section 3.</p> |

| Tamworth Regional LEP 2010 Controls | Compliance | Comment |
|--|------------|---|
| (g) proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area. | | |
| 7.2 Flood planning (1) The objectives of this clause are as follows: (a) to minimise the flood risk to life and property associated with the use of land, (b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change, (c) to avoid significant adverse impacts on flood behaviour and the environment. (2) This clause applies to: (a) land that is shown as "Flood planning area" on the Flood Planning Map , and (b) other land at or below the flood planning level. | Yes | The land is not within any "Flood planning area" on the Flood Planning Map. The Stormwater Management Plan at Appendix M proposes measures to be put in place on the site (Catchment 3) to ensure that the peak runoff from the site is not increased and the risk of downstream and on-site flooding is reduced. |

4.2 Policies and Guidelines

NSW 2021 (State Plan)

NSW 2021 (the State Plan) was released in September 2011. The State Plan sets a strategic direction and goals for the NSW Government across a broad range of services and infrastructure as a 10 year plan to *"rebuild the economy, provide quality services, renovate infrastructure, restore government accountability, and strengthen our local environment and communities."*

The State Plan contains a number of goals across various service and infrastructure areas. In relation to hospitals the State Plan aims to:

"12. Provide world class clinical services with timely access and effective infrastructure."

There are a number of targets and priority actions to work towards achieving this goal including:

- Ensure all publicly provided health services meet national patient safety and quality standards; and
- Increase patient satisfaction.

NSW Health is working with the Australian Commission for Safety and Quality in Health Care to ensure all hospitals in NSW meet agreed national patient safety and quality standards.

Comment:

The proposed development will assist in implementing the goals and targets of the State Plan for improved hospital facilities and infrastructure at Tamworth Hospital. The new facilities and improvements to the overall environment and way-finding at the site will facilitate improved service delivery and patient experiences.

Tamworth Regional Development Control Plan (DCP) 2010

The relevant controls in the Tamworth Regional DCP 2010 for the proposed development are set out in **Table 3** below.

Table 3 – Compliance with Tamworth Regional DCP 2010

| Tamworth Regional DCP 2010 Controls | Compliance | Comment |
|--|------------|--|
| 1.2 Aim of the Plan The aims of this Plan are to: <ul style="list-style-type: none"> Define development standards that deliver the outcomes desired by the community and Council; Provide clear and concise development guidelines for various forms of development; Encourage innovation in design and development by not over-specifying development controls; Expedite development approvals by providing clear direction on Council's intent and criteria; and Provide certainty of development outcomes for developers and the community. | N/A | Noted. |
| Step 3: General Development Specifications Other Types of Development Controls Parking <ul style="list-style-type: none"> Parking must be provided as per the Schedule in Appendix 1. [As Schedule 1 does not list hospitals required parking is determined by RTA Guidelines a Traffic Assessment Report prepared by a suitably-qualified consultant.] <ul style="list-style-type: none"> Parking and traffic requirements will be based on consideration of: <ul style="list-style-type: none"> likely peak usage times; the availability of public transport; likely demand for off street parking generated by the development; existing traffic volumes on the surrounding street network; and efficiency of existing parking provision in the location. Comply with <i>AS2890.1 Parking Facilities</i>. Landscaping <ul style="list-style-type: none"> Location and grouping of plant types shall be multi-functional providing privacy, security, shading and recreation functions. Landscaping or shade structures shall be provided in outdoor car parking areas where >10 spaces are required, to provide shading and soften the visual impact of large hard surfaces. Landscaping shall comprise low maintenance, drought and frost tolerant species. Outdoor lighting <ul style="list-style-type: none"> All developments shall demonstrate compliance with <i>AS4282 Control of Obtrusive Effects of Outdoor Lighting</i>. | Yes | A Transport and Accessibility Assessment is provided at Appendix I and this addresses parking, access, public transport and so on. An analysis of Transport issues is provided in Section 4 of the EIS. Section 3 of the EIS describes the proposed landscaping and lighting. The Landscape Report and Plans are provided at Appendix P . |

| Tamworth Regional DCP 2010 Controls | Compliance | Comment |
|--|------------|---|
| <p>Step 3: General Development Specifications</p> <p>Environmental Controls</p> <p>Environmental Effects</p> <p>The application documentation shall identify any potential environmental impacts of the development and demonstrate how they will be mitigated. These impacts may relate to:</p> <ul style="list-style-type: none"> – Traffic – Flood liability – Slope – Construction impacts – Solid and liquid waste – Air quality (odour and pollution) – Noise emissions – Water quality – Sustainability <p>Soil and Erosion Control</p> <ul style="list-style-type: none"> • Runoff shall be managed to prevent any land degradation including offsite sedimentation. • Reference shall be made to the NSW Government's <i>Managing urban stormwater: soils and construction, Volume 1</i> (available from Landcom), commonly referred to as "The Blue Book". • Cut and fill will be minimised and the site stabilised during and after construction. • Arrangements in place to prompt revegetation of earthworks to minimise erosion. <p>Vegetation</p> <ul style="list-style-type: none"> • Development design shall accommodate the retention of any significant trees and vegetation. <p>Waste Management</p> <ul style="list-style-type: none"> • General waste storage and collection arrangements shall be specified. <p>Noise</p> <ul style="list-style-type: none"> • Where relevant, applications are to contain information about likely noise generation and the method of mitigation. <p>Geology</p> <ul style="list-style-type: none"> • The design process must give consideration to the potential impact of erosive soils, saline soils, soils of low wet strength, highly reactive soils and steep slopes and document how these constraints are addressed. | Yes | <p>This EIS and appended documentation identifies potential environmental impacts of the development and demonstrates how these will be mitigated.</p> <p>Stormwater management is addressed under Drainage in Section 4. A Sediment and Erosion Control Plan is provided at Appendix L. A Civil Engineering Report is attached at Appendix K.</p> <p>The Landscape Report and Plans are at Appendix P.</p> <p>The hospital has a Waste Management Plan in place (refer Appendix U) and the mitigation measures at Section 6 require that this be updated prior to issue of the Occupation Certificate.</p> <p>An Acoustic Assessment is attached at Appendix N and an analysis of this is provided at Section 4.</p> <p>Section 3 addresses matters related to geology.</p> |
| <p>Step 5: Discretionary Development Standards</p> <p>Other Development Standards</p> <p>1.32 Outdoor Lighting</p> <p>c) Lighting selection and location should improve safety and reduce crime and fear.</p> | Yes | <p>Lighting on the site will be in accordance with the relevant Australian Standards. This is reflected in the mitigation measures for the project in Section 6.</p> |
| <p>Environmental Standards</p> <p>1.44 Vegetation</p> <p>a) Existing trees may be removed from the proposed building footprint where it can be shown there is no acceptable alternative design.</p> <p>b) All trees removed must be replaced by comparable native and mature trees.</p> | Yes | <p>Refer to the Arborist's Report at Appendix O and the Landscape Report and Plans at Appendix P.</p> |

| Tamworth Regional DCP 2010 Controls | Compliance | Comment |
|---|------------|---------|
| c) Non-native plants may be used where they are shown to be non-invasive and pivotal to the overall amenity of the development. | | |

Tamworth Regional Development Strategy (RDS) 2008

The DGRs require the EIS to consider the Tamworth Regional Development Strategy and to detail how the proposed development promotes or is consistent with the strategic directions of the Strategy.

