

Environmental Impact Statement State Significant Development SSD7058



Blacktown Hospital, Blacktown

Blacktown Hospital Redevelopment Stage 2 - Application for Concept Proposal and Construction Enabling Works

Submitted to Department of Planning and Environment
On Behalf of Health Infrastructure NSW

October 2015 ■ 15320

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Submitted Electronically under Separate Cover

Review of Environmental Factors for Demolition of Buildings, Roads and Services Diversions, and fit-out works for new Regional Renal Dialysis Centre

Statement of Validity

Development Application Details

Applicant name	Health Infrastructure NSW
Applicant address	Level 8, 77 Pacific Highway, North Sydney
Land to be developed	Lots 300, 301, 306, 308 DP15914, Lot 1 DP 128344, Lot 3 in DP71010 and Lot 1 in DP730307 known as 18 Blacktown Road, Blacktown.
Proposed development	This application seeks concept approval for a new Acute Services Building at Blacktown Hospital, and detailed consent for enabling works including bulk excavation and shoring as described in Section 3.0 of this Environmental Impact Statement.

Prepared by

Name	Kate Tudehope
Qualifications	BPlan (Hons) MPIA
Address	Level 7, 77 Berry Street, North Sydney
In respect of	State Significant Development - Development Application

Certification

I certify that I have prepared the content of this EIS and to the best of my knowledge:

it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000;

all available information that is relevant to the environmental assessment of the development to which the statement relates; and

the information contained in the statement is neither false nor misleading.

Signature



Name Kate Tudehope

Date 20/10/2015

Executive Summary

Purpose of this Report

This submission to the Department of Planning and Environment (the Department) comprises an Environmental Impact Statement (EIS) for a State Significant Development Application (DA) under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Stage 2 Enabling Works application comprises a Staged DA under Section 83B of the EP&A Act. It seeks concept approval for a new Acute Services Building (ASB) at Blacktown Hospital, and detailed consent for excavation and shoring works to accommodate the basement levels of the ASB.

Development for the purposes of hospitals, medical centres and health research facilities with a capital investment value of more than \$30 million is State Significant Development (SSD) for the purposes of the EP&A Act. As the proposed Stage 2 development will have a capital investment value of approximately \$380 million, it is SSD.

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was made on 12 May 2015. Accordingly, the SEARs were issued on 9 June 2015. This submission is in accordance with the Department's guidelines for SSD applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the SEARs.

Overview of the Project

The DA seeks staged development approval for the Stage 2 expansion of Blacktown Hospital, including concept approval for the envelope of the ASB and associated enabling works to facilitate the future building. More specifically, the proposal seeks approval for the following:

- Concept approval for approximately 40,000m² GFA for a new 10-storey (8-storeys above ground) ASB to accommodate a new emergency department, operating theatres, intensive care unit, birthing and specialty care nursery and new surgical and medical beds;
- Removal of redundant car parks, roads, kerbs and signage within the excavation zone;
- Removal of all redundant services;
- Demolition of portions of the existing main entry, and reconfiguration of the entry to maintain public, staff and emergency vehicle access at all times;
- Establishment of a new patient drop off zone in the eastern half of the P7 car park;
- Removal of the temporary roadway to the north of Bungarribee House;
- Bulk earthworks and shoring preparation for the construction of the new Acute Services Building;
- Bulk excavation of approximately 33,800m³ of material to a maximum depth of 8m; and
- Subterranean tunnel connections to the existing main hospital building and the Clinical Services Building.

The Site

The Blacktown Hospital campus is located approximately 1.2 km south-east of the Blacktown town centre and Blacktown Railway Station. The hospital is approximately 30 kilometres west of the Sydney CBD within the Blacktown LGA.

The site is located at 18 Blacktown Road, Blacktown and is legally described as Lots 300, 301, 306, 308 DP15914, Lot 1 DP 128344, Lot 3 in DP71010 and Lot 1 in DP730307.

Planning Context

Section 6.0 of the EIS considers all applicable legislation in detail. The proposal is consistent with the requirements of all relevant State Environmental Planning Policies. The site is zoned SP1 Special Activities (Health Facilities). The proposal is permissible with consent and meets the objectives of the subject zone.

Environmental Impacts and Mitigation Measures

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

Conclusion and Justification

The EIS addresses the SEARs, and the proposal provides for the significant extension and upgrade of key hospital services at Blacktown Hospital, a major component of the Western Sydney Local Health District. The potential impacts of the development are minor and are able to be managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning and Environment.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment (the Department) in support of an application for State Significant Development (SSD) for the staged development of a new Acute Services Building (ASB) at Blacktown Hospital under Section 83B of the EP&A Act. The proposal seeks concept approval for the envelope of the new ASB, and detailed consent for enabling works including excavation and shoring of the building footprint. A second SSD application will be lodged in early 2016 for the detailed design of the building and associated works as described below.

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) identifies development which is declared to be State Significant. Clause 14 of Schedule 1 of the policy provides that 'hospitals, medical centres and health research facilities' with a capital investment value (CIV) of \$30 million or more are identified as SSD and are considered to be of State significance. A CIV Statement has been prepared by RLB (refer to **Appendix G**). The Stage 2 redevelopment has a total Capital Investment Value (CIV) of approximately \$380 million.

The EIS has been prepared by JBA on behalf of Health Infrastructure NSW, the proponent, based on the Architectural Drawings provided by Jacobs Architects (see **Appendix A**) and Bulk Excavation Drawings prepared by Robert Bird Group (see **Appendix K**), as well as other supporting technical information appended to the report (see Table of Contents).

This report describes the site, its environs, the proposed development, and provides an assessment of the proposal in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued for the proposal (see **Appendix B**).

1.1 The Proposal

In March 2012 the NSW Premier and Minister for Western Sydney and the Minister for Health announced that the NSW Government would commit \$300 million to the expansion of Blacktown and Mt Druitt Hospitals.

The expansion program at the Blacktown Hospital campus is being undertaken across three (3) stages. Stage 1 involved the construction of the new Clinical Services Building, to be completed in early 2016. A separate Sub-acute Mental Health facility, a new multi-storey car park and refurbishment of the existing main hospital building have also been completed as part of Stage 1 (see **Section 1.2.2**). The works associated with Stage 2 of the hospital's redevelopment are outlined below. **Figure 1** outlines the location of the Stage 1 and 2 developments in relation to the broader campus.

1.1.1 Stage 2

The Stage 2 redevelopment will see the construction of a new 10 storey (8 storeys above ground) ASB adjacent to the Stage 1 site. The built form will comprise two separate tower forms and will contain:

- An Emergency Department;
- Operating Theatres;
- Intensive Care Unit;
- Birthing and Special Care Nursery; and
- Surgical and Medical Beds.

Associated Stage 2 works will include:

- Alterations to the existing main hospital building to complement the new Stage 1 and 2 buildings;
- An extended 'Hospital Street';

- A new main entry forecourt between the Stage 1 and 2 buildings;
- Expansion of the multi-deck car park to accommodate the Stage 2 development;
- Integrated landscaping plan for the whole campus; and
- Associated building services.

1.1.2 Stage 2 Concept Proposal and Enabling Works Package

This application seeks concept approval for the envelope of the new ASB, and detailed consent for enabling works associated with the Stage 2 redevelopment, referred to herein as the Stage 2 Enabling Works Package. The proposed works comprise:

- Concept approval for approximately 40,000m² GFA for a new 10-storey (8-storeys above ground) ASB to accommodate a new emergency department, operating theatres, intensive care unit, birthing and specialty care nursery and new surgical and medical beds;
- Removal of redundant car parks, roads, kerbs and signage within the excavation zone;
- Removal of all redundant services;
- Demolition of portions of the existing main entry, and reconfiguration of the entry to maintain public, staff and emergency vehicle access at all times;
- Establishment of a new patient drop off zone in the eastern half of the P7 car park;
- Removal of the temporary roadway to the north of Bungaribee House;
- Bulk earthworks and shoring preparation for the construction of the new Acute Services Building;
- Bulk excavation of approximately 33,800m³ of material to a maximum depth of 8m; and
- Subterranean tunnel connections to the existing main hospital building and the Clinical Services Building.

A separate SSD application will be submitted in early 2016 for the detailed design of the Stage 2 ASB building, as described in **Section 1.1.1**.



Figure 1 – Blacktown Hospital expansion program
 Source: Nearmap and JBA

1.2 Background

Blacktown Hospital is part of the Western Sydney Local Health District (WSLHD). The principal catchment population for Blacktown Hospital is Blacktown Local Government Area (LGA) and residents of bordering LGAs including Parramatta, Holroyd, Hawkesbury, Penrith and Fairfield.

The Blacktown Hospital campus is currently undergoing significant expansion to provide increased capacity and capability to meet expected population increases across the health region.

1.2.1 Objectives of the Project

Until recently, Blacktown and Mt Druitt Hospitals worked in clinical partnership, as one hospital on two campuses. The two hospitals now operate independently, with the realignment of services across both campuses achieving the following improvements in service delivery:

- Reduction in unnecessary duplication of services and enhancement of clinical networking arrangements; and
- Providing clear role differentiation including consolidation of acute adult medical services on the Blacktown campus, a reduction in patient complexity on the Mt Druitt campus to better match staff availability, and enhancement of selected services at Mt Druitt to create 'centres of excellence' for planned surgery, rehabilitation and paediatrics.

A Masterplan has been developed for the Blacktown campus. Key features of the Masterplan include:

- A new Acute Precinct located to the south of the existing hospital, at the centre of the site, comprising the nearly complete Clinical Services Building (CSB) to the east and the proposed ASB to the west;
- An east - west 'Hospital Street';
- A north - south pedestrian link connecting the hospital street to other precincts;
- Optimised re-use of the existing hospital for predominantly outpatient functions;
- A new multi-level carpark extension to the west of the Stage 1 multi-level carpark;
- Potential for education / research expansion above the existing stormwater retention basin;
- Provision for a parallel provider development zone to the north-west; and
- Capacity to relocate and expand Acute Mental Health, possibly in conjunction with other development.

The proposed development will assist in achieving the desired Masterplan outcome for the site.

1.2.2 Stage 1 Redevelopment

The Stage 1 redevelopment of Blacktown Hospital was approved by the delegate for the Minister for Planning on 21 December 2012.

The Stage 1 expansion at the Blacktown Hospital campus is nearing completion, and comprised:

- A new CSB of approximately 32,000m² constructed over 8 levels including 2 basement levels, five clinical services levels and a rooftop plant level and containing:
 - Approximately 185 inpatient beds (coronary care, cardiology, respiratory medicine, acute aged care, cancer, surgical day only, renal dialysis);
 - Comprehensive Cancer Care Centre (2 linear accelerators (with 3 bunkers + expansion), radiation therapy, medical oncology, outpatient clinics and clinical trials);
 - Additional outpatient clinics; and
 - Expansion of pharmacy and pathology.
- Alterations to the existing main hospital buildings to complement the new buildings and integrate services.
- An internal hospital street to join the new and existing buildings;
- Site landscaping providing an integrated landscape plan for the whole site;
- The provision of a new permanent access to the site from Blacktown Road;
- Additional parking and entry forecourts to the new building; and
- Associated building services.

A separate Sub-acute Mental Health facility and Multi-level car park have also been completed as part of Stage 1.

1.2.3 Works on Site

Various works on the hospital site have recently been authorised under *State Environmental Planning Policy Infrastructure 2007* (SEPP Infrastructure) as 'Development Without Consent'. A Review of Environmental Factors (REF) for a range

of works under Part 5 of the EP&A Act has been prepared, to enable campus-wide upgrades to various infrastructure and facilities. A copy of the REF is provided under separate cover.

