

Preliminary Construction Management Plan

Nepean Hospital and Integrated Ambulatory Services Redevelopment – SSDA

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Document Approval

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Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this plan is reviewed and approved. The Project Construction Manager is responsible for updating this plan to reflect changes to construction, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Details
Revision 1	Issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment – Concept and Stage 1 SSDA
Revision 2	Preliminary issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment - SSDA
Revision 3	Preliminary issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment – SSDA . Minor amendments to CMP, Construction waste Management Plan & Construction Traffic Management Plan (CTMP).

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Part A: Overview

1. Structure of this Plan

This Construction Management Plan (CMP) forms part of the Project Management System (PMS). It is part of a suite of plans that together outline how the Nepean Hospital Redevelopment project will be managed to ensure an integrated approach to meeting contract requirements.

In addition to the Project Management Plan other Project Plans that interface with Construction Management Plan include:

- Safety & Health Management Plan
- Environmental Management Plan
- Quality Management Plan
- Engineering and Design Management Plan
- Completion Management Plan

This plan has the following structure:

Part A: Overview	<p>This section clearly defines:</p> <ul style="list-style-type: none">■ Purpose, scope and objectives of this plan■ Project specific requirements■ Overall Construction Methodology■ Construction Management Elements and Expectations
Part B: Implementation Plan	<p>This section outlines the key aspects for managing Construction on the Project including: (To be included in plan at later stage)</p> <ul style="list-style-type: none">■ Expectations■ How they will be met■ Responsibilities■ Associated deliverables
Appendices	<p>A list of appendices providing additional detail that supports this plan including:</p> <ul style="list-style-type: none">■ Site Management Plans■ Construction Traffic Management Plan (CTMP)■ Environmental Management Plan

2. Project Overview

2.1 Purpose and Scope

CPB Contractors has been contracted by Health Infrastructure NSW to provide construction consultancy services for the Integrated Nepean Hospital Redevelopment project.

The preliminary Construction Management Plan (CMP) describes the proposed overall construction methodology, as well as the supporting management system processes to ensure that CPB Contractors and its subcontractors perform the works safely and effectively. The plan applies to the construction of all permanent and temporary works under the Contract.

This preliminary Construction Management Plan has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) dated 22 November 2017 relating to the SSDA for the proposed Nepean Hospital and Integrated Ambulatory Services Redevelopment (Stage 1)

The following table presents the SEARs relevant to Construction Management, Traffic and Waste Management during the Construction Delivery Phase of the Stage 1 Building works and confirms that each of these items have been addressed in the preliminary Construction Management plan and Appendices.

Table 1: SEARs with Comments & Cross References

SEARs Item No.	Comments & References.
Item 5 – Transport and Accessibility	
<ul style="list-style-type: none">• traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport and the cumulative impact of nearby construction projects, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact.	The traffic management methodology including the movements and truck routes associated with the construction process are described in Section 3.10 of this plan titled "Traffic & Pedestrian Management", Appendix A Draft Site Management Plans and should be read in conjunction with Section 6 of the more detailed report in Appendix B titled "Construction Traffic Management Plan (CTMP)" prepared by ptc in consultation with CPB Contractors.
Item 13 - Waste	
<ul style="list-style-type: none">• Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	The management of waste during the construction process is described in section 3 Clause 3.13 of this plan and in more detail in Appendix C: Waste Management Plan.
Plans and Documents	
<ul style="list-style-type: none">• Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, construction program, access arrangements and traffic control measures;	Refer to report in Appendix B titled "Construction Traffic Management Plan" (CTMP) prepared by ptc in consultation with CPB Contractors.

This Plan is established in accordance with CPB Contractors 'The Way We Operate' framework and is the key document that integrates CPB Contractors project delivery requirements and client construction requirements

The Project Manager, with advice and input from senior construction staff, is responsible for the Plan.

2.1.1 Scope of work

The objective of the Integrated Nepean Hospital Project is to complete a major re-development of Nepean Hospital Campus and provide an advanced integration with existing community health centres within the surrounding wider Penrith wider LGA.

The concept plan proposal is for a new public hospital with ancillary services, including building footprints and envelopes, indicative uses, access, loading, landscaping and parking. BVN has provided plans detailing the indicative internal layout of the Stage 1 Building under the concept plan, involving:

- A fourteen (14) storey hospital tower comprising approximately 57,000m²; and
- Links between the existing theatres and Stage 1 Building.

The Stage 1 Building will include:

- A new clinical services block
- A new and expanded Emergency Department
- New Satellite medical imaging to Emergency Department
- At least 12 new operating theatres
- 18 birthing suites in new accommodation, an increase of ten
- A new Neonatal Intensive Care Unit
- More than 200 overnight beds in new accommodation
- A new Helipad
- New Community Health Services
- Expansion of medical oncology services

2.1.2 Purpose of this CMP

This preliminary CMP relates to Stage 1 Building works which will include:

- Site Mobilisation
- Perimeter Piling
- Bulk Excavation
- Remediation
- Base structural works including In-ground services
- Reinforced Concrete and PT Concrete Superstructure
- Facade
- Fitout & Services
- Civil & Landscape works

2.2 Construction Contract Requirements

Table 2: Construction Contract Requirements, sets out the minimum client requirements as defined in the following Contracts:

- MW_GC21 e2 Preliminaries;
- Main Works GC21 e2 General Conditions_v4.3;
- Main works GC21e2 HI Special Conditions_v4.
-
- Table 2 shows where each requirement has been addressed within this Plan or the wider CPB Contractors management system.

Table 2: Construction Contract Requirements (To be completed on award of Contract)

Contract Reference	Content requirements	Where addressed	Comments

2.3 Objectives and Targets

The Construction objectives and targets set out in Table 3: Objectives and Targets below are designed to facilitate the management and implementation of construction activities for the Integrated Nepean Hospital Project.

Construction performance will be monitored and work processes reviewed to improve, innovate and learn. Employees are responsible for complying with relevant procedures, reporting and rectifying non-compliance, and actively participating in quality meetings, committees and various training sessions.

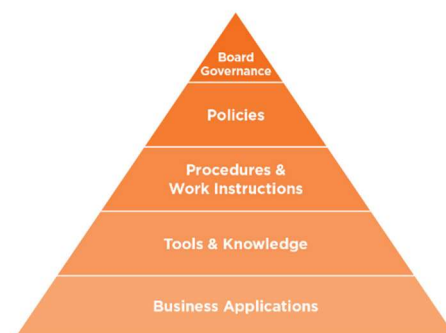


Figure 1: CPB Contractors Management System

Table 3: Objectives and Targets

Objectives	Measure	Target
Ensure that the Project is constructed in accordance with the Contract requirements and the objectives of the Principal	Achievement of technical completion	
Provide appropriate resources, management systems and support to ensure that construction of the Project is delivered within program and budget objectives	Monthly review of program Monthly review of budget .	

2.4 Project Management System

The Project Management System (PMS) is based on the requirements of the CPB Contractors management system and has been specifically tailored to ensure compliance with the principal's contract requirements. The Project Management Plan provides more detail about The Way We Operate and the process adopted to deliver against the Principal's overall requirements.

The Way We Operate guides the way the overall project will be managed to meet client and other stakeholder requirements.

The CPB Management System has been developed and implemented to ensure a consistent approach to project delivery. The management system comprises the following components:

- A Policy is a statement of strategic intent and commitment and defines the minimum mandatory requirements that CPB Contractors expects all levels of the organisation to comply with.
- The Project Management Plan outlines how the Project will be managed and it is supported by a suite of functional management plans.
- Procedures and Work Instruction specify how to undertake and control specific activities. They also list accountable roles and the tools and knowledge to be used. Where appropriate and approved by the respective Business Unit functional manager, project specific procedures may be produced to reflect specific project circumstances.
- Tools are preformatted documents such as forms and templates that are required to be completed as part of a Procedure.
- Knowledge documents are reference material to provide context, additional information or guidance to a Policy or Procedure.
- Business Applications are the software tools used to manage our business and support our operations.

2.5 The Safety Essentials

The CPB Contractors Safety Essentials set out the minimum, non-negotiable requirements to manage Safety Essential related tasks on The Integrated Nepean Hospital Redevelopment Project. The Safety Essentials are a suite of controls for critical safety risks that have been identified through data analysis that would have given rise to the potential for serious injury, if they were not understood and had appropriate controls in place.

The Safety Essentials support and reinforce the CPB Management System including the Project Management System – they do not replace them. Refer to the Safety & Health Management Plan for additional information.

3. Construction Methodology

3.1 Critical Construction Issues

The Integrated Nepean Hospital Redevelopment will be undertaken within a live health care environment including all Hospital buildings and facilities on the Nepean Campus. CPB is responsible for the staging and sequencing of construction works in order to minimise the impact to the operations of the Integrated Nepean Hospital Precinct.

Key principles include:

1. **The Integrated Nepean Hospital Precinct and all facilities will continue to be an operating hospital environment for the duration of the Works.**
2. **Separation of Construction Works from Hospital Operations** to ensure:
 - a) The safety of hospital staff, visitors, patients and visitors.
 - b) Segregation of construction activities to minimise impacts to hospital operations.
3. **Enabling the continuation of hospital operations** – All existing hospital facilities will continue to operate at full capacity during the Delivery Phase. Hospital operations should not be disrupted during the Works. This is to be undertaken through the staging and sequencing of works.
4. **Early Notice of Disruptions** – where disruptions (noise, vibration, dust, services shut downs, closure of pedestrian or vehicle paths/access points, etc are necessary) early notice will be provided to the Principal in accordance with the Disruption Notice process. Greater than 10 days' notice will be required for technical or extensive disruptions. CPB will allow appropriate time to prepare, review, and submit an appropriate disruption notice. Consultation will occur with the Principal, Integrated Nepean Hospital and all other relevant stakeholders to confirm an acceptable time/date/methodology for disruptions. Disruptions may be required to be completed out of normal working hours. This is detailed in the CPB Interface Management Plan.
5. **Infection Control** – ensure the infection control of the hospital is maintained. This includes external construction works on the campus and any locations of construction in the existing hospital environment. The infection control of existing facilities must not be compromised by construction works.
6. **Provision of temporary services/measures to support disruptions** – where major disruptions are required to the Hospital such as service shut downs, or change of entry points, temporary arrangements such as alternative entry points, back up services, etc will be provided to the satisfaction of the Principal to facilitate the continued operation of the hospital.
7. **Maintaining the compliance of all existing facilities** – during the works interface or connection with existing buildings or engineering system will be required. The Contractor must ensure the compliance and occupation of all existing facilities is maintained at all times.

3.2 Construction Staging, Sequence or Method

Construction Staging & Sequence for the Works is outlined in the draft integrated master program for the Main Works associated with the Stage 1 Building and will be further developed at a later stage.

3.3 Safety Considerations

On this Project, the following CPB Contractors defined high risk work tasks have been identified through Project planning and the risk management processes:

- Working at heights greater than 2 metres;
- Working near live traffic;
- Working near live services;
- Working in and around mobile plant and equipment;
- Electrical work;
- Work involving temporary works;
- Mobile cranes and lifting operations;

- The demolition of the whole or part of a structure that is either load-bearing or is related to the physical integrity of a structure;
- Any disturbance of or likely to involve any disturbance of, asbestos;
- Work in or near a confined space;
- A shaft or trench that is deeper than 1.5 metres;
- Work carried out on or near pressurised gas distribution mains or piping, or:
 - Chemical, fuel or refrigerant lines;
 - Energised electrical installations or services;
- Work in an area that may have a contaminated or flammable atmosphere;
- Tilt-up or precast concrete;
- Work on, in or adjacent to a railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians;
- Work where there are artificial extremes of temperature;

All Safety and Health risks, including the Safety Essentials and the Business defined High Risk Construction work tasks, must be managed through the application of the risk management processes, as follows:

- The Project Risk Register;
- Project Management Plan;
- Construction Area Risk Assessment;
- Construction Area Plan;
- Work Packs;
- Safe Work Method Statements; and
- Pre-Start Briefings.

3.4 Environmental Considerations

As with all Environmental Hazards, Significant Environmental Hazards have been identified through the review and analysis of environmental reports, contractual documents, community and legal compliance requirements relating to the Project and professional experience. Each of the Sub Plans listed below will be regularly reviewed during construction as the project risks are reviewed.