The Tamworth RDS was prepared to provide a platform for a comprehensive review of the five local environmental plans that applied to the Tamworth Regional Local Government Area and to guide the preparation of a new region-wide comprehensive LEP.

The primary aim of the Strategy is *“to develop a comprehensive strategic planning framework for the new Tamworth Local Government Area (LGA) that will reflect the current and future needs of the community.”*

The Strategic Directions and Actions for Community Services and Facilities set out in the Tamworth RDS include the following:

“4.2.2 Community Services and Facilities

3. Locate and design community services and facilities within the Tamworth Region to meet the needs of the community and to ensure equitable access:

(g) Facilitate improved community access and delivery of health and community services and facilities, particularly in areas with disadvantaged communities.”

Comment:

The proposed Tamworth Hospital redevelopment is in accordance with the aims and strategic directions of the Tamworth RDS as it will result in significant improvements to Tamworth Hospital thereby improving access to and delivery of health services to the community.

Planning agreements

There are no planning agreements relevant to the application.

4.3 Built form

Height and bulk

The proposed Acute Services building is a new T-shaped five level structure with an overhead walkway to the existing Brudelin building. The building height follows the slope of the land from north to south as the land slopes down, from three storeys on the northern side to five storeys at the southern end. The western wing towards Dean Street is four storeys in height.

The Acute Services building responds to natural site planning requirements including catchment management and minimising the number of trees to be removed, as much as practicable. Proposed distribution of building height and bulk is responsive to the natural topography, with greater height (and therefore building density) provided

in the southern part of the building where it can be accommodated by the lower natural ground level.

The height of the proposed new building complements the scale of existing buildings on site. The location of the building within the site and surrounded by existing buildings reduces the potential for the building height to impact the surrounding area. The visual impacts are discussed in more detail below.

The bulk and scale of the new building is appropriate to its site and context and does not result in any significant adverse impacts.

Site layout

The proposed development has been designed to respond to the site and existing hospital buildings. The T-shape building sits neatly among the existing buildings which are to be retained. The proximity to these buildings facilitates good connectivity.

The Acute Services building will replace a number of existing buildings currently used for a range of hospital services and activities. The building's siting in this location retains and renews this part of the campus as a main activity area of the hospital. The location and siting of the new Acute Services building takes advantage of:

- the need to rationalise the site layout to reduce the existing patterns of disconnection between buildings and services
- opportunities to create physical links to the Brudelin building
- proximity to existing car parks and proposed new car parks
- opportunities to reinforce the central hub of the new facilities through similar height and scale to existing major buildings on the site
- the potential to provide a direct access road to Dean Street to the ambulant emergency drop off
- the need to create a more legible layout for the hospital campus.

The building is designed as an integrated element of the hospital. The building, and its facilities, have been developed in close consultation with staff through user group and design development meetings.

The new building will provide a new single location for a number of hospital departments in a central location. Together with improved and coordinated new signs, the change will ensure a more legible layout for the hospital as a whole with improved way-finding generally.

Design quality

The location of the new main hospital entry (**Figure 35**) allows the Acute Services building to create a visual focal point to frame and define the new entrance as the gateway for the Hospital.



Figure 35 – Architects impression of new hospital main entrance

The architecture and materials combine to ensure that the new entrance is well defined and welcoming. The elevations incorporate articulation, particularly towards the courtyard at the entrance. The east and west elevations feature vertical louvres for sun shading while the northern elevation incorporates horizontal louvres. The louvres also assist to provide further visual interest to the building.

A variety of materials and colours are utilised within a neutral and earth-toned colour palette. The use of glazing on the elevations provides a good degree of internal amenity for hospital staff, patients and visitors. Views out to surrounding areas, including the rural areas to the north and east of the site will also be available.

The new palliative care courtyard on the northern side of the Acute Services building (refer **Figure 36**) will provide a number of smaller outdoor spaces in a garden setting. Small to medium deciduous trees will be planted along the perimeter providing summer shade to the spaces and screening from the ramp above.

Overall the Acute Services building will achieve a good degree of design quality and amenity. The horizontal form of the building is interspersed with vertical elements using different materials and colours.

Massing is modulated through simple façade treatments. The north and south elevations present a more vertical appearance through the use of glass, timber, aluminium and panels. The east and west facades have a more horizontal appearance.



Figure 36 – Architects impression of Palliative Care (northern) courtyard

4.4 Amenity

Solar access and overshadowing

The proposed new building is located within a central area of the site and at some distance from neighbouring properties. Shadow diagrams are provided within the architectural drawings at **Appendix A**. The diagrams show that the proposal will not have any impact upon the amount of sunlight access to neighbouring properties.

Noise and acoustic considerations

An Acoustic Assessment has been prepared by Wood and Grieve Engineers and is attached at **Appendix N**. The Assessment has considered operational noise, traffic noise and construction noise and vibration.

The proposed hospital redevelopment will include typical building services equipment which will generate noise. The only significant plant which will be located on the roof of the Acute Services building to the open air are two 2000kW cooling towers. Therefore, noise control measures for these cooling towers will be important. All other plant is to be located within plant rooms and typically the noise of this plant will be controlled through the building fabric and the control of noise breakout through airways required for ventilation purposes by the use of attenuators or acoustic louvres.

Details of the proposed noise mitigation measures for building services plant for environmental noise will be provided during the detailed design stage of the project (refer mitigation measures at **Section 6**). However, the Acoustic Assessment recommends the use of acoustic screens around the cooling towers on the Acute Services building. For plant items located within plant rooms it is likely that standard noise control methods such as attenuators for mechanical ventilation areas and building fabric will be sufficient to ensure compliance with the criteria defined in the Acoustic Assessment.

The Assessment notes that the mechanical services plant for the Acute Services building are located towards the centre of the hospital campus which provides maximum sound attenuation due to distance to the nearest residences.

Traffic noise measurements have indicated that the noise levels at the façade of the existing residences located along Johnston Street currently exceed the external noise criteria. A likely increase of traffic noise by 0.2dB is expected and therefore the NSW Road Noise Policy criteria will be met as the increase in road traffic noise will not exceed 2dB.

The Ambulance Services of NSW has advised that sirens are not used within hospital sites, the only exception being a “short burst” alerting potential motorists of the ambulance’s presence when absolutely necessary. Whilst returning to the hospital after attending an emergency the siren will only be used in an extreme emergency. No operational ambulance changes are proposed for the Tamworth Hospital project with the exception of the relocation of the ambulance bay. Noise levels generated by ambulance activities will be similar to those currently experienced in the area with residential properties located along Johnston Street likely to remain the most affected rather than the residences located along Dean Street.

Car parking noise levels will comply with the relevant environmental noise criteria and sleep disturbance criteria at the boundary of the nearest residential receiver potentially affected by car parking noise.

There will be no change to the location of the helipad.

The proponent commits to preparation of a detailed Construction Noise and Vibration Management Plan (CNVMP) prior to construction commencing. This commitment will ensure the noise and vibration criteria outlined in the Acoustic Assessment are met together with any other mitigation measures required to minimise the impact of construction activities on nearby residents.

Visual assessment

Photomontages have been prepared as part of the visual impact assessment of the proposal. The new building is mostly screened from view by the surrounding hospital buildings. The visual assessment considers the impact on the views and view corridors from Dean Street, Johnston Street and the Helipad.