The works authorised under the REF include:

- Reconfiguration of the hospital's internal loop road.
- Temporary road works to the north of Bungaribee House to enable access to car parking areas during the loop road works.
- Installation of a temporary footpath to the entry of the Oncology Building for pedestrian access during the loop road works and the establishment of a temporary main hospital drop off.
- Temporary works to car park P7 to manage the circulation of pedestrians, public buses and vehicles during the loop road works.
- Lowering and reconfiguring of the western portion of the loop road, including retaining walls and services for the provision of a fit-for-purpose road and services solution.
- Demolition of the Regional Renal Dialysis Centre (RRDC) and Oncology Buildings including car parks and access roads.
- Works to the existing Administration Building to accommodate a new RRDC, including:
 - Refurbishment of Level 2 and part of Level 3 including new internal walls, doors, ceilings, finishes, fixtures and fittings within the existing building envelope;
 - External works to upgrade the existing loading dock and car park to provide an upgraded drop off and circulation space; and
 - External and internal services upgrades to enable operation of the new RRDC.
- Diversion and upgrade of existing services including:
 - Hydraulic services;
 - Fire services;
 - Electrical service;
 - Information communication services;
 - Security services; and
 - Stormwater services.
- Removal of 48 trees to facilitate the proposed works.

The REF has enabled critical improvements to hospital infrastructure and accessibility in and around the hospital. The above works are anticipated to be completed by early 2016. These works will therefore be in place before the commencement of the Stage 2 Enabling Works Package.

1.3 Analysis of Alternatives

1.3.1 Strategic need for the Proposal

As discussed in **Section 1.2** Blacktown Hospital is expanding to ensure the hospital can continue to meet service delivery obligations for the rapidly growing health region. A comprehensive review of the scope of health services was previously undertaken, with the current option including Stage 1 and 2 selected as the most functional, efficient and cost effective approach to the expansion of the campus.

1.3.2 Alternative Options

Three options are available to Health Infrastructure NSW in responding to the identified need for the redevelopment of their facilities.

Option 1 - The Proposal

Option 1 involves undertaking the proposed redevelopment as outlined in this SSD DA (as described in **Section 3.0**). The proposal will allow enabling works to be undertaken to facilitate the efficient construction of a high quality building on the site that responds to the strategic need identified above.

Option 2 - Do Nothing

The proposal will reduce duplication of health services between the Mount Druitt and Blacktown Campus. Under the 'do nothing' scenario health services in the western region would remain inefficient and would not allow key services to be delivered. Not undertaking the work would not be an appropriate outcome for a project of this nature, which will facilitate much-needed health infrastructure for Western Sydney and the broader region.

Option 3 – Alternative Designs

Health Infrastructure NSW has explored a number of options for the location and layout of the new facility during the concept design phase. Options for the expansion of Blacktown campus were driven by implementation of the following framework design principles:

- Providing good hospital identity and clear wayfinding;
- Acknowledging existing site levels and identify platforms;
- Appropriately locating services on the site;
- Acknowledging surrounding residential areas;
- Identifying a long term strategy for circulation;
- Creating opportunity, renewal and buffer zones;
- Creating future proofing opportunities;
- Integrating ESD principles;
- Integrating community zones (cafes and meeting points); and
- Integrating green zones.

A number of broad options were considered for the expansion of the campus, including: an expansion of the existing main hospital building, development of the land south of the existing main building, and development of the centre of the campus (east to west) immediately south of the main building. The east – west development option was considered to be the most appropriate way of meeting the development principles outlined above.

1.4 Secretary's Requirements

In accordance with Section 89G of the EP&A Act, the Secretary of the Department of Planning and Environment issued the requirements for the preparation of the EIS on 9 June 2015. A copy of the SEARs is included at **Appendix B**.

The SEARs require that the EIS must include the documents listed in Schedule 1 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) and must meet the requirements of Schedule 2 of the Regulation, specifically the form specifications in Clause 6 and the content specifications in Clause 7. **Table 1** provides a summary of the individual matters listed in the SEARs and identifies where these requirements are addressed in this report and the accompanying technical studies.

Table 1 – Location of SEAR's Requirements in the EIS

Secretary's Requirement	Location in Report	
General Requirements	Report	Appendix
The Environmental Impact Statements (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the <i>Environmental Planning and Assessment Regulation 2000</i>. Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: - adequate baseline data; - consideration of potential cumulative impacts due to other development in the vicinity; and - measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	This report	-
The EIS must be accompanied by: - a detailed CIV; and - an estimate of the jobs that will be created by the future development during the construction and operational phases of the development.	Section 1.0 Section 3.10 Section 5.5.4	Appendix G -
Key Issues	Report	Appendix
Statutory and Strategic Context		
State Environmental Planning Policy (State & Regional Development) 2011;	Section 5.1	-
State Environmental Planning Policy (Infrastructure) 2007;	Section 5.1	-
State Environmental Planning Policy No.55 – Remediation of Land; and	Section 5.1	-
Relevant Local Environmental Plan and any draft Local Environmental Plan.	Section 5.1	-
Permissibility Detail the nature and extent of any prohibitions that apply to the development.	Section 5.1, 5.1.1	-
Contamination Demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.	Section 5.1, 5.9	Appendix H
Relevant Policies and Guidelines: Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)	Section 5.1, 5.9	Appendix H
Policies and Guidelines - Address the relevant planning provisions, goals and strategic planning objectives in the following: - NSW 2021;	Section 5.1	-
A Plan for Growing Sydney;	Section 5.1	-
NSW Bike Plan;	Section 5.1	Appendix D
Planning Guidelines for Walking and Cycling;	Section 5.1	Appendix D
Integrating Land Use and Transport Policy Package; and	Section 5.1	Appendix D
Healthy Urban Development Checklist, NSW Health	Section 5.1	Appendix D
Built Form and Urban Design		
Establishment of appropriate development controls within the context of the locality including: - site layout; - gross floor area; - building footprints; and - height and massing/building envelopes.	Section 3.3, 5.2	Appendix A Appendix K

Secretary's Requirement	Location in Report	
Indicative plans and elevations for the concept proposal to detail design, height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography and streetscape	-	
Amenity		
Preliminary analysis of perceived amenity impacts including overshadowing, privacy and analysis of significant views and vistas that would be impacted by the concept proposal	Section 5.3	Appendix A
Transport and Accessibility		
The Traffic and Transport Assessment for the concept proposal should address, but is not limited to, the following: existing traffic and parking conditions, including peak and daily vehicle, public transport, pedestrian and bicycle movements, and performance of the intersections located adjacent to the hospital, including the following intersections: o Marcel Crescent/Blacktown Road/Main Street/Griffiths Street;	Section 5.5	Appendix D
- Blacktown Road/Wall Park Avenue/Prospect Highway; - Bungaribee Road/Panaorama Parade/Lock Street; and - Bungaribee Road/Prospect Highway/Leabons Lane;	Section 5.5	
daily and peak vehicle, public transport, pedestrian and bicycle movements to be generated by the development;	Section 5.5	
assessment of the impacts on above intersections and the transport network and any measures to mitigate the impacts, having regard to local planning controls;	Section 5.5	
access arrangements for vehicles, public transport, pedestrians and bicycles to and within the site;	Section 3.8, 5.5	
delivery, servicing and loading arrangements, including details of service vehicle movements;	Section 3.8, 5.5	
pedestrian and bicycle linkages to and within the site and any required upgrades to meet likely future demand; and	Section 3.8	
access arrangements for emergency vehicles.	Section 3.8	
→ Relevant Policies and Guidelines: - Guide to traffic generating development (RMS) - Planning guidelines for walking and cycling - EIS Guidelines – road and related facilities (DP&I)		
Staging		
Details regarding the staging of the proposed development	Section 3.10	Appendix A
Ecologically Sustainable Development (ESD)		
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.	Section 3.12, 5.13	-
Aboriginal Heritage		
Address Aboriginal heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, if relevant.	Section 5.4	Appendix J
Utilities		
In consultation with relevant agencies, address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure through the preparation of an Infrastructure Management Plan.	Section 3.9, 5.6	Appendix E
Prepare an Integrated Water Management Plan detailing any proposed alternative water supply, proposed end users of potable and non-potable water, demonstration of water sensitive urban design and water conservation measures.	Section 5.6	
Contributions		
Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.	Section 5.1.3	-

Secretary's Requirement	Location in Report	
Drainage		
Provide details of the drainage associated with the proposal, including stormwater, drainage infrastructure and OSD, which shall be designed in consultation with Council and must avoid any adverse impacts on downstream properties.	Section 5.6	Appendix E
→ Relevant Policies and Guidelines:	-	
- Engineering Guide for Development 2005 (Blacktown City Council) - Construction Enabling Works (part of first stage)	-	
Transport and Accessibility		
Detail access arrangements for the first stage of construction and measures to mitigate any associated pedestrian, cycleway or traffic impacts.	Section 5.5	Appendix D
Details regarding car parking arrangements during first stage of construction, including the displacement of visitor and patient car parking.	Section 3.8, 5.5	
Alternative off-site arrangements should be made for staff and construction workers.	Section 5.5	
→ Relevant Policies and Guidelines: Guide to traffic generating developments (RMS)	Section 5.5	
Noise		
Identify and provide a quantitative assessment of the main noise and vibration generating sources and activities during the first stage of construction. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.	Section 5.12.1	Appendix I
→ Relevant Policies and Guidelines: - NSW Industrial Noise Policy (EPA) - Interim Construction Noise Guideline (DECC) - Assessing Vibration: A Technical Guideline 2006	-	
Waste		
Preparation of a Waste Management Strategy that identifies, quantifies and classifies the likely waste streams to be generated during the first stage of construction works and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Section 5.12.2	Appendix L
Plans and Documents		
The EIS's must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS's rather than as separate documents.	This report	-
Architectural drawings (dimensioned and including RLs);	-	Appendix A Appendix K
Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries;	-	Appendix C
Site Analysis Plan;	-	Appendix A
Pedestrian and Vehicle Circulation Plan, including signage details;	-	Appendix A
Stormwater Concept Plan;	-	Appendix E
Sediment and Erosion Control Plan for each stage of construction works;	-	Appendix E
Shadow Diagrams;	Section 5.3.1	Appendix A
View Analysis / Photomontages;	Section 5.3.2	Appendix A
Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted, retaining walls and fences);	-	-
Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan that includes vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures during each stage of construction;	Section 5.12	Appendix M

Secretary's Requirement	Location in Report	
▪ Geotechnical and Structural Report;	Section 5.7	Appendix H
▪ Arborist Report (if development includes tree removal);	-	-
▪ Acid Sulphate Soils Management Plan (if required); and	Section 5.10	Appendix H
▪ Schedule of External Materials and Finishes (where building works are proposed).	-	-
Consultation		
During the preparation of the EIS's, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with ▪ Blacktown City Council, ▪ Transport for NSW and ▪ Roads and Maritime Services. The EIS's must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided	Section 4.0	Appendix F