For further detail refer to;

Appendix C: Environmental Management Plan

Table 4 Environmental Hazards, Risks & Sub Plans

Environmental Hazards (Aspect)	Associated Significant Environmental Impact (Risk)	Environmental Sub Plans (Part C)
Clearing Works/ Inadvertent damage to vegetation	<ul style="list-style-type: none"> • Loss of or harm to flora or fauna 	Flora and Fauna Management Plan
Demolition Earthworks	<ul style="list-style-type: none"> • Soil erosion and sedimentation • Impact to natural water courses • Contamination of soil and water 	Soil and Water Management Plan
	<ul style="list-style-type: none"> • Noise and vibration affects to community and residents 	Noise & Vibration Sub Plan
	<ul style="list-style-type: none"> • Environmental impact of contaminated substances • Uncontrolled spills contaminating soil and water • Uncontrolled management of asbestos contamination 	Hazardous Substances Sub Plan
	<ul style="list-style-type: none"> • Uncontrolled waste removal and non-conformance to waste reporting to Government 	Waste Management Plan

Environmental Hazards (Aspect)	Associated Significant Environmental Impact (Risk)	Environmental Sub Plans (Part C)
	<ul style="list-style-type: none"> Air pollution affecting people, fauna and water. 	Air Sub Plan
Management and storage of hazardous materials	<ul style="list-style-type: none"> Off-site water and land quality impacts as a result of poor hydrocarbon/chemical management Failure to manage/report contaminated materials resulting in offsite soil and water impacts 	Soil and Water Management Plan Contaminated Land Sub Plan Unexpected Discovery Contamination process Hazardous Materials Management Plan Safety Management Plan

3.5 Community and Stakeholder Considerations

CPB will identify and proactively manage community and stakeholder issues and risks.

CPB identify the following list of stakeholders whose interest will need to be identified and documented:

- Ministry of Health (MoH)
- Health Infrastructure (The Principal)
- Nepean Blue Mountains Local Health District (NBMLHD)
- Nepean Hospital (NH)
- Sydney University (SU)
- Statutory Authorities
- Western Sydney University (WSU)
- Patients
- Families
- Staff
- Local community and businesses
- Emergency Services
- Local Council
- Fire Brigade

The principal community and stakeholder issues identified on the Project are:

ISSUE	CONTROLS
Noise:	<ul style="list-style-type: none">▪ All reasonable, practicable steps to reduce the noise by the use of screening, acoustic hoarding, engine silencing and alternate processes to reduce noise where possible.
Vibration:	<ul style="list-style-type: none">▪ Implement vibration monitoring, if required and respond to any concerns raised.
Dust:	<ul style="list-style-type: none">▪ Dust generated during the works is to be controlled by regular control measures such as on – site watering.▪ Vehicle wash down areas are to be established to minimise mud and soil being carried onto public roads▪ Trucks leaving the site with spoils or demolition material are to be covered.
Access:	<ul style="list-style-type: none">▪ Maintain local access at all times where possible. Communicate in a proactive way between the project and hospital team.▪ Access to site is identified in the traffic management plan and agreed with the hospital team.
Traffic:	<ul style="list-style-type: none">▪ As much as practicable traffic arrangements should be maintained.
Hours of work:	<ul style="list-style-type: none">▪ Will be in accordance with the DA, SSDA and Ref conditions

ISSUE	CONTROLS
Environment:	<ul style="list-style-type: none"> Any hazardous substances identified during the undertaking of works will be classified, stored, transported and disposed of according to the DECCW requirements and other applicable legislation and Australian guidelines. Erosions and sediment control measures are to be provided in accordance with "Landcom's Managing Urban Stormwater, Soils and Construction Guidelines", and the "Blue Book" is to be maintained regularly after rainfall events. Erosion and Sediment control measures are not to be removed until disturbed areas have been stabilised.
Waste:	<ul style="list-style-type: none"> Waste management Plan is to be developed with an appropriately qualified contractor prior to works commencing.

3.6 Quality Considerations

The Quality objectives and targets set out in Table are designed to facilitate the management and implementation of quality for Integrated Nepean Hospital and Integrated Ambulatory Services Redevelopment project.

Quality performance will be monitored and work processes reviewed to improve, innovate and learn. Employees are responsible for complying with relevant procedures, reporting and rectifying non-compliance, and actively participating in quality meetings, committees and various training sessions.

Table 5: Objectives and Targets

Key Result Area	Objectives	Measure	Target
Performance indicators that demonstrate quality outcomes	Cost of Non Conformance	All NCR costs/impacts to be recorded	100%
		NCRs classified as Class 1, 2, or 3	Nil Class 1
	Understand root causes of nonconformance	All NCRs categorised by root cause	100%
Maintain compliant Project Management System	Actions identified to close out BU Project Management Systems Audit NCRs	Actions closed within agreed timeframes	>90%
Reporting monthly key quality risks identified	Effectiveness of control for identified quality risks	Input monthly into the BU dashboard	≤3

For further detail will be developed in the Contractors Quality Management plan in the future.

3.7 Temporary Works

CPB will nominate a Temporary Works Co-ordinator who will administer the procedure and coordination of the temporary works encompassing details such as:

- A Work Pack briefing Identification of the temporary works required and preparation of a design brief
- The temporary works is to be designed by a competent person
- The design is to be reviewed to ensure meets the brief
- The design is to be certified (by designer – may require independent consultant)

- The design must be approved by the Permanent Works Designer if it has an impact on existing or new permanent works
- Must be undertaken covering TW installation, loading and removal. Covers SWMS safety requirements and ITP Hold Point requirements
- Erection to be carried out by competent personnel in accordance with the SWMS
- Any modifications to design or equipment to be referred back to the Temporary Works Designer (including check against permanent works)
- Completed temporary works to be inspected and approved for use by a competent person and/or designer before loading
- Loading to be in accordance with the design method and the SWMS
- Temporary Works to be dismantled with care in accordance with the SWMS.

3.8 Site Establishment

3.8.1 Early & Main Works

The construction management of all of the early & main works (Stage 1 Building) will be managed by the Contractor within the existing population health building, and will be supported by site amenities and site offices where required in closer proximity to each site. During the development of the civil and landscaping works adjacent to the new main entry and front of house, the CPB Contractor office will be relocated elsewhere within the hospital precinct within the proposed site boundary.

The Contractors Construction Management Plan will be developed to consider a number of elements, these include:

- Risks identified for the Project
- All site constraints with respect to access
- Existing traffic flows including pedestrian, vehicular and other service vehicles
- All environmental requirements
- Project security, amenity and access
- Project material handling including; hoisting and craneage.

3.8.1.1 Hours of work

The hours of construction are proposed to be restricted as follows:

- Mondays to Fridays: 7am to 6pm
- Saturdays: 7am to 5pm. Hours of construction are proposed to 5pm to maintain delivery of the project to program and therefore shorten the overall duration of noisy work and construction traffic movements.
- Sundays & Public holidays: No Work

Works may be undertaken outside these hours where:

- The delivery of materials is required outside these hours by the Police or other authorities, or
- It is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm, or
- Variation is approved in advance in writing by the Secretary or nominee

The Contractor's Construction Methodology Plan shall be developed to include:

- Details of existing services within the Work zone and Contractors compound and soil classification/clearances
- Details of other supplementary temporary works including hoardings and fencing required

- Details of all environmental controls including noise, air, water and waste controls,
- Survey of existing roadways and utilities
- Traffic harmonisation study
- Details of access ways for improved vehicular and other service vehicle access at
- Hospital interfaces, including any local council or local area health approvals
- Details of the provision of temporary services to carry out the Works
- Details of temporary security and lighting
- Details of site amenities and storage set down areas.

Given the early nature of the contractor engagement process and documents provided, the above methodology is preliminary and the methodology will be finalised once the contractor is engaged and the site specific information is properly reviewed and confirmed.

Due to the nature of construction in an operational environment, certain elements of the build may be engineered so as to avoid disruption to the adjacent hospital.

It is CPB Contractor's intention to integrate construction activities around the daily operations of the hospital to avoid any disruptions, with a focus on putting the safety and clinical operations of the users and public first.

3.8.1.2 Site Mobilisation, Hoarding and fencing

Upon site possession, site fencing and hoardings will be established around the boundary of both the new Stage 1 Building and the main entry works. The site hoarding/fencing will be dressed with shade cloth/graphics, with artwork provided by Health Infrastructure. The alignment of the site's hoarding/fencing will separate construction activities from ongoing health facility activities.

CPB Contractors propose early access to commence the early works by constructing a new layback off Somerset Street through the Drug and Alcohol Facility parking. This will allow CPB Contractors to gain immediate mobilisation to the site upon possession of the on-grade car park, and support early commencement of works on the Stage 1 Building.

Once access to the new Stage 1 Building site is established from Somerset Street, A class hoardings and acoustic hoardings will be installed to the New Main Tower Building site boundary, to the northern boundary of the Oral Health Care Centre and the southern side of the Drug and Alcohol facility parking.

People using the Drug and Alcohol facility will be redirected to a new entry point North near the Cancer Centre to access parking. This will reduce the impact of construction noise while vehicles enter and exit the site. The other fencing will be dress with shade cloth/graphics, with artwork provided by Health Infrastructure.

Link pathways from the Cancer Centre to the Main Building will be constructed and protected with two layers of ply, and existing emergency egress points and rear access points will be redirected to the Drug and Alcohol Facility.

Any graffiti, vandalism or damage to the fencing will be repaired as soon as practically possible.

3.8.1.3 Project signboard

Signboards will be placed on hoardings and fences near site entry points with details of the Contractor, Health Infrastructure, Local Health District, Project Manager, design team and in accordance with Australian Standards. Final details of the signboards will be reviewed and agreed with the Health Infrastructure prior to installation

Locations and style still to be advised subject to consultation with the Principal in the future.

- Locations and style still to be advised subject to consultation with Health Infrastructure.

3.9 Site Accommodation and Amenities

3.9.1 Early & Main Works

3.9.1.1 CPB Contractors

Site Accommodation will be installed for amenities such as meal rooms, change rooms and ablutions/showers according to the requirements stipulated in the Safe Work Australia 'Managing the Work Environment and Facilities' Code of Practice December 2011.

The main building works accommodation will be installed to the East of the New Stage 1 Building within the existing car park and in the area where the Child Care Centre is currently located near Somerset Street after the early works consisting of piling and bulk excavation works are complete. Satellite site sheds will be located elsewhere within the site boundary as an increase in demand for accommodation is required during the main works.

Workers site sheds are proposed to be double stack configuration, which will accommodate 500 men at its peak.

Following completion of the new Stage 1 Building, site accommodation will be set up in a designated location within the refurbishment building for the civil and landscaping works associated with the main entry works if required, where we expect it to accommodate 100 men at peak.

Refer to Appendix A, site management plans for the approximate site accommodation locations for the new Stage 1 Building.

3.9.1.2 Construction workforce

Shedding will be provided for the workforce over multiple stages while the site is being set-up for demolition, early works, piling, excavation, in ground services and other construction works associated with the new Stage 1 Building.

Site amenities and facilities will be provided in accordance with the requirements of WorkCover Code of Practice. Generally, the site compound will comprise of a mixture of facilities which includes but is not limited to the following:

- Dining rooms
- Toilets
- Showers
- Change rooms
- Drinking fountains.

Detailed overview of accommodation configuration will be provided in the future.

3.10 Traffic and Pedestrian Management

CPB Traffic Management Plan (CTMP). The CTMP examines the impacts on traffic (i.e. vehicles and pedestrians) on the surrounding local road network and provides mitigation measures to address any traffic and/or transport implications associated with the construction works.

Onsite construction access routes are established, within the construction boundary, mainly according to the proposed layout to facilitate materials handling for tower/crawler cranes. Hoists will transport personnel and lighter materials within each building structure.

The following proposed mitigation measures have been identified for the duration of the construction works:

- Appropriate signs warning of trucks entering will be erected on the approach to any access point as per requirements of the certified Traffic Control Plan
- Promoting car-pooling and using site car-parking more efficiently – NO ONSITE PARKING
- Waiting construction traffic such as concrete or haulage trucks to be confined within the site boundary or sent back to original point of departure if not booked in for delivery

- Appropriate signs erected to warn vehicle drivers and, in particular, vulnerable road users such as cyclists and pedestrians, of restricted road and shoulder spaces due to construction activities
- Implementation of effective arrangements including advance warning signs and emergency access arrangements for any closure to surrounding road
- Vehicles transporting material to and from the construction site will be covered immediately after loading (prior to traversing public roads) to prevent wind-blown dust emissions and spillages
- In the event of a spillage of materials from construction vehicles, spilled material will be removed as soon as possible and spill kits will be available on the site.
- Access being maintained to neighboring properties and other land users throughout the construction phase
- Haulage vehicles being filled to capacity to minimise vehicle movements
- The preparation of Traffic Control Plans.
- Haulage vehicles during bulk excavation will be carefully managed and staggered as required to prevent congestion or obstruction at major road intersections providing access to the site.

3.10.1 Proposed methodology for traffic management, including truck access and departures routes

The Construction Traffic Management Plan (CTMP) is a sub-plan to the Project Management Plan, and will be developed to ensure appropriate traffic control measures are undertaken on roads affected by construction traffic. Traffic control signage will be installed to ensure safe interface between construction traffic and the health facilities traffic movements.

The CTMP will:

- Identify expected traffic flows entering and exiting the site
- Quantify the impact of traffic flows on surrounding areas as based on principal issued traffic modelling
- Demonstrate separation of traffic movements within the precinct
- Propose changes to signage and pavement markings, traffic control devices and street lighting as required that will control traffic and provide guidance and warnings.