View 1: Dean Street at the new main entry

The Acute Services building will be visible between existing buildings along the western frontage of the hospital in view from the intersection of Dean Street (**Figure 37**).

Although obscuring a slight rural view beyond the north-eastern boundary of the hospital, the height and bulk of the Acute Services building will be in keeping with the scale of the existing structures visible from this location. It will be an interesting contemporary building within the hospital grounds.

Assessment of visual impact: low



Figure 37 – Dean Street near intersection with new entrance road

View 2: Johnston Street

From the southern end of the existing visitor car park, only a small top portion of the Acute Services building will be visible above existing buildings and trees. The visual impact from this location is minimal.

Assessment of visual impact: low



Figure 38 – Johnston Street at southern end of existing visitor car park

View 3: View from the Helipad

The new building will be visible above existing trees and between existing hospital buildings in the view from the helipad (**Figure 39**).

The Acute Services building will be of a similar scale to the existing buildings visible from this location and is of a similar (although contemporary) form. The new Acute Services building will be a positive addition to the visual environment when viewed from this location.

Assessment of visual impact: low



Figure 39 – View from near the helipad

Wind

No adverse wind effects are likely as the new building comprises a mid-rise (five storey) structure. The building is unlikely to generate any wind tunnel effects as it is some distance away from neighbouring properties.

4.5 ESD

NSW Health requires energy modelling and an independent commissioning agent for projects larger than \$10 million. The design commitment is for:

- energy performance that achieves a minimum 10 percent improvement when compared with either the “stated value” or the deemed to satisfy reference building
- all mechanical services and automated control systems to be commissioned to meet the required function with minimum energy use.

In relation to energy sources the design target is for 20 percent of the facility’s power to be sourced from alternative energy sources including solar and photovoltaic.

Key ESD initiatives include:

- Mixed mode ventilation;
- Photovoltaics;
- Solar hot water; and
- Daylighting.

It is noted that NSW Health will target a 4 Star Green rating, however will not be formally certified against this rating tool.

Electrical services

All sub-mains, mechanical boards and other major control cabinets are to be metered and linked to the building management system to allow energy auditing, monitoring and troubleshooting. Motion sensors, timers and daylight sensors are to be used where appropriate to control internal artificial lighting.

Lighting circuits are to be designed to provide high flexibility and not control large/multiple areas with one switch. Efficient external lighting to meet or exceed the minimum requirements of AS1158 for illuminance levels will be provided. Luminaries with high efficiency lamps, electronic control gear and high frequency ballasts are to be used.

Mechanical services

Energy efficiency will be an integral part of all mechanical services design. A number of mechanical services initiatives are being considered for the proposed development including, but not limited to:

- improving the thermal performance of the building envelope through effective sun shading, high performance glass and innovative construction details;
- high efficiency, low loss water-cooled chillers, selected to give the optimum coefficient of performance;
- heat recovery between exhaust/relief and outside air will be included whenever these duct routes permit to recapture heat from the exhaust air for pre-treatment of the outside air; and
- a fully automated Building Monitoring and Control system to schedule and optimise plant to maximise efficiency.

Hydraulic services

Solar hot water will be incorporated with an aim of 50% solar contribution. Water efficient fixtures and tapware will be installed. Meters will be provided for all major water uses. All drainage pipework will be installed in HDPE to minimise PVC use.

Architectural

Efficient façade treatment is to be incorporated to provide shading and improve thermal performance. Energy efficient glazing to improve thermal transmittance will be used as required. Daylight glare control treatments are to be utilised. The internal planning of the building locates primary patient and open work spaces to the perimeter to maximise opportunities for natural light. Removal of top soil is to be minimised. Landscape planting is to be appropriate to site and climatic conditions.

Water Management

Water management measures are proposed for the Acute Services building to control consumption. These includes sub metering to monitoring use, water efficient devices such as dual flush toilets, efficient tapware, solar hot water systems, recover of water used by steriliser and renal dialysis systems.

The Energy and Sustainability Report at **Appendix Q** and Hydraulic and

Fire Services report at **Appendix V** provides further details of the above.

Further, the project satisfies the principles of ecologically sustainable development as outlined under Schedule 2 Clause 7 Part (4) of the Environmental Planning and Assessment Regulations (2000) as follows:

Precautionary principle: the project has been informed by technical studies, including a Masterplan, which advise the development is suitable in context of site characteristics and location, and with appropriate conditions of approval and mitigation measures, will not result in significant impact to the physical environment.

Inter-generational equity: the project includes environmental management measures to maintain the health, diversity and productivity of the physical environment. This includes measures to reduce energy consumption through design and engineering systems, protection of site historical features such as the 1883 building, and appropriate management measures including waste, noise and construction impacts,

Conservation of biological diversity and ecological integrity: There are no known significant ecological or biological issues that affect the project. Conditions of approval and mitigation measures will also ensure no significant impacts from both the construction and operation of the facility.

Improved valuation, pricing and incentive mechanisms: Design and operational measures to manage the environmental impact of the development including water, energy, design, landscape, mechanical, electrical and services have been included within the project cost to be paid for by NSW Health Infrastructure.

4.6 Heritage

European heritage

A Heritage Impact Statement (HIS) is provided at **Appendix S**. The HIS identifies a number of buildings that are worthy of heritage investigation including the Main Block (1883), Renal Unit (proposed for demolition), Dean House, Kitchen Wing (proposed for demolition), Johnston House and the Children's Wards 8, 9 and 10. Of these buildings the report finds that the 1883 Main Block and Dean House are worthy of conservation.

The Renal Unit is believed to date from 1921. The rectangular single storey building is of interest as one of the few remaining early site building but has been significantly altered. The Kitchen Wing is a two storey building dating from 1951 with an austere exterior and an institutional design. The building is of interest as a representative 1950s structure and has a moderate degree of integrity. The HIS finds that neither of the buildings demonstrate significance to a degree that warrant their retention.

The proposed development does not affect Dean House or the Main Block (1883 building). The new building is set back from the rear of the 1883 building and maintains an appropriate separation from the heritage building. The HIS concludes that the proposal will not adversely affect the heritage significance of the site.

The site also contains landscape elements that are listed on the Council's significant tree register in the Tamworth Regional LEP 2010. Two of the significant trees (NT003 *Phoenix Canariensis* -Canary Island Date Palm and NT004 *California Washingtonia* -Cotton Palm) will be relocated as part of the proposed redevelopment of the hospital. The new positioning for these trees will be determined in consultation with Tamworth Regional

Council. This is reflected in the mitigation measures in **Section 6**.

The mitigation measures at **Section 6** also require work to cease and the NSW Heritage Office to be contacted if any European heritage relics are uncovered. Depending on the possible significance of the relics, an archaeological assessment and excavation permit under the NSW Heritage Act 1977 may be required before further works can continue in the affected area.

Aboriginal heritage

An Aboriginal camp previously existed on land to the east of the hospital. The camp was not located on the hospital land and preliminary research concludes that the camp site will not be impacted upon by the development. No further investigations of the camping reserve are required and no mitigation measures or monitoring are necessary.

The Heritage Impact Statement at **Appendix S** recognises the potential for Aboriginal archaeological relics to be uncovered during the course of the work and if this was to occur, the need for all work to cease immediately in that area and the National Parks and Wildlife Service to be contacted. This requirement is included in the mitigation measures at **Section 6**.