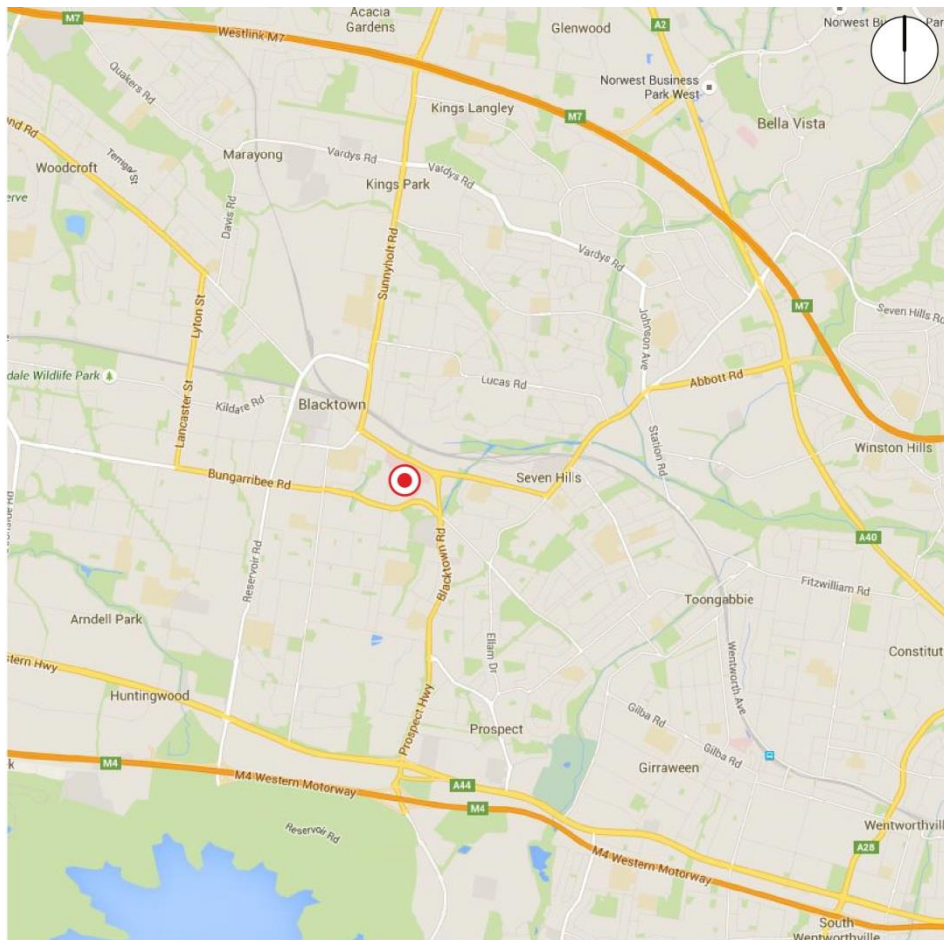
2.0 Site Analysis

2.1 Site Location and Context

The Blacktown Hospital campus is located approximately 1.2 km south-east of the Blacktown town centre and Blacktown Railway Station. The hospital is approximately 30 kilometres west of the Sydney CBD within the Blacktown LGA. The site's locational context is shown at **Figure 2**.

The campus is approximately 13 hectares in area and has street frontages to Blacktown Road to the north and Marcel Crescent / Panorama Parade to the west.

An aerial photograph of the hospital campus is shown at **Figure 3**.



 The Site

Figure 2 – Locational Context
Source: Google Maps and JBA



Site

Figure 3 – Aerial photograph of Blacktown Hospital
Source: Nearmap and JBA

2.2 Land Ownership

The site is located at 18 Blacktown Road, Blacktown and is legally described as Lots 300, 301, 306, 308 DP15914, Lot 1 DP 128344, Lot 3 in DP71010 and Lot 1 in DP730307.

2.3 Site Description

2.3.1 Existing Development

The hospital campus was first developed in the 1960s, before being redeveloped and expanded in the 1990s. The main hospital functions are generally accommodated in the existing 4-storey main building located across the northern part of the campus (**Figure 4**). As detailed at **Section 2**, the hospital campus is expanding, with construction of a new 6-storey CSB immediately to the south of the main building nearing completion (**Figure 5**). At-grade parking and an internal road system are located adjacent to the main hospital building and new CSB at the centre of the campus (**Figure 6**) with a newly completed 4-storey car park located further south (**Figure 7**). A number of at-grade car parks are located across the southern portion of the campus.

In addition to these two main buildings, a number of smaller low-rise buildings operating for a number of health related and ancillary uses are located around the periphery of the campus, including:

- Ambulance Centre;
- University of Western Sydney;
- Regional Renal Dialysis Centre;
- Oncology Unit;
- Bungaribee House Psychiatric Unit;
- Melaleuca Mental Health Unit; and
- Administration Centre.

Photographs of the broader campus development are provided at **Figures 8 - 14**.

The site of the future ASB is currently occupied by the P7 car park, the Regional Renal Dialysis Centre and Oncology Unit. As detailed in **Section 1.2.3** a number of works were approved under the REF authorisation. The works included the removal of all trees within the proposed Stage 2 site, as well as the existing Renal and Oncology buildings and decommissioning of existing parking spaces. Accordingly the proposed Stage 2 site will be cleared of vegetation and significant structures prior to the commencement of the proposed works.



Figure 4 – Main hospital building - viewed from Blacktown Road
Source: JBA



Figure 5 – New 6 storey CSB building
Source: JBA



Figure 6 – At grade car park fronting the main hospital entrance
Source: JBA



Figure 7 – New multi-storey car park building
Source: JBA



Figure 8 – Ambulance Centre
Source: JBA



Figure 9 – University of Western Sydney building
Source: JBA



Figure 10 – Regional Renal Dialysis Centre (subject to demolition as part of a REF application)
Source: JBA



Figure 11 – Oncology Unit (subject to demolition as part of a REF application)
Source: JBA



Figure 12 – Bungarribee House Psychiatric Unit
Source: JBA



Figure 13 – Melaleuca Mental Health Unit
Source: JBA



Figure 14 – Administration Building (subject to reuse as a new Renal Centre under a REF application)
Source: JBA

2.3.2 Topography

The site falls from a high point of RL72m in the south to RL55m in the north near Blacktown Road. At Blacktown Road the topography varies from a low point near Marcel Crescent in the west, of RL44m, to RL55m to the east. This gives a general height variation of approximately 22-28m across the site. A Survey Plan prepared by Cardno is provided at **Appendix C**.

2.3.3 Road Network, Vehicular Access and Parking

The main vehicular access point to the hospital campus is via Marcel Crescent at the intersection with Panorama Parade. An internal loop road runs from the main access point to a left in, left out access point at Blacktown Road in the east of the campus. Service and delivery vehicles have direct access from Blacktown Road to the main hospital building.

Car parking is provided at a number of locations across the campus, including at-grade car parks and a multi-story parking facility. Additional on-street parking is available in the surrounding street system, with unrestricted parking in Marcel Crescent and Panorama Parade.

2.4 Surrounding Development

- **To the north** – on the northern side of Blacktown Road lies a mix of uses comprising multi-unit residential development (**Figure 15**), motor showroom and commercial development.
- **To the north-east** – the site adjoins two dwelling houses accessed from Lacey Place and one dwelling house accessed from Blacktown Road. Other properties in this area are residential.
- **To the east** – the site has an irregular boundary and adjoins a large townhouse development comprising 2-storey brick townhouses with 26 townhouses and associated garden spaces adjoining the common boundary with the site (**Figure 16**).
- **To the south** – the site adjoins land used by Uniting Care for seniors housing and church purposes including 2 and 3-storey aged care units with associated open spaces.
- **To the west** – the site adjoins the rear boundaries of a row of approximately 15 dwelling houses (or dual occupancies) fronting Panorama Parade (**Figure 17**).
- **To the north-west** – adjacent to Marcel Crescent are residential uses and special uses including the Salvation Army.



Figure 15 – Residential Development on the northern side of Blacktown Road
Source: JBA



Figure 16 – Adjoining townhouse development to the east
Source: JBA



Figure 17 – Development on Panorama Parade to the west
Source: JBA

3.0 Description of the Development

This Section of the report provides a detailed description of the proposed development. Architectural Drawings and Bulk Earthworks Drawings are included at **Appendix A** and **Appendix K**, respectively.

3.1 Staged Development

As outlined in **Section 1**, Blacktown Hospital is currently undergoing an extensive, staged expansion program. Stage 1 involves the construction of the new CSB, and is now nearing completion. A separate Sub-acute Mental Health facility and a new multi-storey car park have also been completed as part of Stage 1.

3.1.1 Stage 2

The Stage 2 redevelopment will see the construction of a new 10 storey (8 storeys above ground) ASB adjacent to the Stage 1 site. The built form will comprise two separate tower forms and will contain:

- An Emergency Department;
- Operating Theatres;
- Intensive Care Unit;
- Birthing and Special Care Nursery; and
- Surgical and Medical Beds.

Associated Stage 2 works will include:

- Alterations to the existing main hospital building to complement the new Stage 1 and 2 buildings;
- An extended 'Hospital Street';
- A new main entry forecourt between the Stage 1 and 2 buildings;
- Expansion of the multi-deck car park to accommodate the Stage 2 development;
- Integrated landscaping plan for the whole campus; and
- Associated building services.

3.1.2 Stage 2 Concept Proposal and Enabling Works Package

This application seeks concept approval for the envelope of the new ASB, and detailed consent for enabling works associated with the Stage 2 redevelopment. The proposed works comprise:

- Concept approval for approximately 40,000m² GFA for a new 10-storey (8-storeys above ground) ASB to accommodate a new emergency department, operating theatres, intensive care unit, birthing and specialty care nursery and new surgical and medical beds;
- Removal of redundant car parks, roads, kerbs and signage within the excavation zone;
- Removal of all redundant services;
- Demolition of portions of the existing main entry, and reconfiguration of the entry to maintain public, staff and emergency vehicle access at all times;
- Establishment of a new patient drop off zone in the eastern half of the P7 car park;
- Removal of the temporary roadway to the north of Bungaribee House;

- Bulk earthworks and shoring preparation for the construction of the new Acute Services Building;
- Bulk excavation of approximately 33,800m³ of material to a maximum depth of 8m; and
- Subterranean tunnel connections to the existing main hospital building and the Clinical Services Building.

No tree removal is proposed as part of this SSD application.

The indicative massing of the new ASB is shown at **Figure 18**.



Figure 18 – Indicative building massing – view from the south-west
Source: Jacobs Architects

3.2 Development Principles

The planning and design principles adopted for the ASB are as follows. The future building will:

- Achieve adjacency between key acute services;
- Provide a clinical planning solution that is operationally efficient;
- Ensure the design represents best-practice ideas for delivery of contemporary health care buildings; and
- Reinforce the vision of the hospital campus.

3.3 Concept Building Envelope

The proposed ASB building is located over 10 storeys, two (2) of which are below ground and being approximately 40,000m² GFA. The built form includes a seven (7) storey rectangular podium at the base, surrounding a central courtyard. The central courtyard will ensure adequate daylight to the centre of the building.

Above the podium are two tower forms (the east and west tower) for inpatient units. The two towers are connected by an east – west wing along the northern side of the building, referred to as the 'service bar'. The towers extend south from the service bar with the west tower rising two (2) storeys above the podium while the east tower extends three (3) storeys above the podium, with a further level for plant above.

This application does not seek approval for any physical works to construct the ASB building, and only seeks approval for the indicative building envelope. Accordingly, external finishes and materials are yet to be finalised. These will be submitted as part of the future application for the detailed design of the ASB in early 2016.

The indicative building envelope is shown at **Figure 19**.

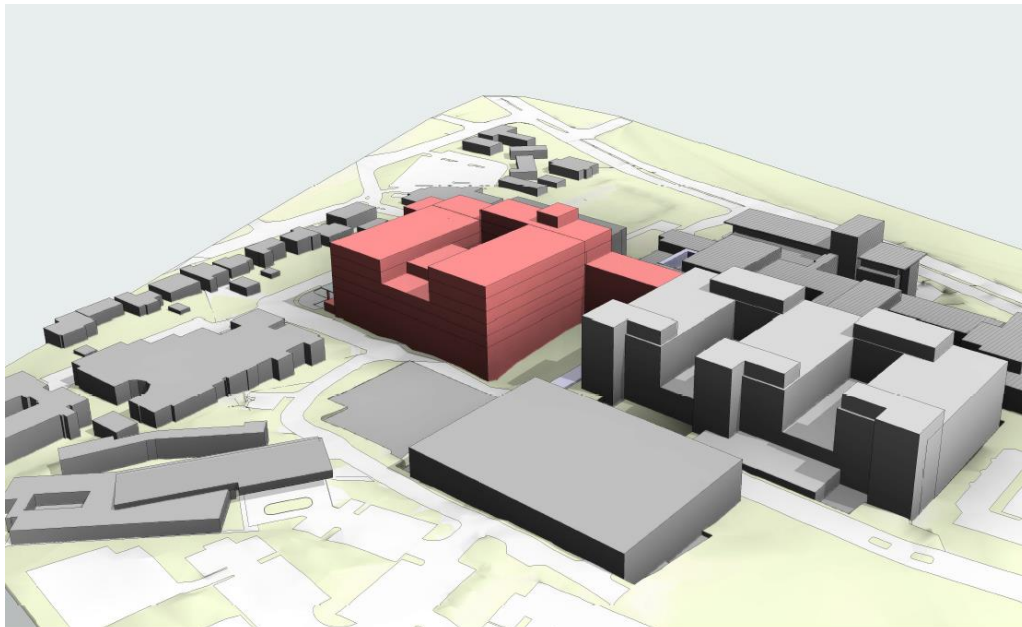


Figure 19 – Indicative building massing – view from the south-east

Source: Jacobs Architects

3.4 Enabling Works

3.4.1 Site Preparation and Bulk Earthworks

Prior to the commencement of excavation works, the site will be cleared of remaining structures, internal roads, car parks and kerbs.