The CTMP will address:

- Definition of roles and responsibilities
- Establishment of monitoring procedures
- Establishment of control procedures, such as incident response.

Appropriate traffic control measures will be undertaken on roads affected by construction traffic. Traffic control signage will be installed to ensure a safe interface between construction traffic and hospital traffic movements.

Traffic control plans will be implemented by qualified traffic controllers where footpath and driveway works are required. Other traffic control plans will be implemented when undertaking works to connect to the health facilities. Segregation between the pedestrians and work area, and temporary pathways will guide pedestrians safely around the work site.

Traffic controllers will be on call on particular roads or footpaths where construction traffic may cause traffic delays or require pedestrian coordination.

All truck deliveries will access the site via main entry point as nominated on the site plans. Trucks will be coordinated to exit the site via the gate staff. An approved waiting zone away from the site will be designated prior to entry of health facility precinct to minimise construction traffic in the work zone.

The main Building Hospital's site entry and egress will be via Somerset Street through Gate 1 on a nose-in, nose-out basis only. The gate is setback from Somerset Street, allowing trucks to turn into the site without blocking vehicle movement on the street.

The civil and landscaping works located adjacent to the main entry following the Stage 1 Building completion will be via Barber Ave through Gate 2. CPB Contractors understand that Barber Ave is utilised for hospital drop off and parking for the Private Hospital and will implement appropriate controls to ensure that minimal impact is caused.

CPB Contractors TCP's limit the impact of truck movements within the hospital precinct, and ensures minimal effect is made to the current vehicular movements within the hospital.

Refer to CTMP in Appendix B

3.11 Emergency Management

Management plans and procedures will be implemented in accordance with the Work Health and Safety Regulation 2011. Emergency evacuation plans will define evacuation routes and muster points for each of the various stages of each of the Project sites. These plans will then become part of the site induction presented to all personnel. Site rules will also be established to prevent equipment or material being placed along emergency egress pathways or obstructing firefighting equipment.

Any changes to the Emergency Management Plan will be communicated at the earliest opportunity through weekly safety committee walks, subcontractor meetings and pre-start meetings. Random emergency evacuation drills will also be undertaken to train and test the workforce during the unlikely event of an emergency evacuation. Alternate egress pathways will be created and maintained during any works that may obstruct egress passageways.

Firefighting equipment will be installed in consultation with the Fire Services subcontractor and in accordance with the Building Code of Australia. Fire extinguishers will be made available during the structure and fit out stages as required.

3.12 Nurse Call System

A wireless nurse call system will be installed within both zone areas of the Main Building Works and main entry to eliminate the risk of vandalism associated with hard wired systems. The nurse call system will incorporate a site evacuation and public address system to allow an immediate response to onsite incidents during construction.

This nurse call system will be connected to the staffed first aid shed, with a remote pager system installed in case the first aid officer is out of the first aid shed.

3.13 Waste Management

Rubbish will be removed from each site using both lift able construction bins and wheelie type bins. The waste in these bins will be loaded into the larger 'skip' bins located in the building delivery/laydown area within the compounds. The majority of waste will be sorted onsite, using two bin types:

1. General rubbish bins – to be provided at all times, with offsite sorting
2. Metal bins – to be provided at all times for aluminium, reinforcement, copper and ductwork.

The disposal subcontractor will recycle material where possible and record waste volumes. A receipt summarising recycled and waste quantities will be issued to the contractor on a monthly basis.

The target for recycling of waste by the disposal subcontractor will be 85% of the total generated.

Refer to Appendix C for Waste Management Plan

3.14 Site Security

Security of both the Main Tower Building and main entry sites will be provided through passive and active solutions.

3.14.1 Passive Security

- Fencing/hoarding will be erected to prevent intruders from entering the site
- Main entry gates into each site will have sensor lighting installed at all times

- The daily site lock up protocol will be undertaken at the end of each work day to ensure the site is secure overnight and on weekends
- The daily site opening protocol will be undertaken at the beginning of each workday to ensure the integrity of the site has been maintained
- The issue of site keys to personnel will be restricted.

3.14.2 Active Security

- A security guard will be present at night and on weekends when installation of equipment and FF&E deliveries commence
- Security measures will be taken during holiday periods to ensure the integrity of the site
- The contractor's and Principal's site office will be secured with an alarm system and security response service.

Note: After consultation between CPB Contractors, Health Infrastructure & users, CPB Contractors will seek to provide an appropriate level of patrolling security as required.

3.15 Materials Handling

CPB Contractors material handling configuration is in broad terms shown on the site management plans in Appendix A. These plans outline the logistics of how we propose to manage site entry, exit and overall site management.

Man and material hoists and loading platforms will be used on the Main Hospital Tower works structure to enable loading of materials between each level. All truck deliveries will access the site via main entry points, as nominated on the site plans. Trucks will be coordinated to exit the site via gate staff. An approved waiting zone away from site will be designated prior to entry of health facility precinct in minimise construction traffic in the work zone.

The new Stage 1 Building site entry and egress will via Somerset Street through Gate 1, on a nose-in nose-out basis only, the gate will be slightly setback from Somerset Street, allowing trucks to turn into the site without blocking street vehicle movement.

During the civil and landscaping works adjacent to the main entry, site access and egress will be made through Barber Avenue into Gate 2 also on a nose-in nose out basis to alleviate vehicular congestion and project safety. A designated material handling zone will be located adjacent to the site entry.

The material handling onsite will be maintained using the following lifting equipment to take delivery of materials, equipment and facilitating horizontal lifting around the site.

3.15.1 Stage 1 Building

- 2 x Hammerhead Tower Cranes
- Mobile cranes for general lifting
- 4 x Material handling hoist
- All terrain forklifts.

2 x Hammerhead tower cranes will be selected for the main building works. These cranes have been selected for the following reasons:

1. Noise – This is an electric crane and virtually noise free. The diesel-powered tower crane noise is typically the most common source of noise complaint on large projects.
2. Speed – The cabin will be fully manned, improving the speed of the crane. Tower cranes have no daily setup time which improves daily lifting rates.
3. Slew arc – The crane has the ability to reach the material handling zone and the main structural core. This minimises the requirement of support mobile crane and site congestion.
4. The tower cranes will be located in accordance with the marked site plan in Appendix A Support mobile crane will only be used for specialised and prolonged lifts that limit the boom capacity of the tower cranes.

Please refer to Appendix A, site management plans for the Tower Crane locations. A more detailed plan showing radiuses to the main building will be provided in future revisions of this Plan.

All pumping of concrete, changeover of rubbish bins, loading and unloading of delivery trucks and mobile crane setups will all be carried out within the compound boundary of each site.

3.16 Contractor Parking

No onsite parking within the health facilities will be designated for contractors to minimise disruptions to hospital operations. A small area on site may be allocated for parking if there is space within the confines of the site boundary and will be subject to approval by the Principal.

3.17 Methodology for Environmental Protection:

3.17.1 General:

A draft Construction Environment Management Plan (CEMP) will be developed and documented to ensure CPB Contractors identifies key environmental hazards the various project locations and develops appropriate control methods to manage hazards.

CPB Contractors recognise sites are close to the existing health facilities, and that this may have potential impact on operations. The methodology for environmental protection shall be managed by the EMP, and will incorporate SSDA development approval requirements' including approved working hours once the conditions of the Application have been received.

3.17.2 Sub Plans to the EMP will include the following:

1. Dust Management Plan:

This sub-plan to the CEMP addresses the management of emissions to the atmosphere that may be caused by Project activities and have the potential to adversely affect the environment or community by affecting air quality.

2. Vibration and Noise Plan:

This sub-plan to the CEMP addresses the management of noise generated by project activities that have the potential to adversely affect the environment and/or community.

In conjunction with the Acoustic engineer and in collaboration with the Health Infrastructure, CPB Contractors proposed to develop a Noise and Vibration plan and will adopt the EPA Construction Noise Guidelines for airborne noise and the EPA's Assessing Vibration technical guidelines for vibration.

3. Air Quality Plan:

This sub-plan to the CEMP addresses the management of emissions to the atmosphere that may be caused by Project activities, and that have the potential to adversely affect the environment or community by affecting air quality.

4. Visual Management Plan:

The sub-heading in the CEMP addresses management of clean site conditions and external appearance that may impact on the surrounding public environment.

5. Waste Management Plan:

Waste will be generated from demolition, earthworks and general construction waste. CPB Contractors will develop a sub-plan to the CEMP to ensure waste originating from the Project is managed in an efficient, environmentally appropriate and legally compliant manner.

Refer to Appendix C for Waste Management Plan

Appendices

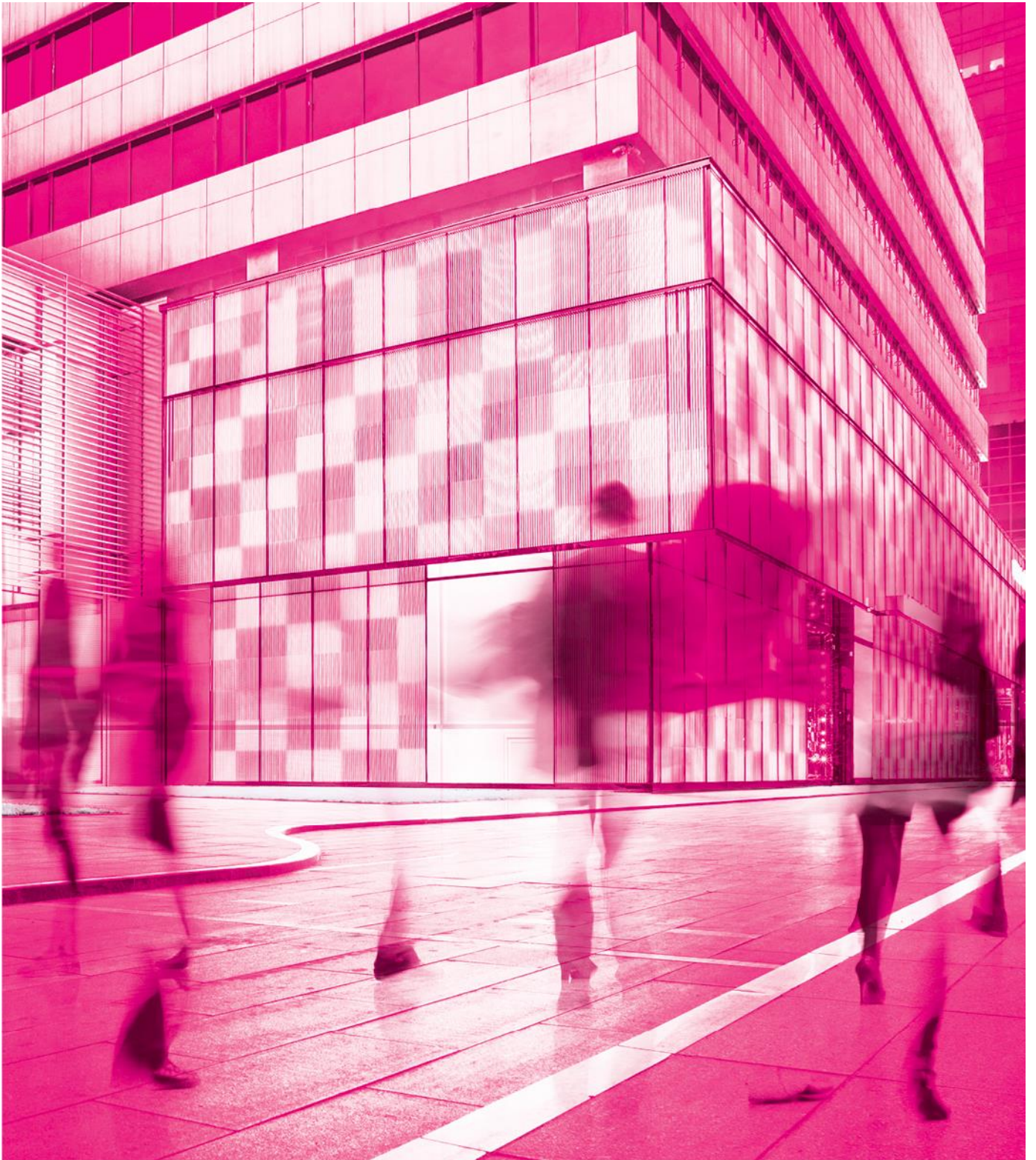
Appendix A: Draft Site Management Plan

1. Site Management Plan: Stage 1 Building Works



CPB
CONTRACTORS

Appendix B: Construction Traffic Management Plan (CTMP)



CTMP;

**Nepean Hospital and Integrated
Ambulatory Services
Redevelopment - SSDA**

For Health Infrastructure

23 July 2018

**parking;
traffic;
civil design;
communication;**

ptc.