Depending on the possible significance of the relics, an archaeological assessment and excavation permit under the NSW Heritage Act 1977 may be required before further works can continue in the affected area.

4.7 Trees and ecology

Trees

An Arborist's report is attached at **Appendix O**. The report reviews the condition of trees and vegetation across the site and includes recommendations for minimising impacts on existing plantings during construction. The landscape plans at (**Appendix P**) are based on the information provided in the Arborist report.

Trees that are affected by the proposed development include:

- The two trees listed on Council's significant tree register which are to be relocated. The final location for the trees will be determined in consultation with Tamworth Regional Council and
- Two other palms which may be relocatable to adjacent to the palms in the lower driveway.

Ecology

An Ecological Assessment was undertaken for the site in February 2010 and subsequently updated in May 2012 (**Appendix T**) to consider any new listings or changes of species and communities listed under the *NSW Threatened Species Conservation Act 1995* (TSC Act) and/or *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The February 2010 assessment considered eight threatened flora species, 31 threatened fauna species and one Endangered Ecological Community (EEC), listed under the TSC Act and EPBC Act for their potential to occur on site and potential to be impacted upon by the

proposal. The 2010 assessment concluded that none of the species or the EEC were likely to be significantly impacted upon by the proposed development.

For the 2012 Addendum, a review was undertaken of the Office of Environment and Heritage (OEH) Wildlife Atlas Data Search and The Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) EPBC Act 1999 Protected Matters Search. This identified a total of two threatened fauna species for further consideration. The subsequent investigations have confirmed that the proposed development is unlikely to have a significant impact on the Speckled Warbler and Koala.

The recommendations contained in the 2010 assessment and are considered relevant for the current proposed hospital redevelopment:

- Measures be implemented to prevent the erosion of soil during construction, such that downstream drainage systems be protected from sedimentation;
- That existing onsite trees be retained where possible and incorporated into landscape planning for the site; and
- That any planting required for substrate stability and/or landscaped plantings employ locally occurring native species, or similar species to those removed, where possible.

In response to the above recommendations, it is noted that erosion and sedimentation control measures will be put in place during construction (refer **Appendix L**). In addition, existing trees will be retained where possible and incorporated into landscape planting on the site (refer **Appendix P**). Landscape plantings will for the most part consist of locally occurring native species, and some exotics will also be in use in some more intensive areas of landscape planting.

4.8 Transport, access and parking

Traffic

The peak traffic generation for the site occurs at the afternoon shift staff change-over period between 2.00pm and 3.00pm. At this time an additional 54 vehicle movements are predicted. In the later 4.00-5.00pm road peak, an additional 46 vehicle movements are predicted.

The new two-way ring road will improve and simplify traffic flows and wayfinding through the site for the public, staff, emergency and delivery vehicles. The new intersection at Smith Street/Johnston Street is proposed as a priority controlled cross intersection. This intersection is not expected to experience high traffic flows as the main focus of public traffic and staff access is from Dean Street.

The proposal will facilitate implementation of No Stopping controls further along parts of Dean Street as sought by Tamworth Regional Council. This initiative will improve lines of sight for drivers from Johnston Street. A Dean Street Traffic Management Plan will provide right hand turn bays into the hospital to manage traffic flow.

New main entrance

The proposed new main entry to the hospital building and the associated access roadway from Dean Street will provide clear and legible way

finding for drop-off and pick-up. The location of the main public car park adjacent to Dean Street provides good level walking access to the main entrance and is close to the drop-off / pick-up area.

Drop-off and pick-up will occur along two kerbs serving the northern and southern sides of the hospital and this should encourage drivers to utilise the area correctly.

The new arrangements are a significant positive change for the site.

Public transport

A separate bus loop has been provided at the new main entrance. The road layout ensures a dedicated bus zone at the main door.

The bus stop locations for the new ring road will be determined by the proximity to buildings and key entrances, the grades of the roads and access paths and the ability to achieve a suitable access path. Currently buses run clockwise around the site, however discussions are underway with the bus operator about the possibility of reversing the direction to put the bus stops on the inside of the loop rather than the outside. The bus route and bus stop locations will be determined in consultation with the local bus operators and Tamworth Regional Council (refer mitigation measures at **Section 6**).

A taxis at the main entrance pick-up and drop-off area ensures safe and convenient access to taxis for visitors to the hospital.

Emergency vehicle access

The proposed emergency vehicle access arrangements facilitate efficient movements to this key operational area of the hospital.

The main ambulance route will be via the new ring road from the Smith Street extension as shown in **Figure 40** below. An alternative access route is also available along Dean Street. Ambulance access to Johnston and Dean Streets is expected to use the existing routes from the main road system.

Private vehicles going to the Emergency Department will be directed with signage along Dean Street and a separate drop-off area is provided so that private vehicles and ambulances are kept apart.

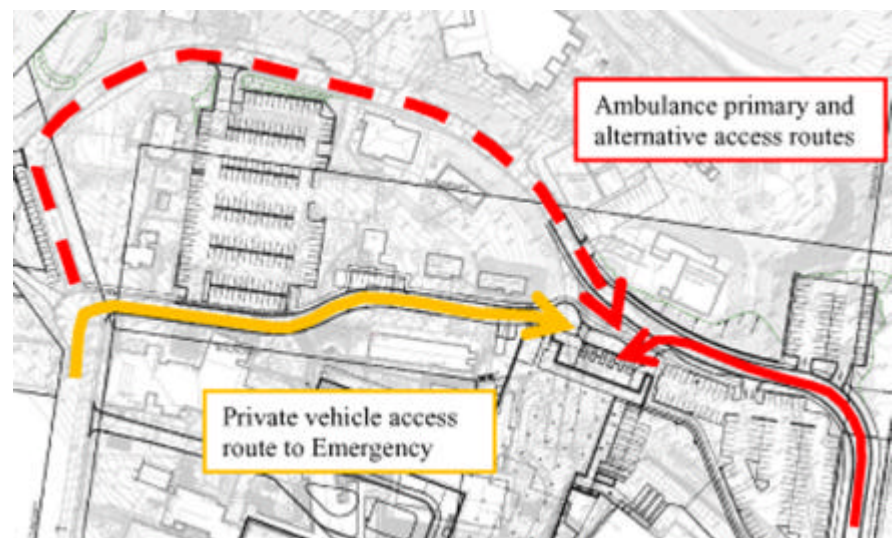


Figure 40 – Access to Emergency Department

Helipad

There is no change to the location of the existing helipad on the eastern side of the campus. The new ring road is on the outside of the helipad which will improve access between the helipad and the hospital building. A signal and gate system is to be installed on the ring road to control traffic flow when the helicopter is landing and taking off. At these times, advance signage at the Johnston Street intersection will provide information to drivers to divert to Dean Street for all access to the campus.

Parking

The predicted peak future demand for the Acute Services Building is 1050 spaces occurring during the afternoon peak period around 2.30pm. This assumes a slight reduction in staff parking demand with a reduction to 90 percent from the current 93 percent of staff travelling to work by car.

The three percent future reduction in parking demand is considered reasonable given the good level of bus access to the site. The change is equivalent to 25 additional staff choosing to use the bus, cycle or walk to work. 28 spaces extra spaces are required for the Acute Services Building.