To accommodate the two basement levels, bulk excavation works will be undertaken for the entire footprint of the new ASB to a depth of RL 54.8. This level aligns with the existing ground level at the western boundary of the future building, and will ultimately form the western entrance to Level 2 of the ASB for the future emergency department. In addition, partial excavation is required to a depth of RL 50.6 to accommodate Level 1 of the ASB. Level 1 will house plant, supporting functions and links to the existing main and Stage 1 buildings.

It is estimated that the excavation works will require the removal of approximately 33,800m³ of material. Redundant service pipes and conduits, including water mains, sewer mains, pneumatic tubes, stormwater pipes, electrical and communications conduits and fire water mains associated with existing infrastructure on site will also be removed as part of the bulk excavation works.

3.4.2 Basement Shoring

As detailed above, the future ASB will have two levels below the existing ground level and will require excavation to different levels across the site. Due to the varying depth across the site, and the depth of the proposed excavation, the proposed retaining system around the footprint of the building will consist of a combination of:

- Contiguous piles;
- Soldier piles with infill panels; and

- Temporary earth batters.

Temporary anchors will be adopted as required, to provide horizontal restraint to the piled walls prior to construction of the building's permanent slabs.

3.4.3 Service Tunnels

Service tunnels will connect the future ASB (Stage 2) with the new CSB (Stage 1) and the existing main hospital building. This will require the excavation and construction of subterranean tunnel connections below the existing slab and around the existing foundations of the main building and CSB.

It is proposed to install a shotcrete wall system for the tunnels. In some areas existing pile foundations conflict with the layout of the proposed tunnel excavation. A temporary works methodology and conceptual construction sequence has been developed which involves the structural strengthening of the existing slab to enable existing piles to be demolished or reconfigured. Excavation and installation of the shotcrete will be carried out in stages.

3.5 Infrastructure and Services

Comprehensive services and infrastructure upgrades were undertaken across the campus as part of the REF works. These works took the proposed development into consideration, and are capable of servicing the new building.

The following works were carried out under the REF authorisation.

Hydraulic Services

New in-ground potable water, hydraulic and fire services with connections to existing supplies and existing and new buildings have been installed within limited areas of the hospital campus and included:

- Diversion of sewer pipes servicing Bungarribee House, the sub-acute mental health building, multi-level car park and new CSB will be diverted along the proposed loop road extension;
- Capping of the sewer pipes servicing the existing RRDC and Oncology Buildings;
- Diversion of potable cold water and tank water supply along the loop road extension and capped for future connection;
- Diversion of natural gas services along the loop road extension and capped for future connection and installation of in-ground natural gas service pipework;
- Extension of fire hydrant and fire sprinkler services along the new loop road and capped for future connection;
- Construction of a new fire hydrant line connecting to the existing service north of the existing UWS building; and
- Diversion of the automatic smoke detection and alarm evacuation system loop cabling which will run around the loop road extension.

Electrical, Information Communication Technology and Security Services

Existing electrical services were upgraded to ensure continued supply of essential services to Blacktown Hospital. These works included:

- Diversion of the existing 11kV Endeavour Energy feeder cable which enters the western side of the campus at Marcel Crescent, including:
 - Installation of a new Telstra pit, conduit system and fibre optical cables; and
 - Installation of a new pit, conduit system, fibre optical and copper cables for information communication technology backbone cabling.

Stormwater

New stormwater drainage and detention services and upgrades to existing facilities have been carried out in order to comply with the relevant Australian Standards, Blacktown City Council and Austroads standards. The stormwater works included:

- Diversion of stormwater pipes around the Stage 2 ASB using the proposed road works extents; and
- Reconstruction of the detention basin to a combined detention and bioretention basin to meet current Water Sensitive Urban Design (WSUD) standards including the requirements of Blacktown City Council.

Robert Bird Group has prepared an Integrated Water Management Report, confirming that the site has adequate stormwater capacity and infrastructure to service the proposed ASB development. Further detail is provided at **Appendix E** and **Section 5.6**.

3.6 Landscaping and Public Domain

No landscaping or public domain works are proposed as part of the Stage 2 Enabling Works Package. Landscaping and public domain works will form part of the future application for the detailed design of the ASB.

3.7 Car Parking and Access

Authorisation was granted for a series of road and access upgrades as part of the REF application. This application does not seek to undertake any works that will alter the amount of parking at the hospital.

3.7.1 Car Parking

As detailed at **Section 1.2.3**, various works on the hospital site have recently been authorised under SEPP Infrastructure as 'Development Without Consent'. The modification to the eastern half of the P7 car park has resulted in the loss of 26 spaces. A further 40 spaces have been decommissioned from the existing Bungarribee House, RRDC and Oncology car parks. No further parking loss is proposed as part of the Stage 2 Enabling Works Package, however the redundant spaces within the development site will be physically removed as part of the proposed works.

Based on the above, there are currently 1,184 parking spaces available across the campus. This includes approximately 562 at-grade car parking spaces, and a new multi-storey car park providing an additional 622 spaces.

Notwithstanding this, at the completion of the Stage 1 works (when the construction compound on the hospital's eastern boundary will be returned to at-grade parking) there will be 1,254 spaces available on the campus. This comprises 632 at-grade car parking spaces and the 622 spaces in the multi-storey car park.

An assessment of the proposed parking arrangements is provided at **Section 5.5**.

3.7.2 Vehicular Access

Campus-wide road upgrades and realignments have been undertaken as part of the REF works. The upgrades ensure that the internal road network provides improved vehicular access arrangements with a loop that will utilise the existing internal road network connecting with Marcel Crescent / Panorama Parade and Blacktown Road. Following the completion of the loop road, public buses will enter the hospital at Panorama Parade and exit at Blacktown Road.

The ambulance bay for the main building is currently accessed from Panorama Parade. The road upgrade works under the REF will have no impact on existing access

arrangements for ambulance vehicles. The ambulance station will not be decommissioned as part of the proposed development.

Service vehicles and deliveries will continue to utilise a dedicated service entry off Blacktown Road and the loading dock at the main hospital building.

3.7.3 Pedestrian Access

Pedestrian footpaths and access routes were upgraded as part of the REF works. These upgraded connections provide safe pedestrian linkages along the internal road and to the main car parking area. These connections will enable access to existing and new buildings within the hospital campus.

ARUP has undertaken an assessment of the parking and access arrangements in the Transport and Accessibility Study at **Appendix D** and **Section 5.5**.

3.8 Development Staging and Job Generation

The development will be constructed within the environment of an operating hospital. Separate to this application Health Infrastructure NSW has undertaken an upgrade of the hospital's internal road network to enable improved transport circulation. The work includes relocation of utilities and services to clear land for future redevelopment by the hospital, as required.

While these works are separate to this application, the reconfigured road network and services and utilities diversions will ensure access to the hospital is maintained and services are protected, ensuring the ongoing operation of the hospital. The works will commence in October 2015 and are expected to be complete by March 2016.

It is anticipated that the Stage 2 Enabling Works Package subject to this application will commence in April 2016, and will be complete by December 2016.

Approval for the detailed design of the ASB will be sought in early 2016, with the main construction works expected to begin in December 2016, following the completion of the enabling works program. The ASB is expected to be operational in 2018.

The Stage 2 Enabling Works will generate approximately 60 jobs during the construction process. Approximately 400 operational jobs will be created at the completion of the new ASB.

3.9 Hours of Construction

The following hours of construction are proposed, consistent with the Stage 1 SSD approval:

- Monday to Friday: 7:00am – 6:00pm.
- Saturdays: 8:00am – 5:00pm.
- Sundays and Public Holidays: No work.

3.10 Environmentally Sustainable Development

The Stage 2 Enabling Works Package has incorporated Environmentally Sustainable Development (ESD) strategies and principles as defined in clause 7(4) of Schedule 2 of the EP&A Regulations, where appropriate to the scope of the development.

The environmental performance of the ASB building will be assessed at detailed design stage using the NSW Health's Engineering Services and Sustainable Development Guidelines (TS11) and Section J - Energy Efficiency of the Building Code of Australia 2010.

In particular, the proposal will achieve ESD principles on an integrated design process with the intention of delivering:

- Lower operating costs for energy, water, waste and maintenance;
- Improved indoor Environmental Quality;
- Extended life through inherent flexibility and 'future-proofing'; and
- Electrical services with efficient lighting, lighting control and energy metering.

The ESD initiatives and principles will be further developed during the design and the operation of Stage 2 building works.

4.0 Consultation

In accordance with the SEARs, consultation has been undertaken with Blacktown City Council, Transport for NSW and Roads and Maritime Services (RMS). No significant issues were raised during the course of this consultation.

Agency Consultation

A meeting has been held with Council's Coordinator of Traffic Management. At this meeting, Council reiterated concerns about overflow car parking on nearby streets. Health Infrastructure NSW intends to provide adequate parking on the site to accommodate all staff and visitors as part of the future Stage 2 development, however, it is acknowledged that the hospital is unable to stop staff and visitors who choose to avoid the on-site parking fees from parking on-street.

As documented in the Transport and Accessibility Study, ARUP has also undertaken consultation with Transport for NSW and RMS. RMS has been contacted regarding the extent of the traffic modelling, and Transport for NSW has been contacted to discuss the travel initiatives being proposed as part of the site travel plan and the public transport accessibility of the site. The outcomes of this consultation are reflected in ARUP's study.

In addition to the consultation carried out around traffic and parking, a formal meeting is scheduled in October 2015 between Health Infrastructure NSW and the General Manager of Blacktown City Council in order to provide a status update of the project including design progress, and proposed staging. This is in addition to the regular consultation that occurs between the Blacktown and Mt Druitt Hospital General Manager and Blacktown City Council.

Community Consultation

Health Infrastructure NSW has undertaken ongoing consultation and engagement with the local community regarding the future Stage 2 development. The community consultation and engagement strategy has comprised:

- An online survey;
- A project website which is regularly updated;
- Newspaper and media announcements; and
- Project fact sheets for public displays and exhibitions.

A communication and engagement statement has been prepared by Blacktown Hospital (**Appendix F**) which elaborates on the above engagement activities.

Further, the proposed development will be placed on public exhibition for 30 days in accordance with Cause 83 of the Regulation. During the public exhibition period Council, State agencies and the public will have an opportunity to make submissions on the project.

5.0 Environmental Assessment

This Section contains our assessment of the environmental effects of the proposed development as described in the preceding chapters of this report.

Under Section 79C(1) of the EP&A Act, in determining a development application the consent authority has to take into account a range of matters relevant to the development including the provisions of environmental planning instruments, impacts on the built and natural environment, the social and economic impacts of the development, the suitability of the site, and whether the public interest would be served by the development.