Document Control

Our Reference: T2-2271, Nepean Hospital and Integrated Ambulatory Services Redevelopment – Concept and Stage 1 SSDA, Construction Traffic Management Plan (CTMP)

Issue	Date	Issue Details	Author	Reviewed
1	14/12/17	Draft Issue	HL	AU
2	15/12/17	Final Issue	HL	AU
3	18/12/17	Final Issue (Revised)	HL	AU
4	06/04/18	Minor Edits	AM	AM
5	26/04/18	Final Issue (Revised)	HL	AU
6	20/07/18	Includes SEARs Table	AM	AM

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1. Executive Summary

This Construction Traffic Management Plan (CTMP) has been prepared to outline the construction traffic measures to improve site safety to the public and workers during the construction of the Stage 1 Building. It is envisaged that the demolition, excavation and construction stages are anticipated to have minimal impact on the larger surrounding traffic network. The following are key points highlighted in this report:

- All works associated with the project will be restricted to the proposed time periods outlined in Section 7.2;
- Commercial trucks up to 19m articulated vehicles (AVs) and 'truck and dogs' will be utilised to complete the demolition, excavation and construction stages;
- All construction vehicles accessing and departing the subject site will be constrained to the State and Regional road network wherever practicable;
- All construction vehicles will be required to enter and exit the hospital property in a forward movement and will be performing their turning movements within the hospital boundary.
- Due to the close proximity of train and bus services as well as site constraints, construction staff parking will not be provided on-site. The principal contractor will be encouraged to assist with the transportation of staff, and site personnel will be made aware of the available public transportation. Site personnel will also be encouraged to consider car-pooling.
- This report satisfies the following condition outlined within the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning & Environment dated 20 November 2017:

Traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport and cumulative impact of nearby construction projects, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact.

It is noted that this report will be continually reviewed and amended if required due to changes in design and/or RMS, Penrith City Council or any other authority requirements.

2. Purpose of the Report

ptc. has been engaged by Health Infrastructure (HI) to prepare a parking demand and traffic assessment report to accompany a State Significant Development Application (SSDA) for the construction of a hospital expansion within the existing Nepean Hospital campus.

This report has been prepared in accordance with the traffic and transport related comments stated in Secretary's Environmental Assessment Requirements (SEARs) dated 22 November 2017 relating to the SSDA.

The following table presents the SEARs relevant to Transport and Accessibility and confirms that each of these items has been addressed in this report.

SEARs	Comments and Reference
Item 5 – Transport and Accessibility	
<ul style="list-style-type: none"> traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport and the cumulative impact of nearby construction projects, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact. 	The traffic movements and truck routes associated with the construction process are described in Section 6 of this document, which should be read in conjunction with the construction methodology statement prepared by CPB Contractors.
Item 13 - Waste	
<ul style="list-style-type: none"> Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site. 	The management of waste during the construction process is described in the construction methodology statement prepared by CPB Contractors.

3. Introduction

3.1 Introduction

In particular, this CTMP refers to the Early Works involving the demolition of the existing car parking facilities, excavation, piling and in-ground works and the construction of the Stage 1 Building.

This CTMP has been prepared in response to the SEARs to address the traffic management arrangements during the construction works.

The location of the subject site is outlined in Figure 1.

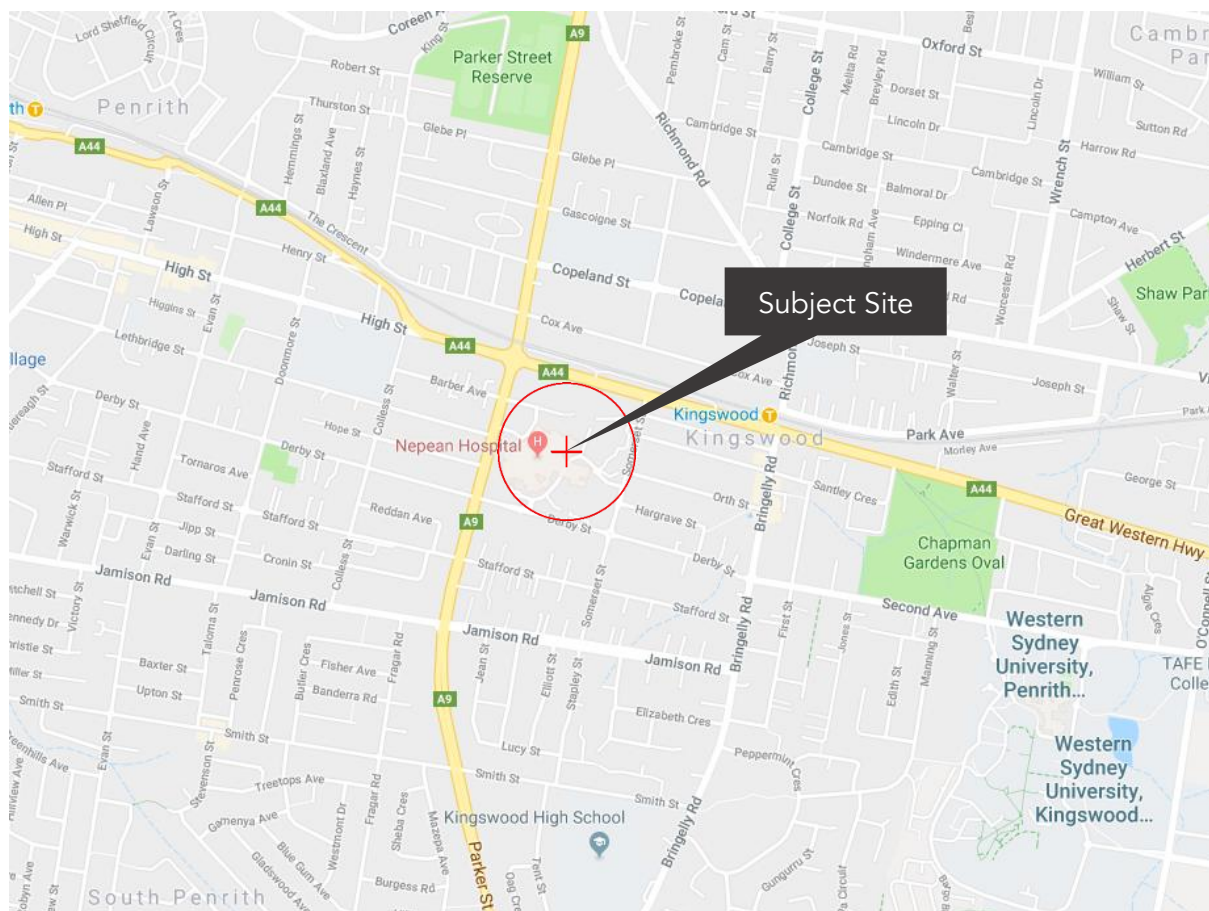


Figure 1 – Nepean Hospital Location (Source: Google Maps 2017)

3.2 Purpose of this Report

This report has been prepared to outline the traffic management arrangements associated with the Stage 1 Building, Nepean Hospital Redevelopment.

This report presents the following considerations in relation to the construction traffic management plan:

- Section 1 - Executive Summary;
- Section 2 - Introduction of the project;
- Section 3 - Background information, including a description of the site and current use;
- Section 4 - A description of the development proposal;
- Section 5 - A description of the road network serving the development site, the existing transportation options and active transport facilities;
- Section 6 - Management of construction vehicles and non-site traffic; and
- Section 7 - Summary.

3.3 Department of Planning & Environment Condition

In accordance with Item 5 outlined within the SEARs issued by the Department of Planning and Environment (DPE), this report addresses the issues outlined below:

Traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport and cumulative impact of nearby construction projects, including the preparation of a Construction Traffic Management Plan to demonstrate the proposed management of the impact.

4. Background

4.1 Site Context

The proposal relates to the following lot:

- Lot No. 1, DP1114090 (138,952m²).

The site is located in Kingswood, which is approximately 60 km west of the Sydney CBD. Within the suburb, the Nepean Hospital is located approximately 3 km to the east of the Penrith City Centre. The Penrith City Centre hosts a population of approximately 198,000 within the Penrith Local Government Area (LGA), which has experienced growth of approximately 11.9% between 2006 and 2015 according to ABS Census Data. It is expected that this growth continues in the future.

The hospital is bounded by the Great Western Highway to the north, Parker Street to the west, Derby Street to the south and Somerset Street to the east (see Figure 2).

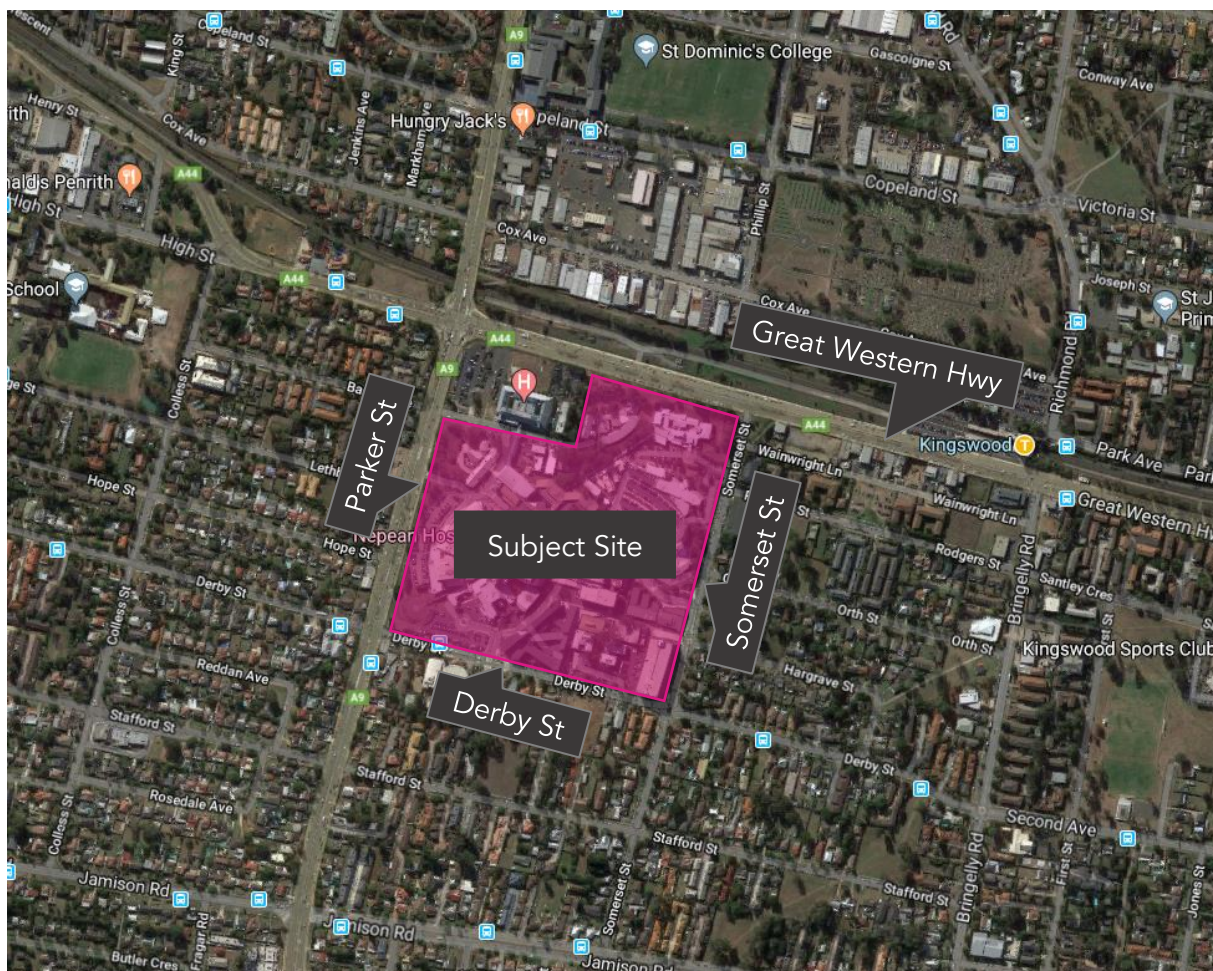


Figure 2 – Aerial View of the Nepean Hospital Campus (Source: Google Maps)

4.1.1 Existing Surrounding Land Use

In the context of the surrounding land use, the Hospital's area is classified as an Infrastructure Zone (SP2) and is surrounded by a variety of different land uses:

- The west of the hospital is characterised by Medium (R3) and High (R4) Density Residential dwellings;
- Immediately to the east and south of the hospital is a Mixed Use (B4) area, followed by Medium (R3) and High (R4) Density Residential housings and the Chapman Gardens Oval, zoned as Public Recreation (R1);
- To the north-east of the Hospital lies a General Industrial (IN1) area, accommodating railway tracks, the Kingswood Railway station and several automotive outlets along the Great Western Highway. Behind these is the Kingswood Cemetery, zoned as Special Activities (SP1).

Figure 3 shows the surrounding land use.



Figure 3 – Surrounding Land Use (Source: NSW Planning Portal 2017)

4.1.2 Future Surrounding Land Use

In 2007, the NSW Department of Planning and Penrith City Council published the Penrith City Centre Plan, which outlines the foundation to ensure the rapid growth of the Western Sydney hub will be accommodated for within a 25-year period. The City Centre Plan aligns with the key objectives of the Council's vision for Penrith to ensure growth into a "prosperous, vibrant and attractive city".