The total future parking demand of 1050 spaces comprises 837 for staff

and 213 for patients and visitors. Total car parking provision on the campus on completion of the Acute Services Building, including disabled spaces and Cancer parking not affected by this project, will be 1081 spaces. This also includes 99 spaces in a temporary south-east car park. There will also be 70 car parking spaces available on Dean Street following implementation of the Dean Street Traffic Management proposal and further overflow of around 20 spaces on nearby streets, providing a total of 1171 spaces. (The temporary car park is being provided under separate works, will be finished to appropriate standards however the life cycle of it is unknown).

The car parking areas being delivered as part of this SSD application are the north-east staff car park of 134 spaces and the Ambulatory car park of 28 spaces. These deliver 162 car parking spaces as shown at **Figure 41** below.

Roads and Maritime Services have recently endorsed parking and kerb side restrictions on the hospital campus. This will allow the hospital to enforce the No Stopping and No Parking restrictions along roads on the campus and the 4P parking time limit in the public car park.

All new car parks have been designed with entry/exit driveways capable of being fitted with boom gate controls. This will enable staff access card controls to be implemented at a future time if required.

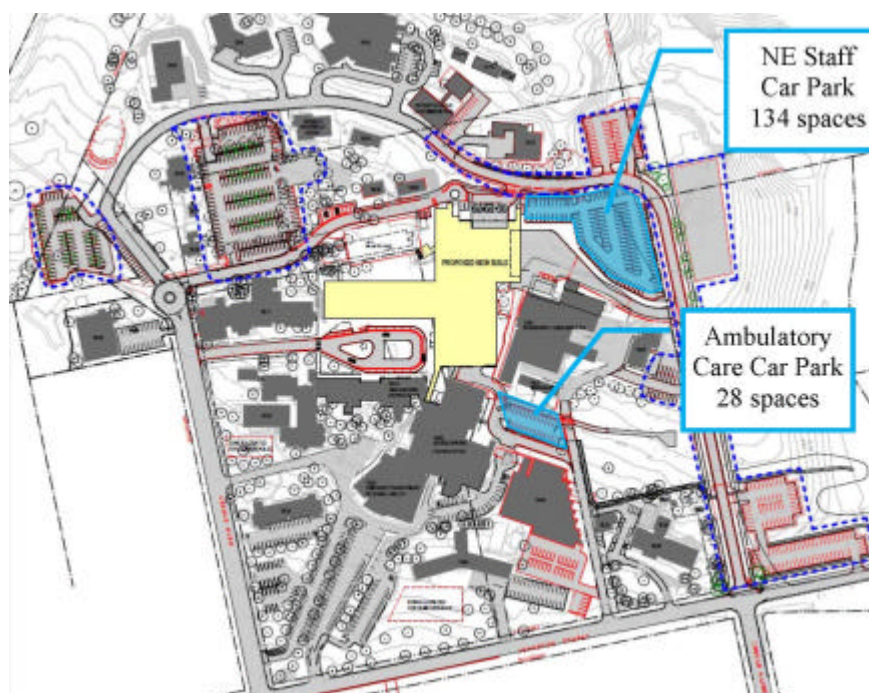


Figure 41 – Car parking being delivered as part of this SSD application

Sustainable transport measures

A Green Travel Plan will be prepared for the hospital as part of the mitigation measures (**Section 6**). The Green Travel Plan will include a package of measures to promote the use of public transport, walking and cycling by employees and others for travel to and from work and for business related trips.

4.9 Construction transport and access

A detailed Construction Traffic Management Plan (CTMP) will be prepared as part of the Construction Management Plan. This is reflected in the mitigation measures at **Section 6**. The CTMP will make provision for pedestrian, cyclist and vehicle access during construction and will minimise the disruption to traffic movements particularly at peak periods and the disruption to public transport services.

The works occurring on site will be coordinated and staged to ensure adequate car parking is available at all times during construction.

4.10 Geotechnical and environmental considerations

Stormwater management

The proposed development alters the catchment characteristics and increases the impervious areas of the site. This results in an increase in surface water runoff from the site that could potentially lead to an increase in the risk of downstream flooding. As part of the stormwater management, controls will be implemented to ensure that:

- The peak runoff from the site is not increased.
- The risk of downstream and on-site flooding is reduced.
- The quality of the stormwater runoff is improved.

Following discussions with Tamworth Regional Council regarding site runoff, Council have confirmed the following:

- The creek to the east of the site has adequate capacity and no detention is required for catchment 1;
- The creek to the west of the site is at capacity. Any increase in runoff from catchments 2 or 2 will need to be detailed on site, to ensure that post-development runoff does not exceed pre-development runoff;
- A catchment and runoff analysis is required to confirm pre and post development flows.

The proposed catchments are shown in Figure 42 below. The following measures are proposed to manage stormwater flows as a result of the development:

| Catchment | Details |
|-------------|--|
| Catchment 1 | <ul style="list-style-type: none"> • No change in 100yr peak flow, less than 1% increase in 5yr peak flow. <p>Discussions with Tamworth Council have indicated that no stormwater controls are required for this catchment.</p> |
| Catchment 2 | <ul style="list-style-type: none"> • Reduction in catchment area and impermeable reduces peak runoff by 2% for both 100yr and 5yr ARI. <p>No stormwater controls required.</p> |
| Catchment 3 | <ul style="list-style-type: none"> • Create on-site detention with storage volume of 500m³. • Use 740mm diameter orifice plate to control flow. |

| | |
|--|---|
| | <ul style="list-style-type: none"> • These controls reduced peak runoff by 20% for 100yr, and 3% for 5yr ARI. • Introduce an overland flow channel between the detention basin and settling basin, and also introduce a dispersion channel, at the outfall from catchment 4, to reduce downstream erosion |
|--|---|

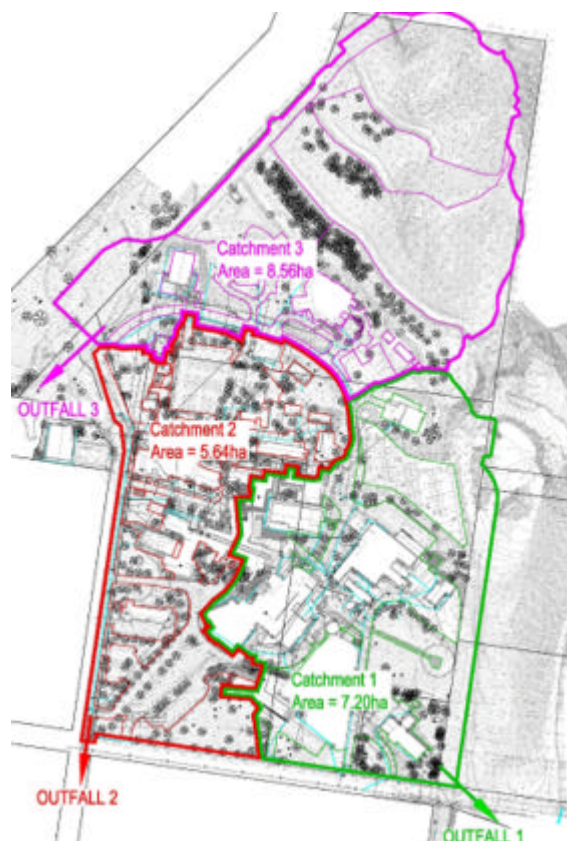


Figure 42 – Stormwater catchments

Structural engineering matters

There is no evidence on site of previous foundation or retaining problems on the Tamworth Hospital site. Slip failures and other type of foundation material failures are not believed to be an issue for this site. The risk of geotechnical failure is considered very low.