5.1 Compliance with Relevant Strategic and Statutory Plans and Policies

The following legislation, planning instruments and strategies are relevant to the proposed development and have been addressed:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP);
- *State Environmental Planning Policy (Infrastructure) 2007* (SEPP Infrastructure);
- *State Environmental Planning Policy 55 – Remediation* (SEPP 55);
- *Blacktown Local Environmental Plan 2015* (BLEP 2015);
- Blacktown Development Control Plan 2015;
- NSW 2021;
- A Plan for Growing Sydney;
- NSW Bike Plan;
- Planning Guidelines for Walking and Cycling;
- Integrating Land Use and Transport Policy Package; and
- Healthy Urban Development Checklist, NSW Health.

The DA's consistency and compliance with the relevant strategic and statutory plans and policies is outlined in **Table 2** below. Variations to, and non-compliances with, the key standards and guidelines highlighted in the table are discussed in detail in the following sections of this environmental assessment.

Table 2 – Summary of consistency with key strategic and statutory plans and policies

Instrument/Strategy	Comments
State Legislation	
EP&A Act	The proposed development is consistent with the objects of the EP&A Act, in particular: ■ it promotes the social welfare of the community; ■ it allows for the orderly and economic development of land; and ■ it is development for public purposes and will facilitate the delivery of community services. The proposed development is consistent with Division 4.1 of the EP&A Act, particularly for the following reasons: ■ the development promotes medical services and stimulates social welfare of the community; and ■ the development has been evaluated and assessed against the relevant heads of consideration under Section 79C.

Instrument/Strategy	Comments																																					
EP&A Regulation	The EIS has addressed the specification criteria within Clause 6 of Schedule 1. Similarly, the EIS has addressed the principles of ecologically sustainable development (refer to Section 3.12). Clause 7(1)(d)(v) of Schedule 2 is addressed below. <table><tr><th>Act</th><th>Approval Required</th></tr><tr><td colspan="2">Legislation that does not apply to State Significant Development</td></tr><tr><td>Coastal Protection Act 1979</td><td>N/A</td></tr><tr><td>Fisheries Management Act 1994</td><td>N/A</td></tr><tr><td>Heritage Act 1977</td><td>N/A</td></tr><tr><td>National Parks and Wildlife Act 1974</td><td>N/A</td></tr><tr><td>Native Vegetation Act 2003</td><td>N/A</td></tr><tr><td>Rural Fires Act 1997</td><td>N/A</td></tr><tr><td>Water Management Act 2000</td><td>N/A</td></tr><tr><td colspan="2">Legislation that must be applied consistently</td></tr><tr><td>Fisheries Management Act 1994</td><td>No</td></tr><tr><td>Mine Subsidence Compensation Act 1961</td><td>No</td></tr><tr><td>Mining Act 1992</td><td>No</td></tr><tr><td>Petroleum (Onshore) Act 1991</td><td>No</td></tr><tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr><tr><td>Roads Act 1993</td><td>No</td></tr><tr><td>Pipelines Act 1967</td><td>No</td></tr><tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr></table>		Act	Approval Required	Legislation that does not apply to State Significant Development		Coastal Protection Act 1979	N/A	Fisheries Management Act 1994	N/A	Heritage Act 1977	N/A	National Parks and Wildlife Act 1974	N/A	Native Vegetation Act 2003	N/A	Rural Fires Act 1997	N/A	Water Management Act 2000	N/A	Legislation that must be applied consistently		Fisheries Management Act 1994	No	Mine Subsidence Compensation Act 1961	No	Mining Act 1992	No	Petroleum (Onshore) Act 1991	No	Protection of the Environment Operations Act 1997	No	Roads Act 1993	No	Pipelines Act 1967	No	Protection of the Environment Operations Act 1997	No
Act	Approval Required																																					
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Coastal Protection Act 1979	N/A																																					
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Mine Subsidence Compensation Act 1961	No																																					
Mining Act 1992	No																																					
Petroleum (Onshore) Act 1991	No																																					
Protection of the Environment Operations Act 1997	No																																					
Roads Act 1993	No																																					
Pipelines Act 1967	No																																					
Protection of the Environment Operations Act 1997	No																																					
SRD SEPP	The aim of this policy is to identify development that is State Significant Development. Pursuant to the SEPP SRD a project will be a SSD if it falls into one of the classes of development listed in Schedule 1 of the SEPP. 'Hospitals, medical centres and health research facilities' with a capital investment value (CIV) of \$30 million or more are identified as SSD and are considered to be development of State significance. The proposed Stage 2 development has a CIV of approximately \$380 million and so qualifies as a State Significant Development. A Quantity Surveyor certificate prepared by RLB confirming the total CIV of the proposal is included at Appendix G.																																					
SEPP 55	SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The SEPP specifies when consent is required for remediation of contaminated land. As detailed in Section 5.9 and Appendix H of this report, a Preliminary Environmental Site Investigation was undertaken in 2014. The assessment confirms that the site is suitable for the proposed hospital use.																																					
SEPP (Infrastructure)	The aim of this SEPP is to facilitate the effective delivery of infrastructure across the State, including providing for consultation with relevant public authorities about certain development during the assessment process. The relevant matter for consideration under the Infrastructure SEPP is the referral requirements for Traffic Generating Development (Schedule 3). Hospital developments with 100 or more beds are required to be referred to Roads and Maritime Services (RMS). The Stage 2 Enabling Works application will not result in any additional beds on the campus, and so does not trigger consultation with the RMS under the provisions of Schedule 3 of the SEPP.																																					
Local Planning Instruments and Controls																																						
BLEP 2015	Land Use Table	The site is zoned SP1 Special Activities (Health Services Facility). The objectives of the zone are to provide special land uses to facilitate																																				

Instrument/Strategy	Comments
	development for an intended special use. Under the LEP development for the purpose shown on the Land Zoning Map (i.e. health services facility) and any development that is ordinarily incidental or ancillary to that purpose, is permissible with consent. Accordingly, the proposed development is permissible.
	Clause 4.3 Height of Buildings There is no maximum height control on the site.
	Clause 4.4 Floor Space Ratio There is no maximum FSR on the site.
	Clause 5.10 Heritage Conservation This clause sets out requirements in relation to heritage conservation, including the preparation of heritage impacts statements and conservation management plans. The site of the proposed development is not identified as a heritage item and is not located in a heritage conservation area.
	Clause 7.7 Design Excellence Refer to Section 5.1.1.
Blacktown DCP 2015	It is noted that despite the SEARs, development control plans are not a matter for consideration in the assessment of SSD DAs by virtue of Clause 11 of SEPP SRD, which states that ' <i>Development control plans...do not apply to...State significant development</i> '. Notwithstanding this, an assessment of the proposed development against the relevant provisions of Blacktown DCP 2015 is provided at Section 5.1.2.
Section 94 Contributions Plan	Refer to Section 5.1.3.
Strategic Plans and Policies	
NSW 2021	NSW 2021 is a 10 year plan to rebuild the economy, return quality services, renovate infrastructure, strengthen our local environment and communities and restore accountability to Government. A section of the Plan is devoted to the delivery of Health services, and a key component of this is to rebuild hospitals and health infrastructure. This will help reduce hospital waiting times and help to establish a healthier community. The proposed development is evidently consistent with the goals of the State Plan.
A Plan for Growing Sydney	One of the key actions from the Plan is to 'plan for expansion of health facilities to service Sydney's growing population'. It is further noted that the continued provision of world-class health services will require an expansion of health facilities such as hospitals and community health facilities. Blacktown is also identified as a Strategic Centre. Strategic Centres are identified as areas of intense, mixed economic and social activity that are built around the transport network and feature major public investment in services such as hospitals, education and sports facilities. A priority action for the Blacktown Strategic Centre is to support hospital-related land uses and infrastructure around the Blacktown Hospital. The proposed development will enhance the provision of health services infrastructure in the locality, thereby supporting the actions of A Plan for Growing Sydney.
NSW Bike Plan	The NSW Bike plan recognises a growth of people riding a bike in NSW, with many finding it an affordable, practical and healthy option for everyday personal travel. The plan aims to build investments and initiatives to encourage cycling in NSW. The proposal will reinforce these principles with the hospital expansion work to include bicycle facilities for hospital staff and visitors including storage facilities, lockers, showers and change rooms. This is consistent with the NSW Bike Plan, in that it will encourage residents, hospital staff and visitors to choose an active travel method.
Planning Guidelines for Walking and Cycling	The Planning Guidelines for Walking and Cycling aim to improve walking and cycling in strategic planning and development assessment. The guidelines encourage the preparation of Transport Management and

Instrument/Strategy	Comments
	Accessibility Plans (TMAPs) as part of the masterplanning and development approvals process for larger developments. TMAPs promote a mode shift away from motor vehicle use toward walking, cycling and use of public transport. The guidelines provide the following design principles for bicycle parking facilities: ▪ Open and attractive facilities in easily supervised places that feel safe and non-threatening, with good passive surveillance to deter acts of vandalism and theft ▪ As close as possible to building entrances (preferably within 25m) ▪ Relates to the travel requirements of the user (eg. Lockers for commuters and racks for short term use)
Integrating Land Use and Transport Policy Package	The Integrated Land Use and Transport Package provides guidance to local councils in implementing the objective of 'promoting attractive and convenient places to live and work.' This Package emphasises the need for urban structures, building forms, land use location, development designs, subdivisions and street layouts to achieve sustainable transport objectives. Key concepts including convenience, information, proximity, destination choice, directness and security. The hospital redevelopment proposal has been designed with consideration to the key concepts outlined in the Integrated Land Use and Transport Package.
Healthy Urban Development Checklist, NSW Health	The proposal will enable the construction of a new hospital building, and the refurbishment of the existing main hospital building. The proposed development will provide improved functionality and capability whilst improving efficiency. The proposal is considered to be consistent with the intent of the Healthy Urban Development Checklist by providing a new development that is well connected to existing and future public transport, contributing to social infrastructure in the locality and region, and facilitates cycling and pedestrian accessibility.

5.1.1 Blacktown Local Environmental Plan 2015

The site is zoned SP1 Special Activities (Health Services Facility) under *Blacktown Local Environmental Plan 2015* (the LEP). The objectives of the zone are to provide special land uses to facilitate development for an intended special use. Development that is for the purpose identified on the LEP Land Zoning Map is permitted with consent, being health services facility. A hospital is a sub category of health services facility and is therefore permissible under the zoning.

The LEP contains no development standards applicable to the proposed development.

Clause 7.7 of the LEP requires development on the site to exhibit design excellence that contributes to the natural, cultural, visual and built character values of Blacktown. As this application seeks approval for the concept envelope of the ASB only, Clause 7.7 can only be assessed in a limited manner. Notwithstanding this, the proposed building envelope is considered to be consistent with the visual and built character of the hospital site.

The future detailed application for the ASB building will seek approval for the detailed architectural design and construction of the ASB. Clause 7.7 will be assessed in conjunction with this application.

5.1.2 Blacktown Development Control Plan 2015

As outlined in **Table 2** above, DCPs are not a relevant matter for consideration in the assessment of a SSD DA. Further, in recognition of their unique requirements and needs, there are no DCP provisions applying to hospital developments in the Blacktown LGA.

However, Blacktown DCP 2015 does provide general guidelines for development as outlined in **Table 3** below.

Table 3 – Relevant Provisions of Blacktown DCP 2015

Issue	Comment
4.3 Tree Preservation	No tree removal is proposed as part of this SSD application.
4.5 Pollution Control	Mitigation measures are proposed to control the quality of stormwater runoff during construction.
4.6 Noise Reduction	The acoustic impacts of the proposal are assessed at Appendix I and Section 5.2.1 .
6 Car Parking	Requirements for access and parking are addressed in the traffic report at Appendix D .
7. Services	Investigations into utility services requirements for the development have been undertaken and all services are available and capable of meeting the requirements of the development.
8.1 Solar Access	The solar access impacts of the proposal are addressed in Section 5.3.1 .
3. Waste Management	Waste management will be in accordance with State Government Policy as outlined in Section 5.12.2 .