The City Centre Plan identifies development opportunities in the context of the expected growth in population of 10,000 new residents and 10,000 new jobs within the City Centre.

The key initiatives identified within City Centre Plan include:

- Promoting office development in the commercial core;
- Promoting Government office accommodation options for the city centre;
- Investigating options for the development of the city park;
- Developing strategies to improve the educational facilities within the city centre; and
- Improving the accessibility within the city centre by investigating new transport options and planning for the necessary infrastructure.

In 2011, the Penrith Business Alliance (PBA) published the Penrith Health and Education Precinct Strategic Vision. The document aims to create local jobs by growing the skills base of the area as well as attract new investment to Penrith through the delivery of projects focused in four key areas:

- World leading health services;
- Education and training related to health and wellbeing;
- Research, in medicine and preventative health; and
- Business opportunities, related to health, medicine and wellbeing.

Consequently, the proposed Nepean Hospital Redevelopment is consistent with the objectives relevant to the Penrith Health and Education Precinct Strategic Vision, which will promote future government and non-government investment and development in the region's health sector.

4.2 Current Site Use

The Nepean Hospital is part of the Nepean Blue Mountains Local Health District, providing public health services to Greater Western Sydney. The area is served by a number of hospitals including Hawkesbury Hospital, Springwood Hospital, Blue Mountains Hospital and Lithgow Hospital.

The Hospital is the principal referral hospital and regional trauma centre for Western Sydney and provides a diverse range of services including emergency, intensive care, cancer care, cardiology, community health, drug & alcohol, medical imaging, mental health, sexual health, rehabilitation, pharma & allied health, and surgical services (including dental, neurosurgery, orthopaedic, plastic & reconstructive, thoracic, breast & endocrine, ENT, urology and vascular).

The Hospital also has an educational alliance with the University of Sydney. Medical, nursing and allied health students are placed at the hospital for practical terms.

The existing Hospital Campus map is presented in Figure 4.

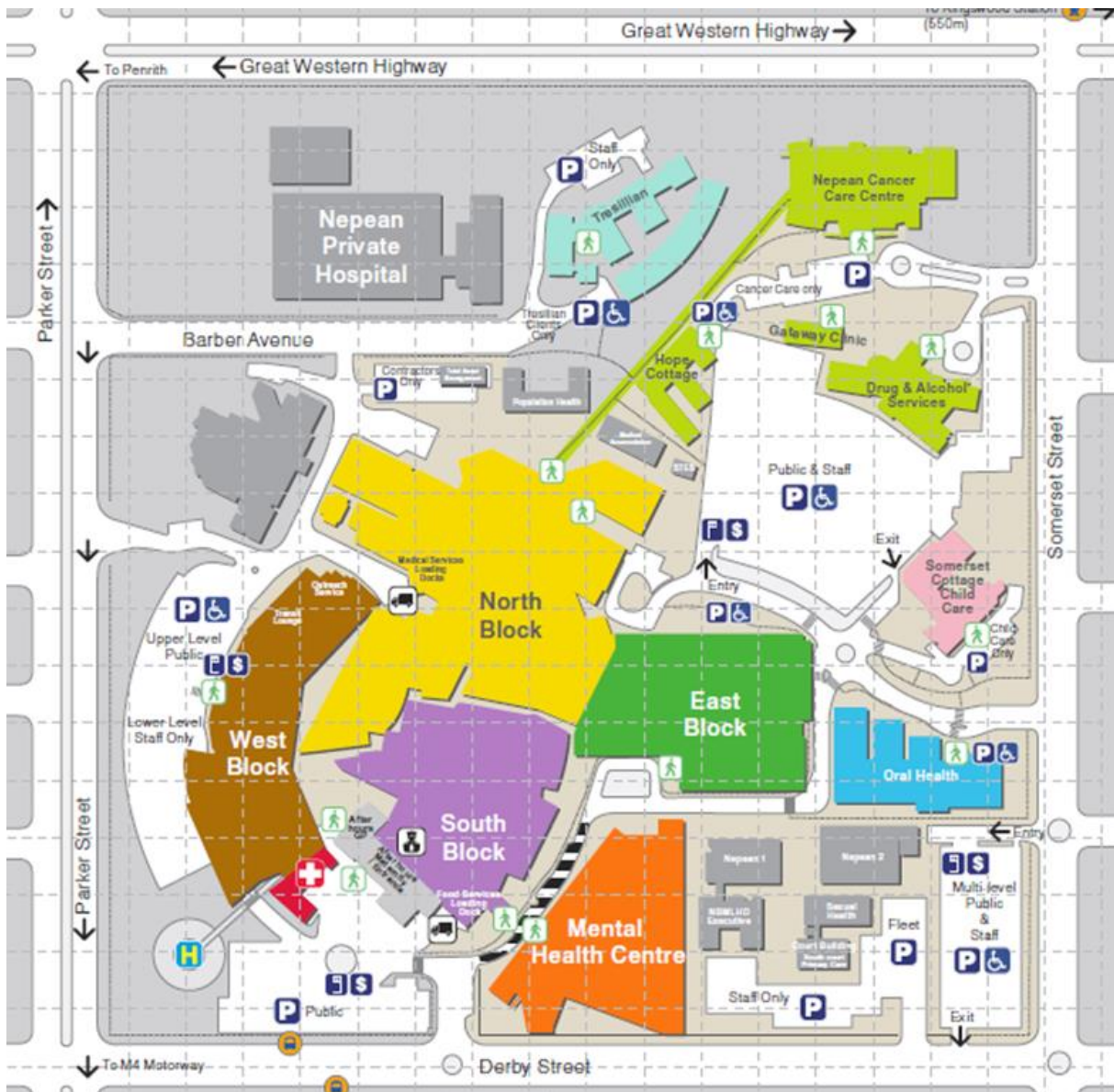


Figure 4 – Existing Nepean Hospital Campus Map (Source: NSW Health)

5. Development Proposal

Over the next 10 years, Nepean Hospital will undergo redevelopment to provide additional services to support the local and regional health demand requirements within Greater Western Sydney. The plans include the construction of the approved multi-deck car park (DA17/0665) and redevelopment of the hospital as per the new master plan prepared by BVN Architects for the horizon years 2021/22 & 2026/27.

The hospital redevelopment will enable the hospital to accommodate an additional 161,461 outpatient occasions of service per annum, 30,257 Emergency Department presentations per annum, over 200 inpatient beds and 1,115 students per annum by 2027.

5.1 Construction Staging

The proposed redevelopment involves the construction of an additional hospital building (the Stage 1 Building), and a separate project comprising an approved Multi-Deck Car Park (MDCP) with a capacity of 628 spaces and rooftop helipad (see Figure 5).

It is anticipated that the construction of the MDCP is due to be completed by early 2019, whilst the construction of the Stage 1 Building is scheduled to be undertaken between mid 2018 and mid 2021. It is acknowledged that there is an overlap of the two construction activities; however, the construction of the MDCP will be nearing completion and operational, prior to the commencement of works for the Stage 1 Building. In light of this, only minor finishing works will be undertaken when the construction of the Stage 1 Building commences. Hence, a cumulative traffic impact assessment is not required.

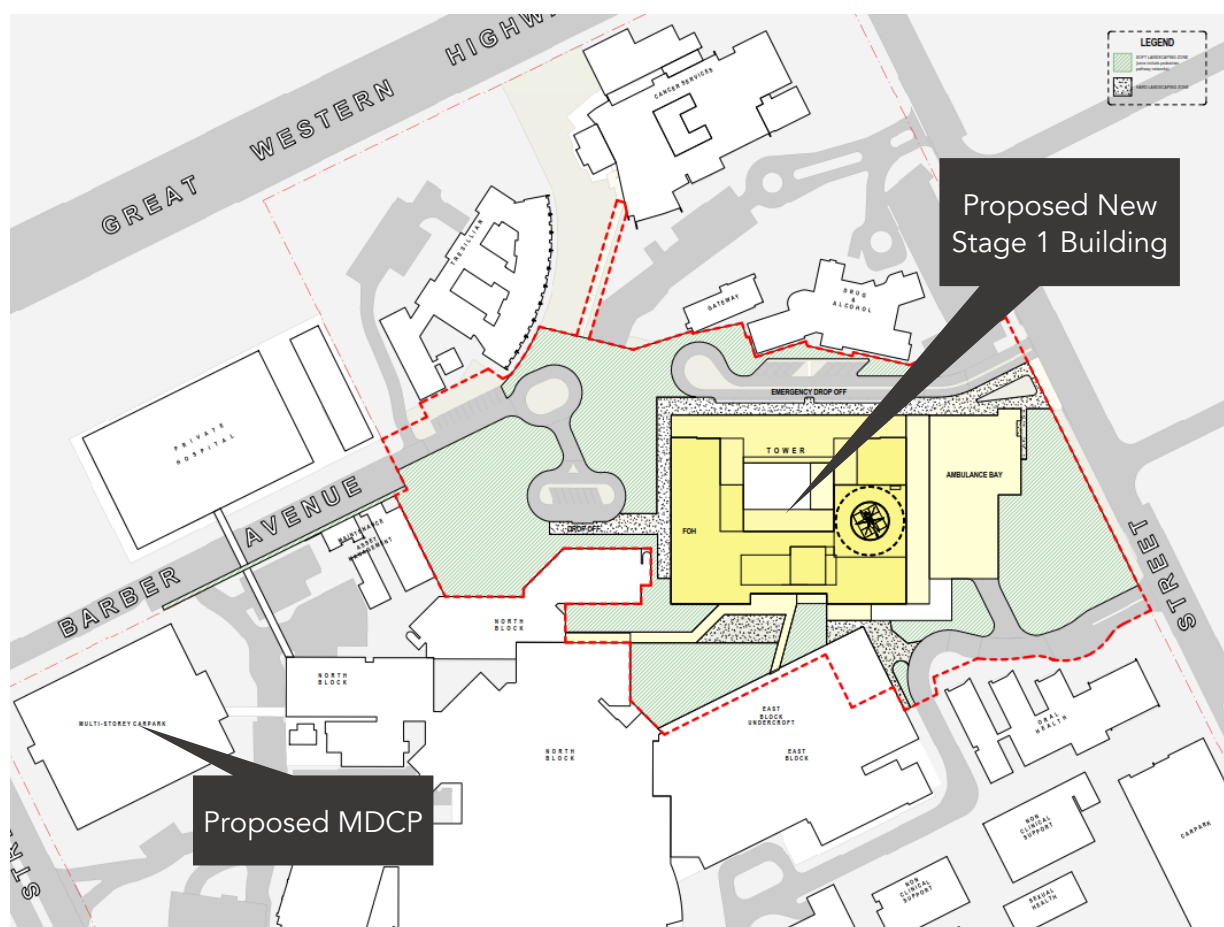


Figure 5 – Nepean Hospital Redevelopment Overview

The redevelopment works include the construction of 40 additional parking bays within the emergency vehicle areas and parking in the MDCP helipad area (addition of 108 car spaces) as well as an additional 20 spaces adjacent and to the north of new hospital building.

The construction program is divided into two key phases, as outlined below:

Table 1 - Construction Programme

	Time Period	Scope of Works
Phase I	September 2018 – February 2019	Demolition works including the mobilisation and clearing existing site, excavation, piling and in-ground works (construction of a new driveway layback within Somerset Street frontage – Gate 1 access/egress)
Phase II	February 2019 – April 2021	Construction of the Stage 1 Building

Figure 6 presents the site establishment plan for the Early Works construction (Phase I). It is noted that as part of the Early Works, a temporary vehicular driveway (Gate 1) will be constructed to allow construction vehicle access and egress.