Excavated areas are to be protected by a combination of permanent retaining walls and batters. The structural and geotechnical engineering investigations have concluded that the risk of failure of the battered solution or permanent retaining walls is low.

Inspections will occur during the excavation and construction process to monitor the works of the contractor and confirm that the foundation material agrees with the recommendations contained in the Geotechnical report (**Appendix J**). This is reflected in the mitigation measures in **Section 6**.

Groundwater

The depth to groundwater is unknown as it was not encountered during the site investigations. Groundwater is not expected to constrain or be an issue for the development given the site topography and climatic conditions. Similarly, development on the site is unlikely to adversely affect groundwater.

4.11 Utilities

Where services do not have sufficient capacity, these will be augmented as recommended in technical reports appended.

4.12 Servicing and waste

Tamworth Hospital has existing Waste Management Guidelines, prepared in 1999 and reviewed in June 2004 which describes the policies and procedures for the hospital. It provides goals and targets to ensure ongoing improvements in all aspects of waste management, including the generation, handling, storage and disposal of all forms of waste. The plan is based on the NSW Health Department Waste Management Guidelines for Health Care Facilities – August 1998, Infection Control Policy (2002/45), relevant legislation relating to Environmental Protection, and Occupational Health & Safety and the New England Area Health Service (NEAHS) Waste Management Policy (2004 – 01 April 2004).

Wastes are defined and categorised as follows:

- Clinical waste;
- Cytotoxic waste;
- Pharmaceutical waste;
- Chemical waste;
- Radioactive waste;
- Recyclable products;
- Organic products;
- Liquid waste;
- General waste.

The Waste Management Guidelines contain detailed procedures for the handling and disposal of waste products including handling of waste by staff, spill management strategy, containment, cleaning, holding areas and transport. Waste treatment and disposal for particularly sensitive waste products including radioactive waste is included.

The mitigation measures at **Section 6** require that the guidelines be reviewed and updated as a result of the hospital redevelopment.

4.13 Hazards

There is a range of hazardous materials and wastes in use or generated by activities at the hospital including medical gas tanks, petrol tanks, pool chemicals, cytotoxic wastes, clinical wastes, radioactive wastes and the like.

Control measures in place to ensure the safety of hospital gas tanks, petrol tanks, pool chemicals etc are set out in the Tamworth Hospital Disaster Plan along with a detailed description of the products, their location on site, their Dangerous Goods classification, the quantity stored and who can access the area.

The mitigation measures at **Section 6** include a requirement to review and, if necessary update, the table in Appendix 7.3 of the Disaster Plan and Waste Management Guidelines.

4.14 Building construction and compliance

BCA and DDA compliance

The new construction will comply with the relevant requirements of the BCA and Disability Discrimination Act. This is reflected in the mitigation measures in **Section 6**.

Fire safety

The fire hydrant system is to provide coverage according to AS2419.1. The fire hose reel system is to provide coverage according to AS2441. Further details of the fire hydrant service and fire hose reel system are provided at **Appendix V**.

New dry fire systems (smoke detection) will be installed in the Acute Services building in accordance with AS1670 and there will be a new main fire indicator panel located in the foyer of the Acute Services building. At the completion of the project the dry fire systems will be connected to the Fire Brigade from one point within the site.

For the fire sprinkler system, a new 150mm diameter connection will be made to the Tamworth Regional Council water mains located in Dean Street. The sprinkler system is to provide coverage according to AS2118.1 with a grade 3 water supply.

A Fire Safety Strategy has been prepared by Rawfire and is attached at **Appendix R**.

4.15 Crime and public safety

The design process has incorporated the Crime Prevention Through Environmental Design principles of natural surveillance, access control, territorial reinforcement and space management. This is reflected in the following measures:

- Building elevations of the proposed extension include windows, openings (loading docks, pedestrian entrances), and balconies thereby creating opportunities for casual surveillance and sightlines between the internal areas of the building to the immediate external areas;
- External lighting will be provided around the new Acute Services building, operating from dusk to dawn, and will include vandal resistant luminaries. Lighting will be provided in accordance with the applicable Australian Standards to ensure appropriate night time illumination and therefore safety;
- The Acute Services building will be integrated as part of the wider hospital facility that is staffed/operates 24 hours a day 7 days a week. Accordingly, passive surveillance will be provided by this continuous operation;
- Internal security measures include extension of the hospital's current security procedures, governed by NSW Health Policy and local security systems, with additional reference to Australian Standards.

This includes:

- On-site security 24 hours a day;
 - From approximately 8pm entry to the Emergency Department is via a security point;
 - Clear division between public and staff areas – at key points of entry and important internal divisions, a card based system will be installed;
 - Key Control controlled via a restricted keying system and restricted by the requirements of the position; and
 - CCTV with recording capability provided to high risk areas such as the Emergency Department. In addition, there will be CCTV coverage for the proposed new ring road (subject to separate Part 5 process) and the helipad area for all of the zone that is controlled during helicopter operations.
- Landscaping and public domain around the proposed redevelopment will include use of hardy materials and species to deter vandalism;
 - Appropriate shrub height within pedestrian areas will support casual surveillance and avoidance of entrapment;
 - Way finding to and from the new Acute Services building, including the new Emergency Department and new hospital main entry, will be supported with external signage and distinguishing architectural features;
 - Location of the Emergency Department entrance close to the new ring road (subject to the separate Part 5 process) will support activation and surveillance of the ring road;
 - With respect to the proposed new and expanded car parks which are the subject of the separate Part 5 process, all will be lit in accordance with the appropriate Australian Standards (except the temporary car park) and landscaping will not provide for positions of entrapment. Car park access pathways will also be lit to public lighting standards; and
 - All new car parks have been designed with entry / exit driveways capable of being fitted with boom gate control. This enables staff access card control to be implemented at a future time if required.

4.16 Contributions

The proposed development will facilitate delivery of important health services to both the local community, and the wider region.

Where a proposed development will or is likely to require the provision of or increase the demand for public amenities and public services within the area, the consent authority may, under Section 94 of the EP&A Act 1979, grant the development consent subject to a condition requiring dedication of land free of cost, payment of a monetary contribution or both.

The provisions of the EP&A Act allow the consent authority to accept the provision of a material public benefit in part or full satisfaction of the Section 94 contribution requirement. The proposed development represents a significant redevelopment of the existing Tamworth Hospital and will deliver substantial improvements to the public amenities provided at the hospital. It is considered that no development contribution should be imposed under Section 94 as a material public benefit is being provided by the development.

5 Project justification

5.1 Objectives of the proposed development

The proposed development provides a major opportunity for NSW Health to upgrade the environment, facilities and services at Tamworth Hospital. The vision is to develop a new hospital and integrated health service campus to provide a major enhancement of the referral services available to the region within the strategic framework.

The improved facilities are to be delivered in stages and will address the deficiencies of the existing campus associated with poor integration and outdated building infrastructure. The new facilities will meet the needs of Tamworth Health Services well into the future.

The development responds to the design objectives as set out in the Tamworth Health Services Plan and the accompanying Service Procurement Plan and Project Definition Plan. The key directions and design objectives for the project are described in Section 3.