5.1.3 Development Contribution

The hospital site is located within Blacktown Council's Contributions Plan No. 03 – Open Space in Established Residential Areas. The purpose of the contributions plan is to provide for open space and recreational facilities resulting from new residential development, and therefore increased residential populations, in established residential areas of the City of Blacktown. Clause 1.7 of the plan states:

'this plan applies to all... development that includes the intensification of use of a site involving expansion of area occupied by a development and/or the addition of population.

The contributions plan applies to development that will increase population and therefore is not applicable to the proposed hospital development. No other contributions plan is applicable to the site. Furthermore, no voluntary planning agreement is proposed.

The development proposes significant public benefit through the provision of improved hospital services to the sub-region. The development is a Crown development providing an essential community service and consequently should not be levied developer contributions.

The development will meet all reasonable costs of upgrading services to meet the needs of the development including improved road access and intersection costs.

5.2 Built Form

Detailed consideration has been given to the scale and location of the ASB during the site Masterplanning process, with the form and siting of the ASB being primarily derived from the development principles outlined in **Section 3.2**.

In assessing the appropriateness of the proposed built form, consideration has been given to the need to locate the proposed services on the Blacktown campus, the location of the new building within the campus and the appropriateness of the proposed scale in relation to the site, and surrounding development. These matters are addressed in turn, below.

Need to locate the proposed services on the Blacktown Campus

The existing Blacktown Hospital has been established on this campus for over 50 years. Significant infrastructure has been constructed on the site over this time, particularly in recent years. It is not feasible to lose or replace all of these facilities at this stage, and it is vital that they are upgraded and expanded to keep pace with the rapidly growing demand in the immediate area.

The proposed expansion is the most efficient strategy for providing the infrastructure that is needed to meet the clinical services demand in the Blacktown area for the next 10-15 years.

Siting on the Campus

The location of the proposed ASB facilitates the creation of a truly integrated campus, in which clinical services are arranged to achieve optimal pedestrian and vehicular traffic flows around and between the principal buildings.

The building's location is consistent with the endorsed Masterplan. The Masterplan identifies this area as the 'Acute Precinct' because it provides key connectivity to the new CSB and the existing hospital building. It is also close to the existing multi-level carpark, and to the anticipated location of future car parking.

Placement adjacent to the CSB allows for an operationally efficient clinical planning solution that is responsive to the Clinical Services Plan. It also enables integration of the heating and cooling systems of the two buildings, providing increased energy efficiency and reliability benefits. The Central Energy Plant (CEP) within the existing multi-level carpark structure contains plant, and also has the capacity to service the proposed ASB. Close proximity to the CEP as well as the CSB further reduces costs and improves energy efficiency.

Placement of the ASB on the western side of the campus provides improved community accessibility both to the new acute services and to the hospital as a whole, with a dedicated western public entrance which is closer to Blacktown CBD and better addresses arrivals from the west.

Building Scale

The floor area of the ASB has been based on the anticipated clinical services demand in the Blacktown area over the next 10-15 years. The 'blocking and stacking' arrangement of the building, which provides the required floor area, is driven by the following requirements:

- The need to achieve optimum clinical adjacencies both within the building and with those services located in the Stage 1 CSB and the existing hospital building; and
- The need to provide sufficient flexibility to adapt to changing demand and changing models of care in the future, which may not be anticipated currently.

Given the optimum blocking and stacking arrangement, the overall height of the building is established through the adoption of best practice floor to floor heights, suited to the services and infrastructure requirements of a contemporary health service building. Consideration has also been given to the need to connect to both the Stage 1 CSB and the existing hospital building at many different levels, and therefore storey RLs match those in the Stage 1 CSB.

As detailed below, the proposed built form does not give rise to any adverse overshadowing impacts, or loss of views. Whilst the building will represent a prominent addition to the existing built form of the campus, in light of the functional requirements and needs outlined above, and in the absence of any adverse amenity impacts on adjoining residences, the proposed positioning and scale is considered appropriate for the site and locality.

5.3 Environmental Amenity

5.3.1 Solar Access and Overshadowing

Shadow Diagrams that illustrate the extent of overshadowing caused by the concept building have been provided by Jacobs Architects (**Appendix A**). The diagrams show the period of greatest impact of overshadowing throughout the year, being the winter solstice. The diagrams demonstrate the shadow impacts at 9am, 12pm and 3pm and are provided at **Figure 20, 21 and 22** below.

The concept envelope has been designed having regard to protecting mid-winter solar access to adjoining residential properties on Panorama Parade. The diagrams indicate that the concept design will enable all adjacent residential buildings to maintain a minimum of 3 hours of sunlight between 12pm and 3pm at mid-winter.



Figure 20 – Shadow Diagram – Winter Solstice 9am
Source: Jacobs Architects



Figure 21 – Shadow Diagram – Winter Solstice 12pm
Source: Jacobs Architects

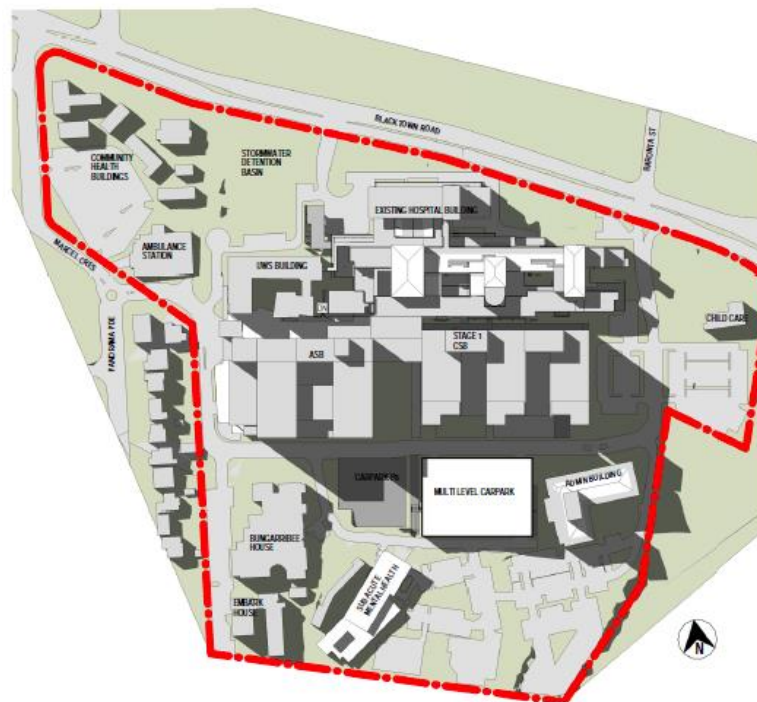


Figure 22 – Shadow Diagram – Winter Solstice 3pm
Source: Jacobs Architects

5.3.2 Visual Privacy

The ASB building is located in the western part of the campus, in proximity to residential dwellings on Panorama Parade. Whilst there is potential for overlooking from the upper levels of the future inpatient units, the building height means that occupants will generally look out over the dwellings, rather than directly at the properties. Further, the dwellings have extensive mature vegetative that will limit privacy impacts between sites, and further measures can be incorporated at the detailed design stage to ensure visual privacy is achieved.

5.3.3 View Impacts

Consideration has been given to the impact of the proposed development on existing views towards the site from the surrounding area.

Representative photomontages of the concept building envelope have been prepared by Jacobs Architects and are shown at **Figures 23 - 26** and at **Appendix A**. The photomontages have been prepared to illustrate the view impacts of the concept massing from various viewpoints surrounding the site.

Due to the topography of the site, there will be limited visual impacts from the south. The high point of the campus is located in the southern part of the campus at RL72. The land to the south generally falls away from this high point. As a result, there are limited district views from the seniors housing development located to the south of the hospital site with views restricted by existing hospital buildings and perimeter landscaping which is to be retained. Further, the proposed buildings are located some 170 metres from the southern boundary.

Impacts on district views from the north, east and west are considered to be minimal. Residential areas adjoining the site to the east and west are generally at the same level as the hospital or are at a lower level. Views over the hospital site are limited by boundary features such as fences and vegetation. Whilst the new building will be visible from the surrounding area, district views are not currently available and will not be impacted to any significant extent.

The view analysis shows that the new ASB will be visible from surrounding viewpoints. The frontage to Blacktown Road is the primary frontage for the hospital precinct. The new ASB will sit behind the existing community health and UWS buildings, which in combination with the open space fronting Blacktown Road, provide a transition in built form.

It is noted that the representative building envelope has been shown and that no articulation of the facades or massing has been finalised. These will be developed to accompany the future application for the detailed design of the building.



Figure 23 – Existing and proposed view looking east from the junction of Blacktown Road and Hereward Hwy
Source: Jacobs Architects



Figure 24 – Existing and proposed view from the northern side of Blacktown Road.
Source: Jacobs Architects



Figure 25 – Existing and proposed view looking east from the roundabout at Panorama Parade and Craiglea Street
Source: Jacobs Architects



Figure 26 – Existing (top) and proposed (bottom) view looking south east from the corner of Griffiths Street and Blacktown Road

Source: Jacobs Architects

5.4 Aboriginal Heritage

An assessment of Aboriginal Heritage was undertaken by RPS in 2012 to support the Stage 1 development (**Appendix J**). The assessment considered the entire Blacktown hospital campus.

The assessment found that the Blacktown campus has been extensively modified in the past. As a result, any Aboriginal material that may have been present has likely been removed or destroyed as part of the construction of the hospital facilities and subsequent works.

Accordingly, the assessment found that combined with the absence of sites identified during the archaeological survey and discussions with the representatives of the Aboriginal community during the survey, there were no archaeological constraints in relation to the proposed Stage 1 works.

The proposed Stage 2 Enabling Works Package has been reviewed by RPS. The attached Aboriginal Heritage Statement (**Appendix J**) confirms that the original findings of the 2012 assessment remain unchanged.

OEH has confirmed that no further investigation is required for Stage 2 (refer to email correspondence at **Appendix J**).

5.5 Operational and Construction Traffic, Access and Parking

A Transport and Accessibility Study has been prepared by ARUP and is included at **Appendix D**. The Study also includes details around construction traffic movements and management measures. Whilst the ASB will not be constructed or occupied as part of the proposed enabling works package, the report outlines the existing surrounding road network arrangements and conditions, and provides an assessment of the traffic and parking impacts associated with the future ASB, as well as the immediate impacts associated with the enabling works package.

As detailed in **Section 1.2.3**, authorisation was given for a range of campus-wide upgrades, including road realignment works to improve traffic movements, as part of the REF.

5.5.1 Operational Traffic

Traffic surveys from the site have been used to calculate trip generation rates for the future ASB. Modelling for hospital traffic demand has been undertaken based on estimated daily staff, patient and visitor activity on the campus following completion of the ASB (subject to a future separate SSD DA).

The model has calculated specific trip generation rates to estimate future traffic generation from the proposed development in both the AM and PM peak periods. The proposed development is predicted to generate the following peak hour traffic movements:

- AM Peak trip generation = 132 trips; and
- PM Peak trip generation = 152 trips.

Intersection Performance

Based on these trip generation rates and a trip distribution analysis using existing access patterns, all intersections assessed will continue to perform at the same Level of Service as before the start of the Stage 2 works.

The road network performance has been measured against three parameters, being:

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

The results of the modelling against these three parameters are shown in **Table 4**.