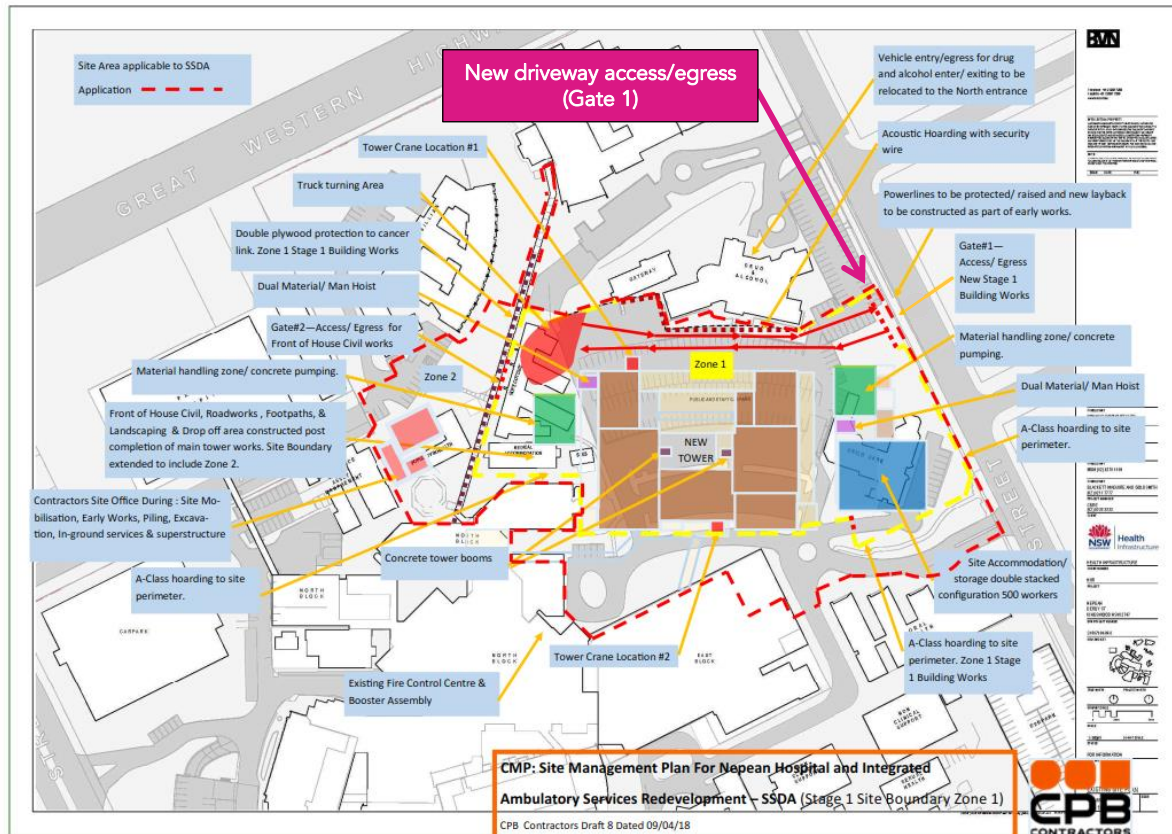


Figure 6 - Site Establishment Plan (Phase I - Site Boundary Zone 1)

Figure 7 presents the site establishment plan for the construction of the Stage 1 Building (Phase II) which will involve the extension of the site hoarding as shown by the broken yellow boundary line.

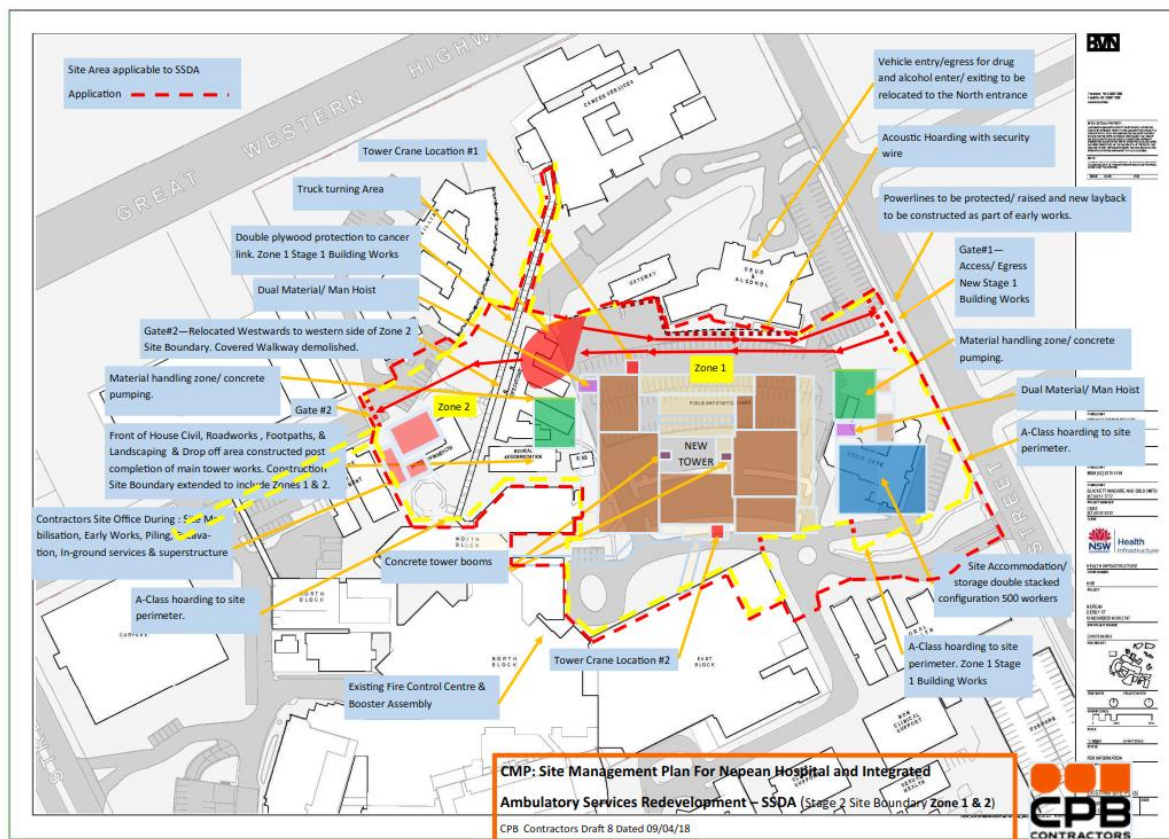


Figure 7 - Site Establishment Plan (Phase II - Site Boundary Zone 1 & 2)

6. Existing Transportation Facilities

6.1 Road Hierarchy

The Hospital is served by a regional and local road network, which provides ready access to the City Centre and the surrounding region, while the Great Western Highway and Parker Street provide the primary connection to the Sydney CBD. The road network in this area is also comprised of State and Regional roads, as well as local roads providing access to the surrounding land uses.

The surrounding road network is illustrated in Figure 8.

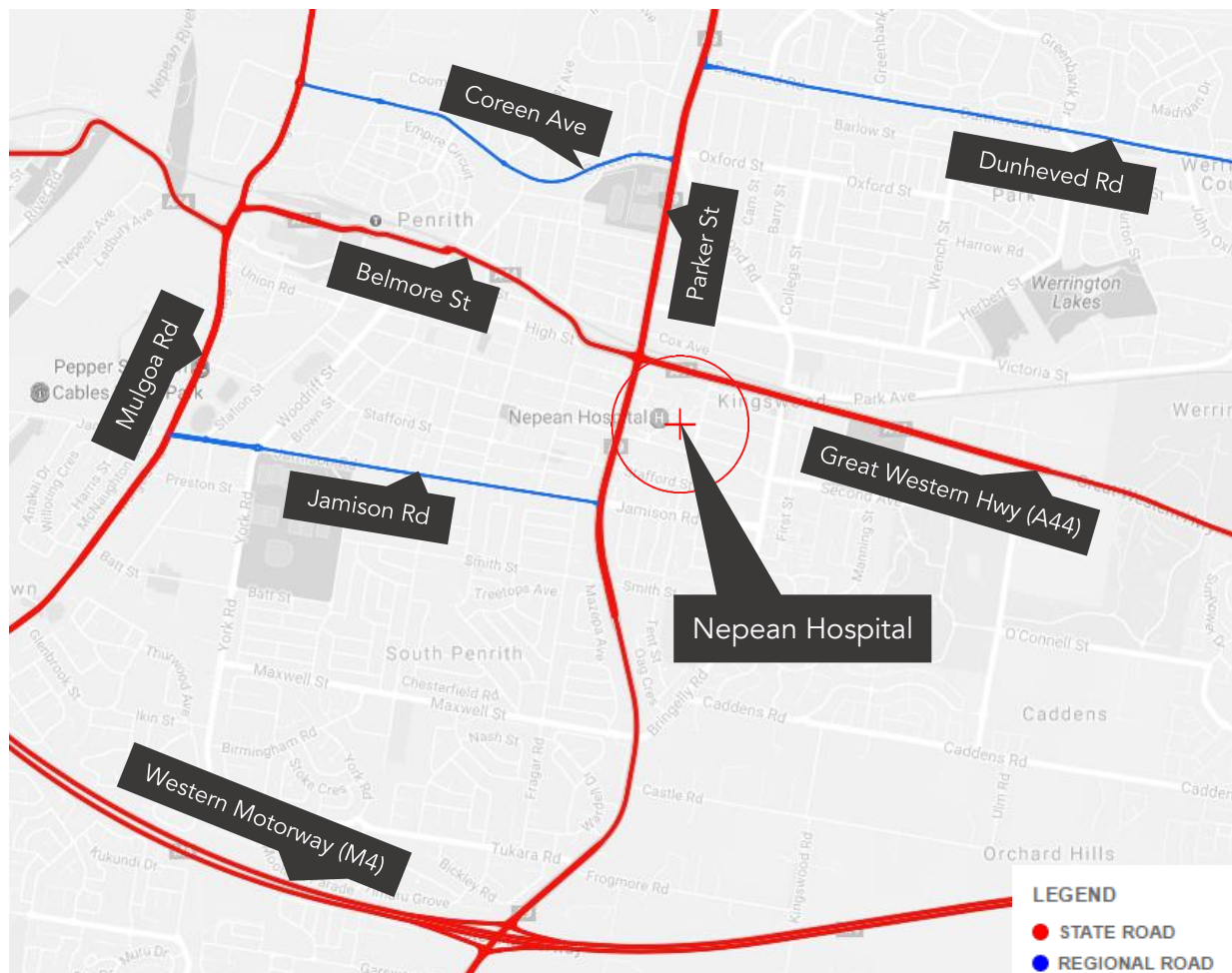


Figure 8 – Road Hierarchy (Source: RMS Road Hierarchy Review)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- State Roads: Freeways and Primary Arterials (RMS Managed)
- Regional Roads: Secondary or sub-arterials (Council Managed, Part funded by the State)
- Local Roads: Collector and local access roads (Council Managed)

The road network serving the site includes:

Great Western Highway	
Road Classification	State Road
Alignment	East – West
Number of Lanes	3 lanes in each direction
Carriageway Type	Divided
Carriageway Width	22.5 metres
Speed Limit	60kph
School Zone	No
Parking Controls	Eastbound: unrestricted parking on the outer most lane; Westbound: partially unrestricted parking on the outer most lane, partially 'No Stopping'
Forms Site Frontage	Yes



Figure 9 – Streetview of Great Western Highway, Eastbound (Source: Google)

Parker Street	
Road Classification	State Road
Alignment	North – South
Number of Lanes	3 lanes in each direction
Carriageway Type	Divided
Carriageway Width	22.5 metres
Speed Limit	70kph
School Zone	No
Parking Controls	Southbound: unrestricted parking on the outer most lane; Northbound: partially unrestricted parking on the outer most lane, partially 'No Stopping'.
Forms Site Frontage	Yes

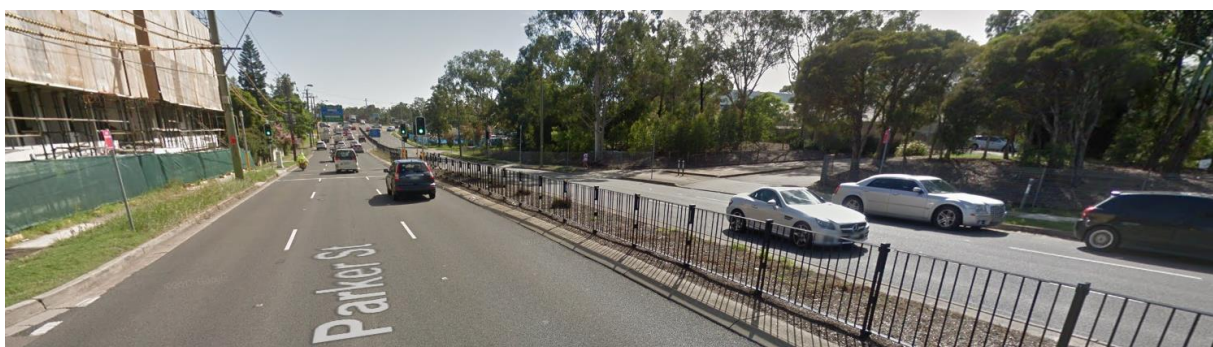


Figure 10 – Streetview of Parker Street, Northbound (Source: Google)

Derby Street	
Road Classification	Local Road
Alignment	East – West
Number of Lanes	1 lane in each direction
Carriageway Type	Un-divided
Carriageway Width	12 metres
Speed Limit	50kph
School Zone	No
Parking Controls	Eastbound: partially 'No Stopping' and 'Bus Zone' areas, partially free 2 hour parking; Westbound: partially 'Bus Zone' and free 15 min parking, partially free 4 hour parking.
Forms Site Frontage	Yes



Figure 11 – Streetview of Derby Street, Eastbound (Source: Google)

Somerset Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	1 lane in each direction
Carriageway Type	Un-divided
Carriageway Width	12 metres
Speed Limit	50kph
School Zone	No
Parking Controls	Free 2 hour parking northbound and 4 hour parking southbound
Forms Site Frontage	Yes