5.2 Feasible alternatives to carrying out the development

Tamworth Hospital Masterplan Report 2010

A Masterplan was developed for the Tamworth Hospital site in 2010. The design objectives for the masterplan were to bring together many of the dislocated services located within old buildings to achieve better integration.

The Brudelin and Linen Workshop buildings were found to be in good condition and with the potential for re-use or refurbishment for other functions. These buildings combined with the 1883 Main Block to form a central hub for activity in the renewed hospital layout.

The Masterplan fundamentally sought to organise clinical departments into functional clusters with new access routes and a clear delineation of staff and public zones to improve wayfinding and public amenity at the hospital.

A review of existing buildings and assets informed the design process. This included a detailed survey of the existing physical facilities and whether they should be retained or demolished. The intention was to look to retain the current major buildings and create linkages at ground level to significantly improve communication and reduce travel distances. This would ensure a more efficient, flexible and future proofed hospital.

Buildings found to be in poor condition, or in the location of potential future development included the Renal building and Kitchen and courier building (all in poor condition) and a number of buildings that, if removed, would create new opportunities for the site.

The resulting concept plan nominated a development zone over the central portion of the site. The core elements of the concept plan are reflected in the works for which development consent is sought.

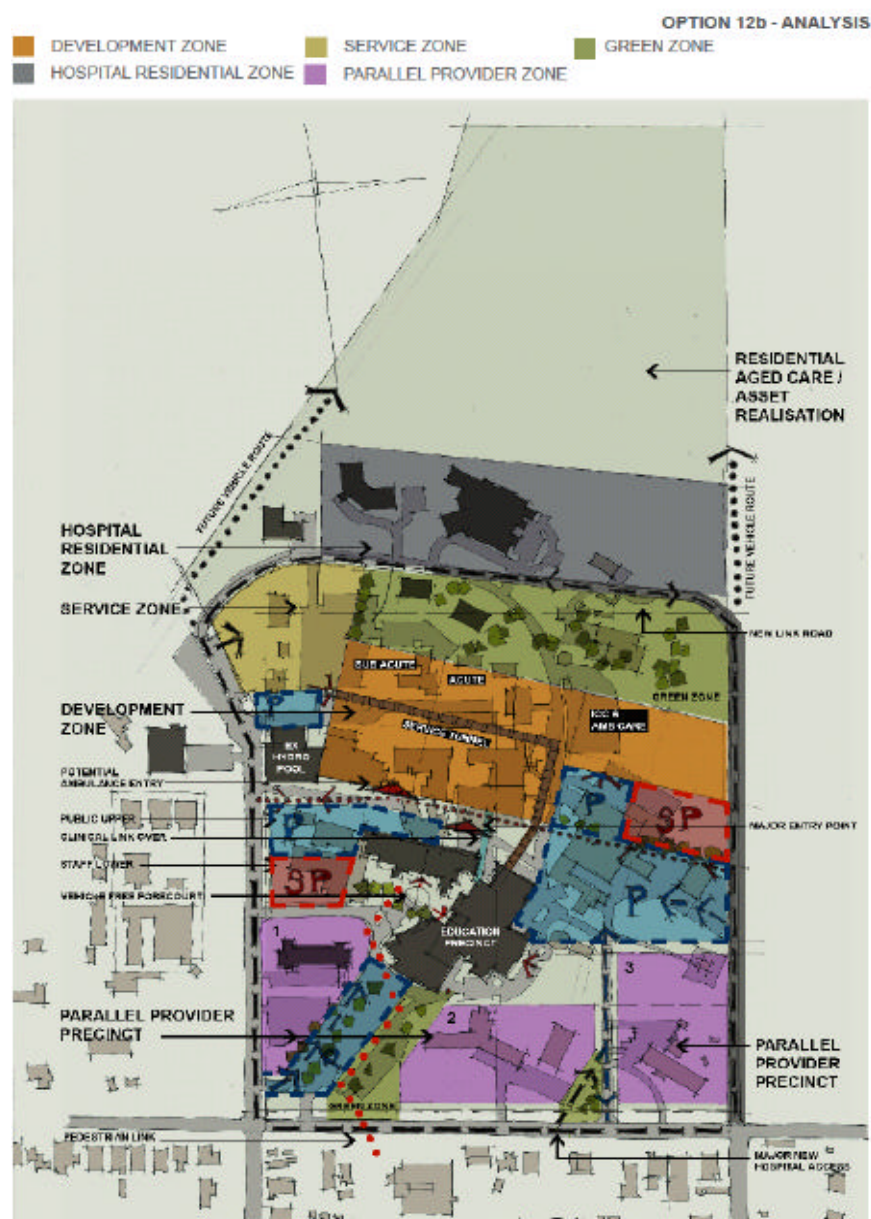


Figure 43 – Tamworth Hospital Masterplan 2010

5.2.1 Response to the Masterplan

Development staging

The Tamworth Hospital Masterplan is being implemented in stages comprising:

- Stage 1: Integrated Cancer Care Centre (under construction)
- Stage 2: Redevelopment and upgrading of clinical and technological facilities including construction of the new Acute Services building.

The staging details have altered as the documentation has progressed responding to:

- financial considerations
- operational considerations and the need to allow for continuing hospital operations throughout the project.

The new link road and additional parking areas are being considered as part of a minor (early works) package. Upgrading works within the Brudelin and 1883 buildings will be undertaken separately when the final scope of changes to these buildings is determined.

Site layout

The proposed development follows the general intent of the 2010 Masterplan with the exception of the following changes:

- location and access to the emergency department
- relationship and location of the new inpatient units with new acute services.

The proposed development layout has located the emergency department on the northern side of the new Acute Services building in order to achieve a clear separation of the ambulance, ambulant and main entrance traffic. This modification to the site layout ensures a safer and direct ambulant and ambulance access to the emergency department.

A number of improvements have been made to the concept masterplan including:

- the combinations and co locations of various departments
- simplified access arrangements
- use of the change of level across the site between the new main entrance and the emergency department in terms of visual links and more efficient connections.

Alternative options

The proposal is the outcome of extensive design and stakeholder consultation. All reasonable and practical alternatives have been considered in the process.

5.3 Consequences of not carrying out the development

The Tamworth Hospital site has grown in a piecemeal manner from the early twentieth century. The delivery of health services across the many separate buildings on the site has led to poor patient experiences and a lack of cohesion.

Modern hospital facilities are designed to allow flexible and multi-functional use of space to maximise service sustainability, efficiency and the effective use of resources. This is reflected in co location of related services to enable staff to work across areas, an ability to 'swing' beds for changing needs, multipurpose clinic rooms and the ability to coordinate services across modes. These opportunities are not available with the current facilities at Tamworth Hospital.

Consequences of not carrying out the development are:

- the hospital will continue to rely on inefficient and outdated buildings
- wayfinding and access at the site would continue to be difficult and unnecessarily complex
- opportunities to create additional parking spaces, particularly close to primary facilities, would be lost
- opportunities to adopt contemporary models of health care and service delivery, including a greater focus on patient focussed care, would be removed
- opportunities for greater staff collaboration, research and teaching would be removed.