Table 4 – Intersection Modelling Results

Peak	Intersection	LOS	DOS	AVD (Sec)
AM	Blacktown Road and Marcel Crescent	B	0.78	18
	Wall Park Avenue and Blacktown Road	C	0.91	32
	Blacktown Road, Bungaribee Road and Leabons Road	E	0.95	57
	Panorama Parade and hospital Access Road	A	0.37	10
	Bungaribee Road and Panorama Parade	B	0.77	22
PM	Blacktown Road and Marcel Crescent	B	0.81	18
	Wall Park Avenue and Blacktown Road	B	0.87	22
	Blacktown Road, Bungaribee Road and Leabons Road	D	0.94	49
	Panorama Parade and hospital Access Road	B	0.45	11
	Bungaribee Road and Panorama Parade	B	0.74	23

5.5.2 Construction Traffic

Construction traffic will be limited to State roads, with access to the hospital to be via the signalised intersection of Marcel Crescent and Blacktown Road. Trucks will access the site on Blacktown Road for the M4 and Wall Park Avenue and Sunnyholt Road for the M2/M7. Construction vehicles will use Panorama Parade and the internal road network to access the construction site. Once at the site, all vehicle manoeuvring will occur within the site compound.

It is expected that the Stage 2 Enabling Works will generate approximately 8-10 traffic movements per hour during the morning and afternoon peak periods during construction. The increase is considered negligible in comparison to the existing hospital traffic generation where the morning peak generates 313 vehicle movements and the evening peak, 377 vehicle movements.

The assessment makes a number of recommendations, and provides management measures to minimise impacts on traffic movements, and to promote pedestrian and cyclist safety. These measures include:

- Establishing a 'Driver Code of Conduct' to manage driver conduct around deliveries, vehicle entry / exit movements, and pedestrian prioritisation;
- Preparing a detailed Construction Traffic Management Plan and traffic control plans prior to the commencement of work;
- Implementing strategies to reduce the overall demand for parking at the hospital during the construction phase;
- Implementing measures to ensure pedestrian and cyclists can pass the worksite safely; and
- Undertaking public consultation to advice residents and workers of traffic-related impacts associated with the proposed development.

The recommendations contained in ARUP's Study have been included in the Mitigation Measures at Section 8.0 of this report.

5.5.3 Operational Parking

Whilst the enabling works will not give rise to any immediate increase in parking demand for staff, patients or visitors, ARUP has assessed the demand associated with the future ASB, for which concept approval is sought.

As detailed at **Section 3.7.1**, there are currently 1,184 parking spaces available on the campus (at the completion of the works being carried out as 'Development Without Consent' under Part 5 of the EP&A Act).

At the completion of the Stage 1 works (when the construction compound on the hospital's eastern boundary will be returned to at-grade parking) there will be 1,254 spaces available. This comprises 632 at-grade car parking spaces and a new multi-storey car park providing an additional 622 spaces.

Modelling indicates that demand will reach 1,469 spaces once the new Stage 1 building is fully occupied, noting that full occupation of the new Stage 1 building will occur over a number of years. To accommodate this shortfall of 215 spaces, the existing multi-storey car park will be expanded to include two additional levels. This will add approximately 180 spaces to the existing multi-storey car park, and will be the subject of a separate development application. The remaining 35 spaces can be accommodated as part of the Stage 2 extension, identified below.

Based on the size and area of the concept envelope, as well as existing occupation and travel patterns, it is anticipated that the new ASB will take the campus-wide demand to 1,737 (an increase of 268 spaces based on a demand for 1,469 spaces at the completion of Stage 1). In addition to the residual shortfall of 35 spaces from Stage 1, this results in a total requirement for 303 spaces.

To accommodate this demand, the application for the detailed design of the ASB will include the expansion of the multi-deck car park to the west of the existing car park structure. The design and size of the car park will be adjusted to ensure sufficient capacity to meet the demand forecasts. Early analysis indicates that a car park with capacity for 303 spaces could be accommodated, as shown in **Figure 27**.

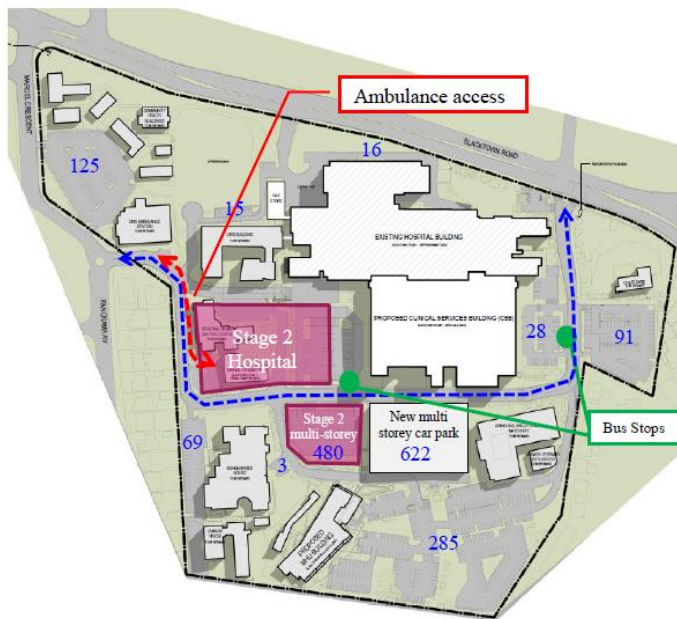


Figure 27 – Parking arrangements at the completion of Stage 2, including the potential multi-deck car park expansion
Source: ARUP

5.5.4 Construction Parking

The Stage 2 Enabling Works are expected to generate less than 100 workers on the site. Of this total, it is expected that a significant number will travel to the site by public transport outside the morning and afternoon peak periods. Regardless of this, there are 220 dedicated parking spaces available for Stage 2 construction workers at the Blacktown Bowling Club, which will provide sufficient parking capacity to support the estimated demand for construction parking.

The Blacktown Bowling Club is located within easy walking distance of the site, approximately 250m to the west at Lismore Street, Blacktown. A license agreement has been executed between Seven Hills – Toongabbie RSL Club Ltd and the Health Administration Corporation for these spaces to be available exclusively for construction workers. Construction worker inductions and briefings will reiterate the need to park in the designated car park rather than use on-street car parking.

5.5.5 Pedestrian Access

There are two pedestrian routes for public access to the hospital, being via Marcel Crescent to the west and Blacktown Road to the east. Staff can also access the hospital via the lower level adjacent to the loading dock from Blacktown Road.

The footpath on the southern side of Blacktown Road has been upgraded to a shared cycle/pedestrian path that allows cyclists to connect with the hospital via Marcel Crescent and the eastern hospital access point via Blacktown Road.

A number of internal links and pedestrians access paths are proposed as part of the Stage 2 development to improve circulation around the campus. Bicycle facilities for hospital staff and visitors are also to be provided, including bicycle storage facilities, showers lockers and change rooms (subject to a future, separate application for the detailed design of the building).

5.5.6 Emergency Services

Campus wide works, including road realignments, have been carried out under a separate REF. These works will ensure ongoing access for emergency services vehicles during the Stage 2 works.

All construction works and vehicle movements during the Stage 2 Enabling Works will be confined to the proposed development site. As such, no additional provisions for emergency service vehicles are required on the surrounding road network.

5.5.7 Loading Facilities

The existing main hospital building has a loading dock on its northern side, accessed from its own dedicated driveway off Blacktown Road. The loading dock will continue to be the central loading point for the entire campus. The dock is separate to the hospital's internal road network, and is not affected by the proposed works.

There are a number of smaller facilities located around the campus that are occasionally accessed by smaller delivery vehicles. The campus wide road realignments will ensure that the campus' internal road network continues to function during the Stage 2 construction works.

5.6 Water Cycle Management

5.6.1 Stormwater

As detailed at **Section 3.9**, new and upgraded stormwater infrastructure facilities have been provided across the hospital site as part of the REF works. The stormwater management concept for the site is described in the Integrated Water Management Report prepared by Robert Bird Group (refer to **Appendix E**). The report confirms that the stormwater system is capable of accommodating the proposed development, and that they have been designed to meet the SEARs.

The Report also outlines the stormwater management controls that the new stormwater system has been designed to achieve. In summary:

- The drainage system is designed to convey the 20 year design flows east of the Bungaribee House car park turn off;
- The drainage system is designed to convey the 100 year design flows from in front of the Emergency Department through to the stormwater detention basin; and
- All overland flow paths are designed to cater to 100 year ARI storm flows.

Further, the Integrated Water Management Report indicates that the stormwater system has been design to meet the requirements of the following standards and guidelines:

- Australian Rainfall and Runoff – A Guide to Flood Estimation, Volumes 1 and 2 (1987);
- SA/NZS 3500.3.2 National Plumbing and Drainage Part 3.2: Stormwater Drainage – Acceptable Solutions;
- On-Site Stormwater Detention Handbook (Fourth Edition, December 2005) – Upper Parramatta River Catchment Trust;
- Managing Urban Stormwater – Soils and Construction Volume 1 (4th Edition March 2004) – NSW Department of Housing;
- Blacktown City Council Engineering Guidelines for Development – 2015; and
- Blacktown City Council Development Control Plan 2015 Part R Water Sensitive Urban Design and Integrated Water Cycle Management.

5.6.2 Flooding

Robert Bird Group has investigated the potential of the site to flood. Due to its elevation, the hospital site is not within a flood affected zone. This has been confirmed by reference to Council flood maps, a copy of which is included in **Appendix E**. Consequently the site is not impacted by flooding and the development will have no impact on flooding.

Internally, road and car park levels and grades have been set to ensure no localised flooding of the existing and new buildings, and to prevent any adverse impacts on adjoining properties.

5.6.3 Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) measures will be provided in accordance with Blacktown City Council Development Control Plan 2015 Part R Water Sensitive Urban Design and Integrated Water Cycle Management. Proposed WSUD elements include:

- Pit Filler Baskets;
- Gross Pollutant Traps; and
- Bio retention.

WSUD strategies are further discussed in the Integrated Water Management Report at **Appendix E**.

5.6.4 Water and Wastewater Management

In order to reduce the demand on local water and wastewater infrastructure, the design of the ASB will consider the following potable water demand reduction strategies where possible:

- Selection of water efficient fixtures with appropriate WELS ratings;
- Fire systems to include recycling of test fire water;
- Rainwater harvesting for use as toilet flushing and landscape irrigation;
- Installation of pulse water meters for all major uses of water and data collection and water leak detection; and
- Selection of drought tolerant landscape elements for low irrigation.

5.7 Geotechnical

A Geotechnical Investigation has previously been prepared for the site by JK Geotechnics in 2014 as part of early planning for the Stage 2 expansion. JK Geotechnics have prepared a statement (**Appendix H**) in support of the proposed Stage 2 Enabling Works Package which confirms that the findings and recommendations of the 2014 investigation remain unchanged.

The investigation found the site surface was underlain with fill material comprising a combination of gravel, sandy gravels and clayey gravel at depths between 0.3 to 2.5m. The material was underlain by natural silty clays ranging in depth from 1.5 to 4.5m. Shale bedrock was encountered beneath natural soils to a depth of 10.5m.

Fill material at the site is likely to be classified as general solid waste (non-putrescible) in accordance with NSW EPA Waste Classification Guidelines. Fill material is considered suitable for disposal at an appropriately licenced facility or can be used on-site. Bedrock and natural soils meet the classification of virgin extracted natural material (VENM) and can be disposed of as VENM to an appropriately licenced facility or reused on site.

Based on the results of the site investigations, the report provides advice on the geotechnical aspects of the proposed civil and structural design. These recommendations relate to excavation, retention, footings, pavements and floor slabs and drainage and have been considered during the design of the proposal.

5.8 Groundwater

Whilst no groundwater seepage was encountered during auger drilling of the boreholes, in BH212 groundwater was measured at a depth of 0.4m on completion of hand auger drilling.

Water was also measured in most boreholes on completion of coring, but this would have been affected by water introduced for coring. The Geotechnical Investigation summarises the groundwater readings taken from within the standpipes installed on the site. The final readings indicate that there is groundwater to varying depths across the site, which may be encountered during the proposed excavation works.