Figure 12 – Streetview of Somerset Street, Northbound (Source: Google)

Barber Avenue	
Road Classification	Local Road
Alignment	East – West
Number of Lanes	1 lane in each direction
Carriageway Type	Un-Divided
Carriageway Width	9 metres
Speed Limit	50kph
School Zone	No
Parking Controls	Free 2 hour parking on the southern road side, 'No Stopping' on the northern road side
Forms Site Frontage	Yes



Figure 13 – Streetview of Barber Avenue, Eastbound (Source: Google)

6.2 Key Intersections

A number of key intersections have been identified in the vicinity of the development site (see Figure 14). These are listed below, together with their characteristics:

1. Great Western Hwy / Parker St – Four arm signalised intersection;
2. Western Motorway / The Northern Road – Four arm signalised intersection;
3. Great Western Hwy / Somerset St – Non-signalised T-intersection;
4. Jamison Rd / Somerset St - Non-signalised T-intersection;
5. Jamison Rd / Bringelly Rd - Non-signalised T-intersection;
6. Great Western Hwy / Bringelly Rd – Signalised T-intersection;

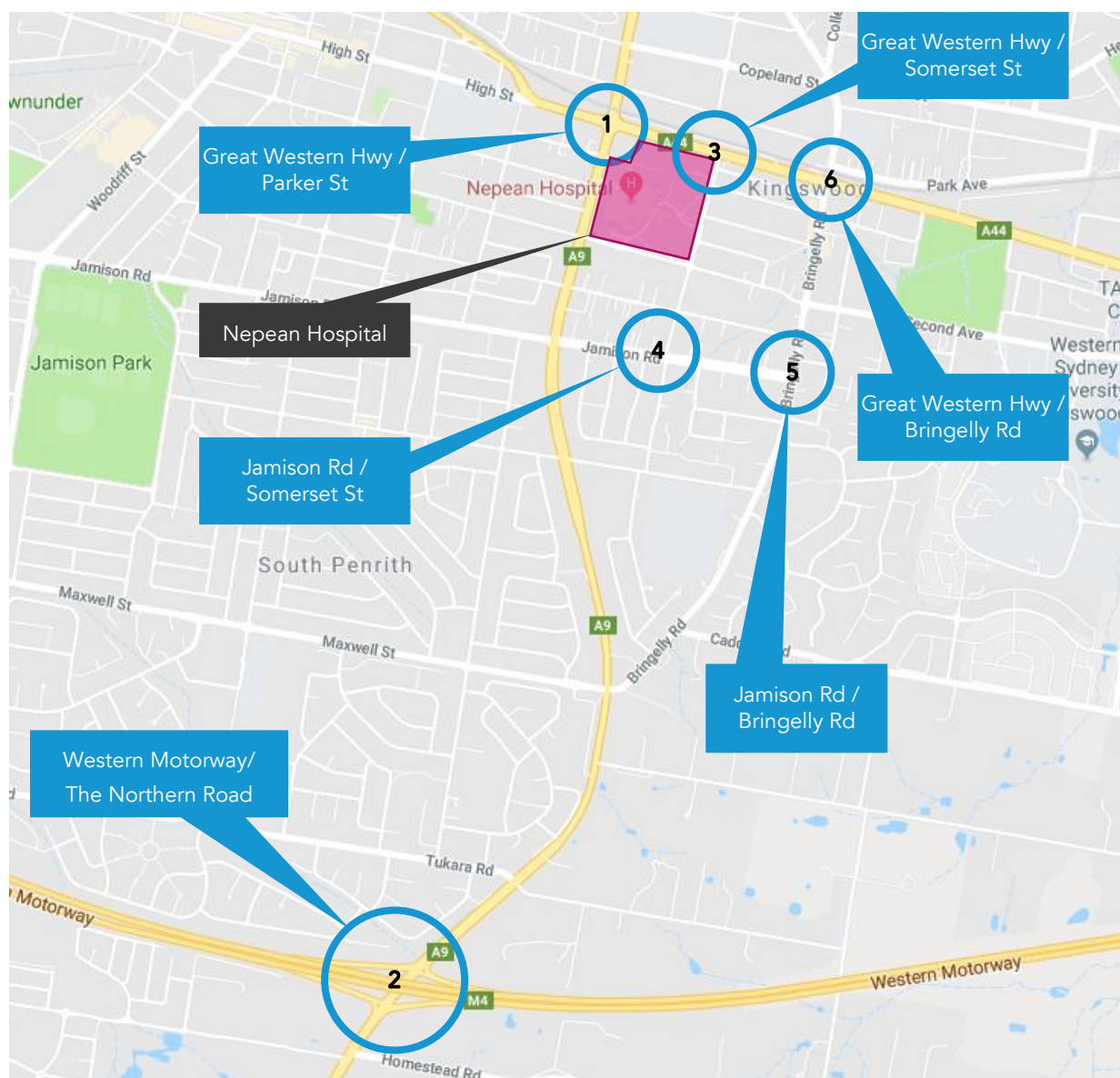


Figure 14 - Key Intersections

6.3 Traffic Crash Data

The Centre for Road Safety, within Transport for NSW (TfNSW), has provided historical crash data for the five year period between 2011 and 2015 of crashes within the vicinity of the Hospital, as shown in Figure 15.

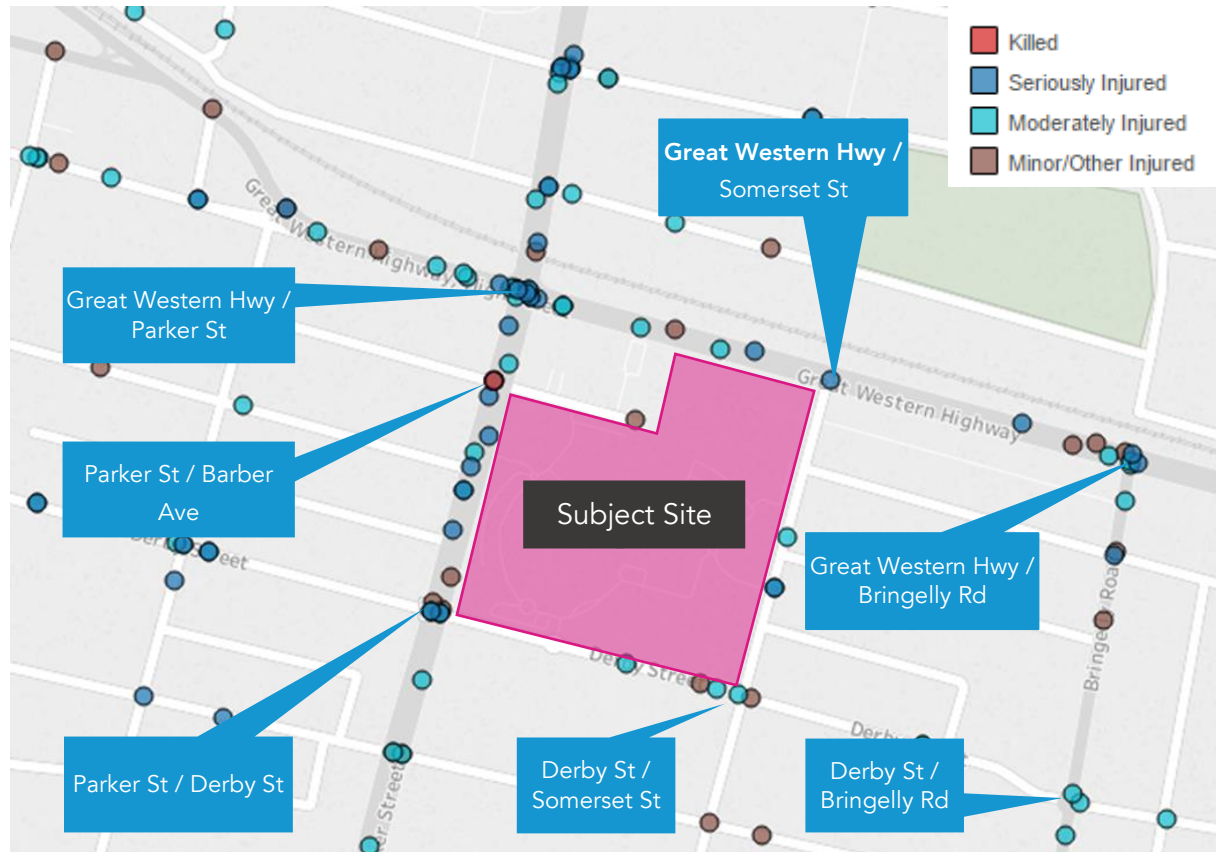


Figure 15 – Crash Data from 2011-2015 (Source: Centre for Road Safety - TfNSW, 2016)

6.4 Public Transport

A number of public transport options are available in the vicinity of the site in the form of buses and rail. The NSW Planning Guidelines for Walking and Cycling 2004 (the Guide) suggests a distance of 400m as a walkable catchment to access local amenities. The Guide also recommends that an 800m catchment is an acceptable, walkable distance if the development is within an area with public transport links. Furthermore, the document also suggests a distance of 1500m is a suitable catchment for cycling for accessibility to public transport facilities and local amenities.

6.4.1 Rail

The closest station, Kingswood Railway Station, is located approximately 600m (walking distance) from the site, which is considered to be within reasonable walking distance.

The station is on the T1 Western Line, from Emu Plains and Richmond to the City. Services operate every 5 – 15 minutes during peak hours, with services operating from 3.16am to 11.36pm.

The distance from the Hospital, the availability of taxi links from the station to the Hospital as well as the relative frequency of services could make heavy rail an attractive mode share option for construction workers.

6.4.2 Bus Services (Private and Public)

The Hospital Precinct is serviced by the bus routes presented in Table 2. There are two bus stops located on the southern boundary of the Hospital Precinct and two bus stops on Great Western Hwy, as indicated in Figure 16.

Table 2 – Bus Service Summary

Route No.	Coverage	Frequency
677	Richmond to Penrith	Weekdays: Services every 60 minutes in the morning peak and 2 services in the evening peak Weekends: 2 services, at 9:31am and 5:14pm
774	Mount Druitt to Penrith	Weekdays: Services every 30 minutes, between 6:25am and 11:36pm Weekends: Services every 1 hour, between 7:33am and 10:20pm
775	Mount Druitt to Penrith	Weekdays: Services every 30 minutes, between 5:21am and 10:56pm Weekends: Services every 1 hour, between 7:33am and 10:20pm
776	Mount Druitt to Penrith	Weekdays: Services every 30 minutes, between 5:36am and 10:20pm Weekends: Services every 1 hour, between 8:14am and 11:03pm
780	Mount Druitt to Penrith	Weekdays: Services every 15-30 minutes, between 5:18am and 10:10pm Weekends: Services every 30-60 minutes, between 6:31am and 9:31pm
789	Luddenham to Penrith	Weekdays: 2 services every weekday, at 7:54am and 4:30pm Weekends: No services

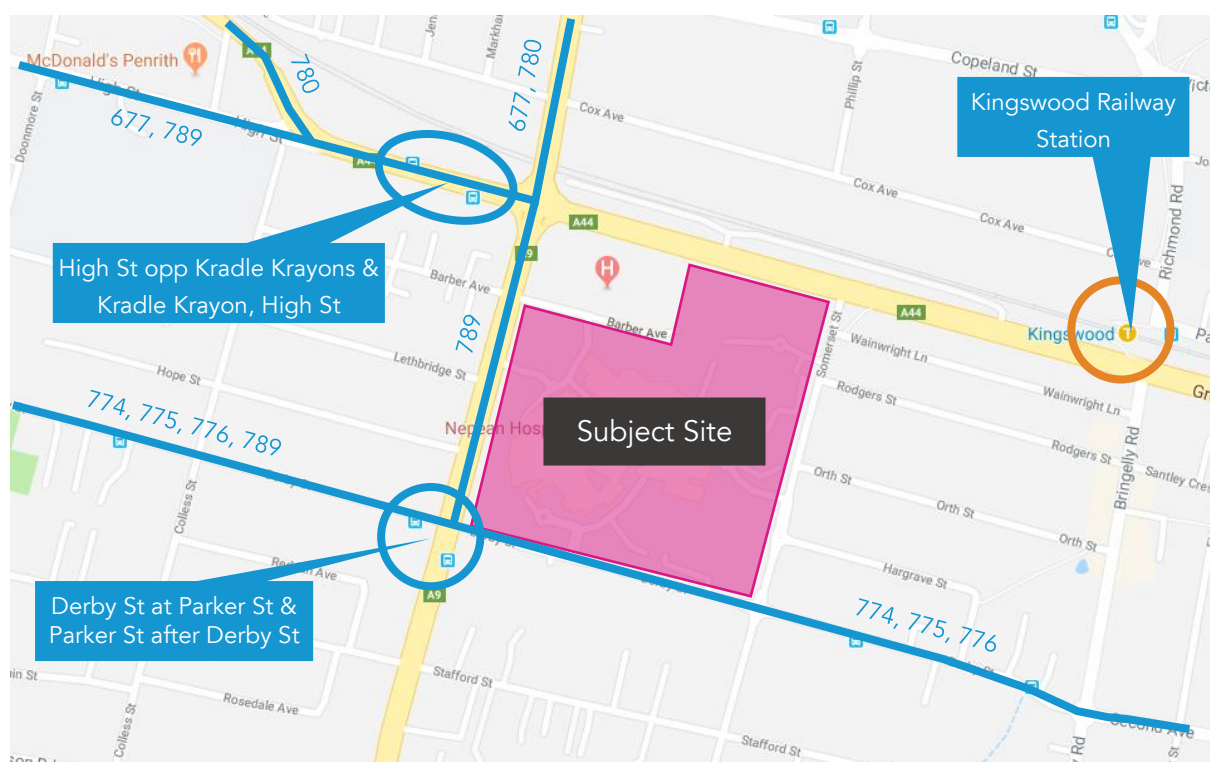


Figure 16 – Local Bus Services Map

The Hospital is relatively well serviced by bus, with a number of routes and regular services (every 30 mins on weekdays), and therefore provides an alternative mode share option for some construction workers, subject to the availability of convenient bus stops close to their home location.