6 Mitigation measures

6.1 Introduction

The following measures have been compiled based on the Environmental Impact Assessment undertaken in the preparation of this report and following review and consideration of the issues raised in consultation with government agencies. They provide a commitment by Health Infrastructure and indicate the responsibilities required to implement measures to prevent potential environmental impacts that have been identified through the assessment. This will ensure that the project is environmentally, socially and economically sustainable. Schedule 2 of the Environmental Planning and Assessment Regulation 2000 requires a full description of the measures proposed to mitigate any adverse effects of the development on the environment.

The mitigation measures relate to the following issues:

- Demolition management plan;
- Construction management plan;
- Construction noise and vibration management plan;
- Noise mitigation measures;
- Aboriginal cultural heritage;
- European cultural heritage;
- Hazardous materials;
- Waste management guidelines;
- Wayfinding and signage;
- Site environmental assessment;
- BCA and building regulations;
- Bus route and bus stop locations;
- Green Travel Plan;
- Ecologically Sustainable Development;
- Crime prevention and public safety;
- Temporary accommodation;
- Geotechnical and structural engineering;
- Bushfire safety.

6.2 Demolition management plan

Demolition will be undertaken in accordance with the requirements of the relevant Australian Standard AS2601-2001. The demolition of structures is to be incorporated into the Occupational Health and Safety Act 2000 administered by Work Cover NSW.

A Hazardous Materials Management Plan will be prepared prior to demolition commencing.

The proponent commits to preparing a demolition management plan prior to the commencement of any demolition works on site. The demolition is to include measures to manage the following potential impacts:

- Demolition vehicle movements;
- Dust;
- Noise;

- Demolition waste including hazardous wastes;
- Site erosion and sediment control in accordance with “Managing Urban Stormwater (EPA, NSW) and Soil and Erosion Control (The Institution of Engineers Australia).

6.3 Construction management plan

The proponent commits to preparing a construction management plan prior to the commencement of any construction works on site. The plan will include:

- Construction hours;
- Air Quality/dust control procedures;
- Noise Management procedures;
- Waste Management Plan (including hazardous wastes, refer section ;
- Community safety plan;
- Storage and handling of materials;
- Environmental training and awareness;
- Contact and complaints handling procedures;
- Emergency preparedness and response;
- Location for disposal of fill; and
- Construction Traffic Management Plan including, but not limited to:
 - Construction vehicle movements and construction staff parking;
 - Arrangements for temporary pedestrian, bicycle, and vehicle access.

A preliminary Construction Management Plan is provided at **Appendix Y**.

6.4 Construction noise and vibration management plan

A Construction Noise and Vibration Management Plan (CNVMP) shall be prepared prior to the commencement of any construction works on site which will:

- Assess the likely noise and vibration emissions from construction activities occurring on site; and
- Recommend mitigation measures in order to comply with construction noise and vibration criteria.

6.5 Noise mitigation measures

Details of proposed noise mitigation measures for building services plant for environmental noise to be confirmed prior to issue of the Construction Certificate. The proposed noise mitigation measures are to be determined having regard to the Acoustic Assessment dated 4 June 2012.

6.6 Aboriginal cultural heritage

The proponent commits to ceasing all work immediately if any Aboriginal

archaeological relics are uncovered in the area where the relic is found. The proponent will contact the National Parks and Wildlife Service (NPWS) and comply with any requirements of the NPWS to cease work for the purpose of archaeological recording.

6.7 European cultural heritage

If any relics are uncovered during the course of the work, then all work shall cease immediately in that area and the NSW Heritage Office shall be contacted. Depending on the possible significance of the relics, an archaeological assessment and excavation permit under the NSW Heritage Act 1977 may be required before further works can continue in that area. The proponent shall comply with any requirement made by the NSW Heritage Office to cease work for the purpose of archaeological recording.

The location of significant trees to be transplanted is to be determined in consultation with the Council.

6.8 Hazardous materials

The proponent commits to update the table in Appendix 7.3 of the "Tamworth Hospital Disaster Plan" (dated 2008) to ensure that it reflects the new arrangements resulting from the hospital redevelopment in relation to mitigation of potential hazards within the hospital site.

6.9 Waste management guidelines

The proponent commits to review and update the Tamworth Hospital Waste Management Guidelines dated June 2004 to reflect the new facilities and layout of the hospital prior to Occupation.

6.10 Wayfinding and signage

A signage strategy is to be developed and implemented for the Hospital prior to Occupation.

6.11 Site environmental assessment

The Proponent commits to undertake a Phase 2 Soil Contamination Assessment across the site following the demolition of the existing structures and prior to the commencement of construction of the new buildings. With reference to the Phase 1 Contamination Assessment dated April 2012, the Phase 2 Soil Contamination Assessment is to include installation of groundwater and gas monitoring bores in the landfill, together with a gas monitoring bore between the landfill and the proposed basement excavation of the new Acute Services building.

6.12 BCA and building regulations

Prior to issue of a Crown Certificate, it will be demonstrated that the proposed development will achieve compliance with the performance provisions of the BCA in respect of:

- Exit travel distances;
- Compartment size;

- Smoke hazard management;
- Building access;
- Paths of travel;
- Protection of openings.

6.13 Bus route and bus stop locations

The proponent commits to determining the final bus route and bus stop locations in consultation with local bus operators and Tamworth City Council prior to Occupation.

6.14 New Hospital entry road

The urban design treatment of the shared zone at the new main entry drop off and pick up area will be determined in consultation with user groups and Tamworth Regional Council.

6.15 Green Travel Plan

The Proponent commits to preparing a Green Travel Plan for Tamworth Hospital.

6.16 Ecologically Sustainable Development

The Proponent commits to target a 4 star Green Star rating for the Acute Services building, however will not be formally certified against this rating tool.

6.17 Crime prevention and public safety

Carparks and external areas will be lit to appropriate Australian Standards for crime prevention and public safety.

Plantings in the carpark areas will be consistent with crime prevention and public safety principles.

6.18 Temporary accommodation

The Proponent commits to determining the location of temporary accommodation in consultation with user groups.

6.19 Geotechnical and structural engineering

The Proponent commits to carrying out inspections during excavation and construction to confirm that foundation materials agree with the recommendations of the Geotechnical Report at **Appendix J**.

6.20 Bushfire safety

The proponent commits to complying with the bushfire mitigation measures set out in the Bushfire Report at **Appendix F**.

7 Conclusion

This Project Application seeks approval for the Tamworth Hospital Redevelopment. The proposal involves the construction of a new Acute Services building with an overhead walkway to the existing Brudelin Building, along with excavation, demolition and early works to prepare the site for construction, new access and transport facilities including construction of a new hospital entry road from Dean Street, demolition of a number of buildings within the footprint of the Acute Services building and landscaping, as described in detail in this report. The hospital is located at 31 Dean Street, Tamworth, NSW.

This State Significant Development Environmental Impact Assessment has been prepared in accordance with the Director-General's Requirements provided at **Appendix B**, the attached drawings provided at **Appendix A**, and the additional plans and documentation provided at **Appendices C - Y**.

The proposed redevelopment will be beneficial to the Tamworth Hospital population catchment area, providing updated and improved health care facilities facilitating the health and wellbeing of the community. The proposed development will also enhance the workplace environment for staff.

The proposal is consistent with the objects of the EPA Act as a development that promotes the social welfare of the community and facilitates the orderly and economic use of land.

Given the benefits of the proposed hospital redevelopment, its importance to the management of healthcare to the local and regional community, and given that there are minimal environmental impacts on the locality, it is recommended by this report that the State Significant Development application be approved subject to the mitigation measures.