5.9 Contamination

A Preliminary Environmental Site Investigation was undertaken by Environmental Investigation Services in July 2014 (**Appendix H**) that included the proposed excavation area. JK Geotechnics have prepared a statement (**Appendix H**) in support of the proposed Stage 2 Enabling Works Package which confirms that the findings and recommendations of the 2014 investigation remain unchanged.

Based on the scope of works undertaken, Environmental Investigation Services are of the opinion that the site is suitable for the proposed Stage 2 redevelopment.

In the event that unexpected conditions are encountered during development, or between sampling locations, that may pose a contamination risk, all works should stop and an environmental consultant should be engaged to inspect the site and address the issue.

5.10 Acid Sulfate Soils

Environmental Investigation Services have confirmed that the site is not located in an ASS risk area.

5.11 Structural Adequacy

A Structural Design Statement has been prepared by the Robert Bird Group (**Appendix K**) to provide structural advice for the proposal. Structural design associated with the proposal will be conducted in accordance with the current revision of all relevant Australian standards including:

- AS/NZS 1170.0 Structural Design Actions Part 0: General Principles 2002;
- AS/NZS 1170.1 Structural Design Actions Part 1: Permanent, Imposed and Other Actions 2002;
- AS/NZS 1170.2 Structural Design Actions Part 2: Wind Actions 2002;
- AS 1170.4 Structural Design Actions Part 3: Earthquake Loads 2007;
- AS 2159 Piling – Design and Installation 2009;
- AS 2670.1 Evaluation of human body exposure to whole body vibration 2001;
- AS 3600 Concrete Structures 2009;
- AS 3700 Masonry Structures 2001; and
- AS 4100 Steel Structures 1998.

5.12 Construction Impacts

5.12.1 Acoustic Impacts

A Demolition and Excavation Noise and Vibration Impact Assessment has been prepared by Acoustic Logic (**Appendix I**). A detailed program and methodology for the demolition and excavation works has yet to be developed, and so the assessment provides an indicative assessment of noise emissions based on typical excavation activities.

Based on noise emissions from standard construction equipment, works associated with excavation (dozers with bucket, saws or hammers) and piling works would be the loudest activities during the excavation phase. The EPA Interim Construction Noise

Guideline recommends a noise level of 10dB(A) above the background for residential receivers.

Table 5 outlines the indicative noise levels for residential receivers to the east and west of the campus. The results indicate that noise generated by the proposed excavation works may exceed the EPA acoustic criteria at times, with higher noise levels expected to be generated when working closer to the properties adjacent to the campus' western boundary.

The assessment has made a number of recommendations to mitigate acoustic impacts. If adopted, these measures can manage noise impacts to prevent adverse impacts on residential receivers. The mitigation measures will be finalised prior to the issue of the 109 Certificate, and include:

- On completion of the construction program and methodology, undertake an acoustic review of proposed construction activities and plant/methods to identify work items likely to exceed the EPA Guidelines.
- For noise intensive activities, the analysis should identify the areas on the construction site that are likely to result in high noise levels. This will then assist in determining the likely time period for which high noise levels will occur at nearby properties.
- Identify feasible acoustic controls or management techniques (such as use of screens, scheduling of noisy works, notification of adjoining land users, respite periods) to manage excessive levels.
- For activities where acoustic controls and management techniques still cannot guarantee compliant noise levels, implement a notification process whereby nearby receivers are made aware of the time and duration of noise intensive construction processes.

Table 5 – Indicative Residential Noise Assessment

Location	Time of Day	Measured Background Levels - dB(A)L90	Noise effected Level Background + 10dB(A)Leq(15min)	Indicative Noise Levels Predicted dB(A)
Western Properties	Recommended hours: Monday to Friday 7am to 6pm	42	52	55-65
Eastern Properties	Saturday 8am to 5pm No work on Sundays or public holidays	48	58	55-65

With respect to vibration, excavation and earth retention works are the primary vibration generating activities. Acoustic Logic concludes that surrounding residential and Hospital receivers are unlikely to experience any vibration impacts. However, if excavation of rock or installation of driven piles in close proximity to the façade of the hospital buildings is required, the following measures are recommended to minimise vibration impacts:

- Consultation with the hospital and Blacktown Council will occur prior to works to determine if there is any particular vibration sensitive equipment on site to determine appropriate vibration criteria;
- Where practicable excavation in rock will be done using rock saws and not pneumatic hammers; and
- Where piling is required, use of augured or vibro-piling should be used rather than impact piling.

The recommendations contained in Acoustic Logic's Assessment have been included in the Mitigation Measures at Section 8.0 of this report.

5.12.2 Waste

A Construction Waste Management Plan (WMP) has been prepared by Coffey (**Appendix L**) to identify practices and procedures for the identification, management and reuse (where practical) of waste streams and materials generated by the proposal. The principles of the WMP include:

- Avoiding generation of waste where possible or reduce the volume of waste that is produced;
- Reuse, sorting and recycling of waste materials to ensure maximum recycling;
- Safe and proper storage and segregation of waste on site; and
- Compliance with NSW EPA Waste Classification Guidelines.

The WMP will be used to inform the development of a more detailed waste management plan to be prepared by the contractor prior to the commencement of the proposed works.

5.12.3 Erosion and Sediment Control

An Erosion and Sediment Control Plan has been prepared by Robert Bird Group and is included at **Appendix E**. The plan outlines the management processes to be put in place to maintain the quality of stormwater discharge during construction.

Surface water management measures will be in accordance with Landcom guidelines – Managing Urban Stormwater Runoff: Soils and Construction (“Blue Book”) and Blacktown City Council’s DCP.

5.12.4 Construction Management

An Outline Construction Management Plan (CMP) has been prepared by PwC (**Appendix M**). The CMP outlines site management principles and measures to mitigate impacts during the construction period. These measures include:

- All works will be undertaken in accordance with the relevant legislative requirements;
- Construction phasing will be developed to ensure continued hospital operations and safe public and staff access;
- Noise will not exceed EPA’s Interim Construction Noise Guidelines and Australian Standards including, AS:2436;
- Dust control measures will be put in place, including spraying of water at the source of origin, to prevent airborne dust particles;
- All plant and machinery will be serviced regularly and checked for exhaust emissions and catalytic converters;
- Proper care and protection of trees will be carried out in accordance with AS:4970-2009;
- Measures to control soil erosion during construction will be employed in accordance with accepted principles described in Managing Urban Stormwater: Soils and Construction;
- Construction traffic and activities will be separated from the public;
- Waste material will be recycled and reused where possible;
- Dangerous goods will be stored in a lockable compound with sufficient ventilation in accordance with relevant codes of practice and standards; and
- Disconnection of services will be undertaken with full cooperation, development with approval and input with relevant hospital and authority stakeholders.

5.13 Ecologically Sustainable Development

The environmental performance of the development has been assessed by using NSW Health requirements (TS-11); Clause 7(4) of Schedule 2 of the EP&A Regulations; Environmental Performance Guide for buildings; and Section J of the Building Code of Australia 2011. The initiatives and targets relate to the following aspects of the proposed development:

- Energy efficient electrical services;
- Mechanical services;
- Hydraulic services;
- Improved indoor Environmental Quality;
- Extended life through inherent flexibility and 'future-proofing' ;
- Electrical services with efficient lighting, lighting control and energy metering.
- Structural design; and
- Initiatives during construction and operation.

With consideration to the scope of the Stage 2 Enabling Works Package, the fundamental ESD features considered in the proposal include:

- Energy – Conservation and on-site generation;
- Materials – Reuse, Recycle and possess low embodied energy;
- Waste minimisation – during construction and operation, waste management strategies will be implemented to reduce the amount of waste going to landfill.

Furthermore, the proposed development is consistent with the five accepted principles of ESD as described below.

Precautionary Principle

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The proposal is supported by environmental studies and technical reports which conclude that there are no environmental constraints that preclude the development of the site in accordance with the proposal, subject to appropriate management in future planning, design, construction and operational stages.

It is considered that through adherence to the Mitigation Measures outlined in Section 7.0 the proposal will not result in serious impact to the environment.

Integration Principle

The integration principle holds that decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations. The design of the building has been developed to integrate the short and long term effects of economic, environmental and social considerations for the hospital.

Intergenerational Equity

The principle of inter-generational equity holds that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. The proposal has been developed to

directly benefit current and future generations in that it contributes to the acute health services of the community without causing significant impact to the environment.

Biological Diversity

Under the biodiversity principle, the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

The development site does not contain any threatened or vulnerable species, populations, communities or significant habitats. Construction and ongoing operations of the facility will be managed in accordance with the Mitigation Measures, ensuring no significant indirect impacts on the surrounding environment.

Valuation and Pricing of Environmental Resources

Under this principle, improved valuation, pricing and incentive mechanisms and environmental factors should be included in the valuation of assets and services. The cost of infrastructure and measures to ensure an appropriate level of environmental performance on the site has been incorporated into the cost of development. In addition, the level of waste will be appropriately managed during the construction of the development. These measures have been incorporated into the cost of development.

6.0 Environmental Risk Assessment

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

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

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

Figure 28 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

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

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

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

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

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

Figure 28 – Risk Assessment Matrix

Table 6 – Environmental Risk Assessment

Item	Phase	Potential Environmental Impact	Proposed Mitigation Measures and / or Comment	Significance of Impact	Manageability of Impact	Residual Impact
Stormwater	C	Construction impacts on water run off	The proposal will be in accordance with the recommendations of the Integrated Water Management Plan prepared by Robert Bird Group	2	2	4
Noise and Vibration	C	Noise and vibration impacts	Noise and Vibration will be in accordance with the recommendations of the Acoustic Assessment prepared by Acoustic Logic	2	2	4
Construction Traffic	C	Traffic management and parking	Construction traffic will be in accordance with the recommendations of the Transport and Accessibility Study prepared by ARUP	1	1	2
Waste	C	Waste generation and disposal	Waste will be in accordance with the recommendations of the Construction Waste Management Plan prepared by Coffey	1	1	2

7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 7** below. These measures have been derived from the previous assessment in Section 5.0 and those detailed in appended consultants' reports.

Table 7 – Mitigation Measures

STORMWATER	
The proposal will be in accordance with the recommendations of the Integrated Water Management Plan prepared by Robert Bird Group	
NOISE AND VIBRATION	
Noise and Vibration will be in accordance with the recommendations of the Acoustic Assessment prepared by Acoustic Logic	
CONSTRUCTION TRAFFIC	
Construction traffic will be in accordance with the recommendations of the Transport and Accessibility Study prepared by ARUP	
WASTE	
Waste will be in accordance with the recommendations of the Construction Waste Management Plan prepared by Coffey	

8.0 Conclusion

This EIS has been prepared to consider the environmental, social and economic impacts of the proposed Blacktown Hospital Stage 2 Enabling Works Package. The EIS has addressed the issues outlined in the SEARs (**Appendix B**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of relevant environmental planning instruments, built form, social and environmental impacts including traffic, noise, construction impacts and stormwater.

It is considered the project warrants approval for the following reasons:

- The proposal will facilitate the development of a new and modern health facility which will further support and strengthen the services and facilities provided at the hospital for the benefit of the community.
- The proposal will assist in achieving the intended objectives for the site under the Blacktown hospital campus Masterplan.
- The assessment of this proposal has demonstrated that the development will not generate any environmental impacts that cannot be appropriately managed, and is consistent with the relevant planning controls for the site.
- The proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the EP&A Regulation 2000.
- The area and shape of the site allows for the provision of new health facilities that meet the special design requirements for the future proposed uses, whilst not resulting in any significant adverse impacts on surrounding uses.
- The proposal will not result in any adverse traffic or parking impacts, with adequate parking provided off the campus in a dedicated parking facility to accommodate construction worker parking.

Given the planning merits described above, and significant public benefits proposed, it is requested that the Minister or her delegate approve the application.