6.5 Active Transport

In addition to public transport, the locality has also been assessed for its active transport potential.

6.5.1 Bicycle Network

It is noted that the cycling infrastructure in the Penrith region is relatively underdeveloped, with no dedicated bicycle paths in the vicinity of the Hospital. As such, cycling is not expected to be an attractive method of travel for construction staff.

6.5.2 Pedestrian Facilities

The pedestrian infrastructure is well developed in the vicinity of the hospital, with footpaths on both sides of the surrounding roads, signalised pedestrian crossings, zebra crossings, appropriate signage and markings. In addition to this, the topography of the area is relatively flat. However, as with cycling, walking is only likely to be an attractive option for workers who live relatively close to the Hospital.

The campus is surrounded by a reasonable volume of low-density residential developments, apart from the area to the north of the Great Western Highway, which are predominantly light industrial and bulky goods.

7. Traffic Management Plan

7.1 Objective

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and the following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

7.2 Hours of Work

All works, associated with the project will be restricted to the following proposed working hours associated with the construction activity:

- | | |
|-----------------------------|---------------------------|
| • Monday to Friday | 07:00am to 06:00pm; |
| • Saturdays | 07:00am to 05:00pm; |
| • Sunday or public holidays | No works to be undertaken |

7.3 General Requirements

All construction activities shall be wholly contained within the approved construction compounds, including, but not limited to plant, vehicles, materials, waste, site offices and amenities.

Any hoardings and barriers shall not impact pedestrians, maintaining worksite security, whilst providing appropriate pedestrian thoroughfare. Providing safe pedestrian visibility near any crossing points will be key criteria in the hoarding arrangements. Prior to any site establishment works, the hoarding arrangement will obtain approval from the relevant Certifying Authority. Upon completion of any stage, the dismantling of any hoardings or road-signage shall be done in accordance with RMS Traffic Control at Works Sites Manual.

In accordance with Road and Maritime Services (RMS) requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

7.4 Construction Vehicle Types

As stated previously, the development involves the demolition of the existing public and staff car park, the excavation of the site and the construction of the Stage 1 Building, which will require removal and delivery of mixed materials. This will involve the use of commercial trucks up to 19m 'truck and dogs' and 19m articulated vehicles (AVs).

Any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to, and subsequent approval by the relevant authority prior to any delivery. It is also anticipated that some special oversize vehicles will be required, such as a crane. These vehicles will be subject to an access permit application to the National Heavy Vehicle Regulator (NHVR).

All construction vehicles are to enter and exit the site in a forward movement.

7.5 Construction Vehicle Routes

The site is located in Kingswood and the proposed construction vehicle routes have regard for the surrounding traffic arrangements within the vicinity of the site.

The proposed construction vehicle routes are outlined in Figure 17. These routes shall be communicated to construction staff during the induction process. As a general requirement however, all drivers and associated companies are responsible for adhering to the road rules and regulations.

As stated previously, a temporary layback is proposed within the Somerset Street frontage to allow construction vehicle access into the site. The contractor will be required to submit a Vehicle Crossover Application to Penrith City Council in due course.

Construction vehicle access will be limited to the State and Regional road network wherever practicable to minimise the impact on the surrounding road network.

Construction vehicles travelling to the site from the north are able to travel southbound along Parker Street, turn east onto the Great Western Highway then proceed south along Somerset Street towards the site. Vehicles travelling from the east and west are able to utilise the Western Motorway, turn north onto The Northern Road, turn east onto the Great Western Highway and proceed south onto Somerset Street to Gate 1. Similarly, vehicles from the south are able to follow the route outlined previously to access the site.

For egress routes, vehicles travelling towards the east will be required to travel south along Somerset Street, turn east onto Jamison Road, north along Bringelly Road towards the signalised intersection and east onto the Great Western Highway. Construction vehicles travelling towards the north, south or west will need to travel north along Somerset Street, east along the Great Western Highway towards the destination.

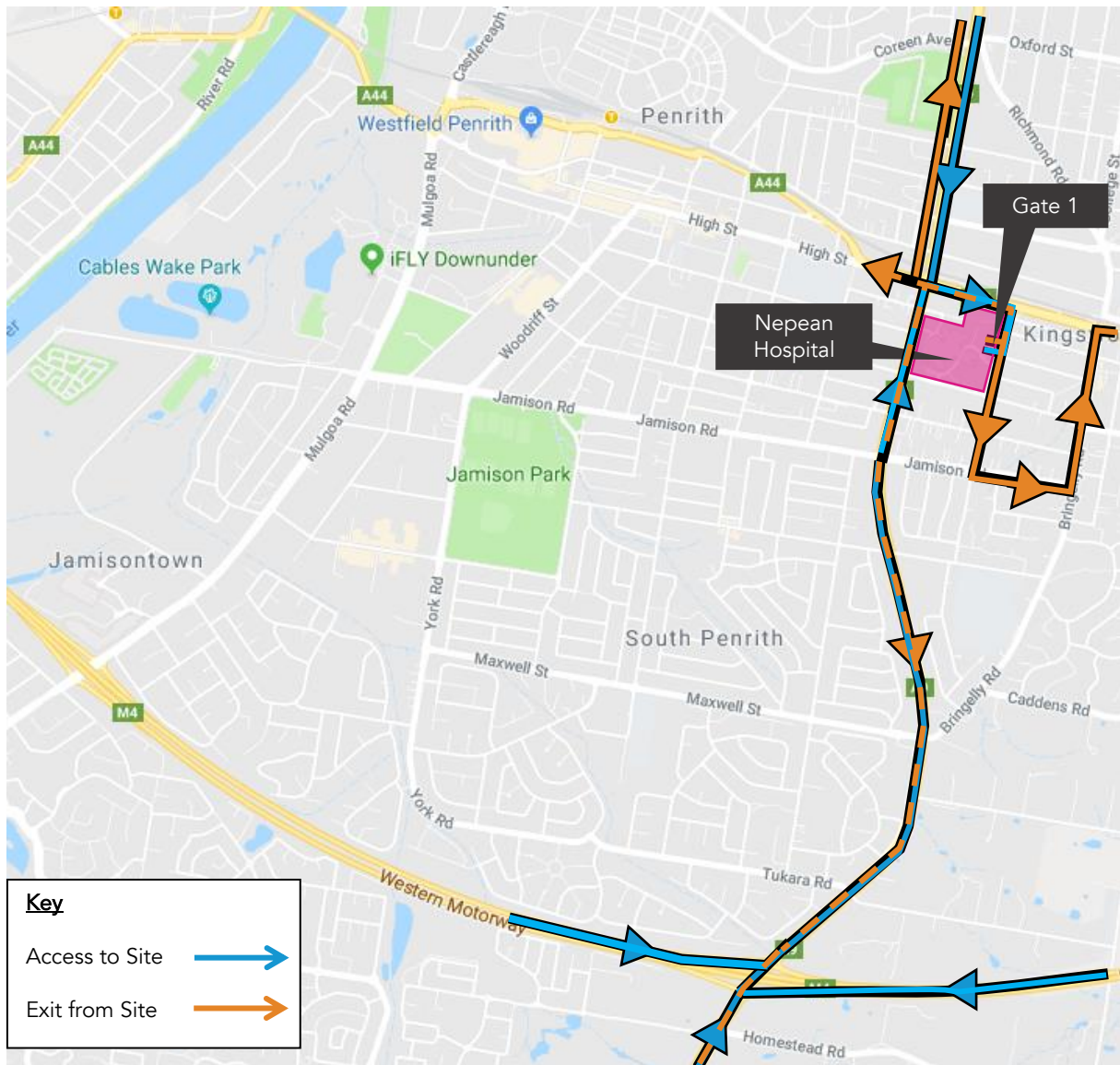


Figure 17 – Proposed Construction Vehicle Routes during Stage 1 Early Works

7.6 Construction Impacts & Stakeholders

7.6.1 Construction Activity

ptc. has been advised by CPB that on average, it is estimated that there will be approximately 350 construction workers on site with up to 500 workers during the peak construction phases.

Based upon calculations prepared by CPB, it is estimated that the truck movements associated with bulk excavation deliveries will involve up to 75 trucks per day. It is noted that bulk excavation is scheduled to occur for a duration of 18 days in total. In light of this information, it is estimated that there will be approximately eight heavy vehicle movements during the peak hour, assuming 10% of truck movements occurring during the peak.

As there is limited parking available within the vicinity of the site and due to the lack of parking for construction staff, driving to the site is not considered an attractive mode of travel for workers. As such, it is not anticipated that there will be a significant traffic impact in regard to light vehicles.

Given the close proximity of the State and Regional road network to the hospital, it is anticipated that the increase in traffic volumes will be within tolerance of the local road network.

7.6.2 Impacts

It is considered that in general, construction impacts will be limited as all routes have been adopted to minimise use of local roads, limiting as far as is practicable, interfacing between heavy vehicles and other road users.

In light of the above, although the volume of light and heavy vehicles will increase within the immediate road network, these increases are not expected to create any major traffic-related impacts to the road users and local population around the site.

7.6.3 Stakeholders

Stakeholders should be identified, and informed of the proposed works, potential timing, and possible impacts. These details will be better understood upon further development progression. Some of the initial stakeholders are listed in the following section.

- Health Infrastructure (Proponent);
- Department of Planning & Environment (Approval Authority);
- Penrith City Council;
- Roads & Maritime Services (RMS);
- State Transit Authority (STA);
- Local Employees and Residents;

7.7 Traffic Control Measures

Traffic Control Plans (TCP) will be developed in due course; TCPs shall be developed in accordance with the Australian Standards and the RMS Traffic Control at Works Sites Guidelines.

Any traffic controllers engaged on-site shall be accredited by RMS, and act in accordance with RMS Standard Conditions, including:

- No stopping of traffic on public streets; and
- No stopping of pedestrians in anticipation of truck movements. Pedestrians may only be held for short periods, for their safety, whilst a truck is entering or leaving the site.

No marshalling or queuing of trucks shall be permitted on the public road.

7.8 Pedestrian Access

To provide segregation and protection for pedestrians, temporary fencing is to be established to define the extents of the works site.

All access points are to be securely locked when construction activities are not in progress.

7.9 Works Zone

A Works Zone is proposed within the Somerset Street frontage extending along the extent of the property.

A separate application will be submitted to the relevant consent authority in due course. The application shall include a Dilapidation Report and a Traffic Control Plan (TCP), in accordance with application requirements.

7.10 Road Occupancies

No lane or road closures are proposed at this stage. In the event that works do require a lane or road closure, the proponent shall submit a Road Occupancy Licence (ROL) application to the Transport Management Centre (TMC) for approval, prior to carrying out the associated works. The proponent recognises that a minimum of 10 days is required for the assessment of an ROL and will manage this accordingly.

7.11 Special Deliveries

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by the relevant consent authority prior to any delivery.

7.12 Staff Parking

Due to site constraints and the very close proximity of a number of regular bus services, parking will not be provided on-site. To minimise car usage, the contractor will be encouraged to assist in the transportation of workers to the site and all site personnel will be made aware of the public transport options available in the vicinity of the site (refer to Section 6.4) and encouraged to utilise these facilities. Site personnel will also be encouraged to consider car-pooling where ever practicable. Staff related with the construction works should not park on the public road.

7.13 Work Site Security

To provide security to the works site and protection to the general public, the construction site is to be secured via the use of temporary fencing (e.g. construction site fencing with shade cloth), which will define

the extent of the works site. All access points are to be securely locked when construction activities are not in progress.

7.14 Construction Staff Induction

All construction staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, WH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss CTMP requirements regularly as part of a toolbox talks and advise workers of public transport and car-pooling opportunities.

7.15 Emergency Vehicle Access

As detailed in the site establishment plan shown in Figure 18, an existing Fire Control Centre and booster pump set is located at the interface between the North and East Blocks as indicated.

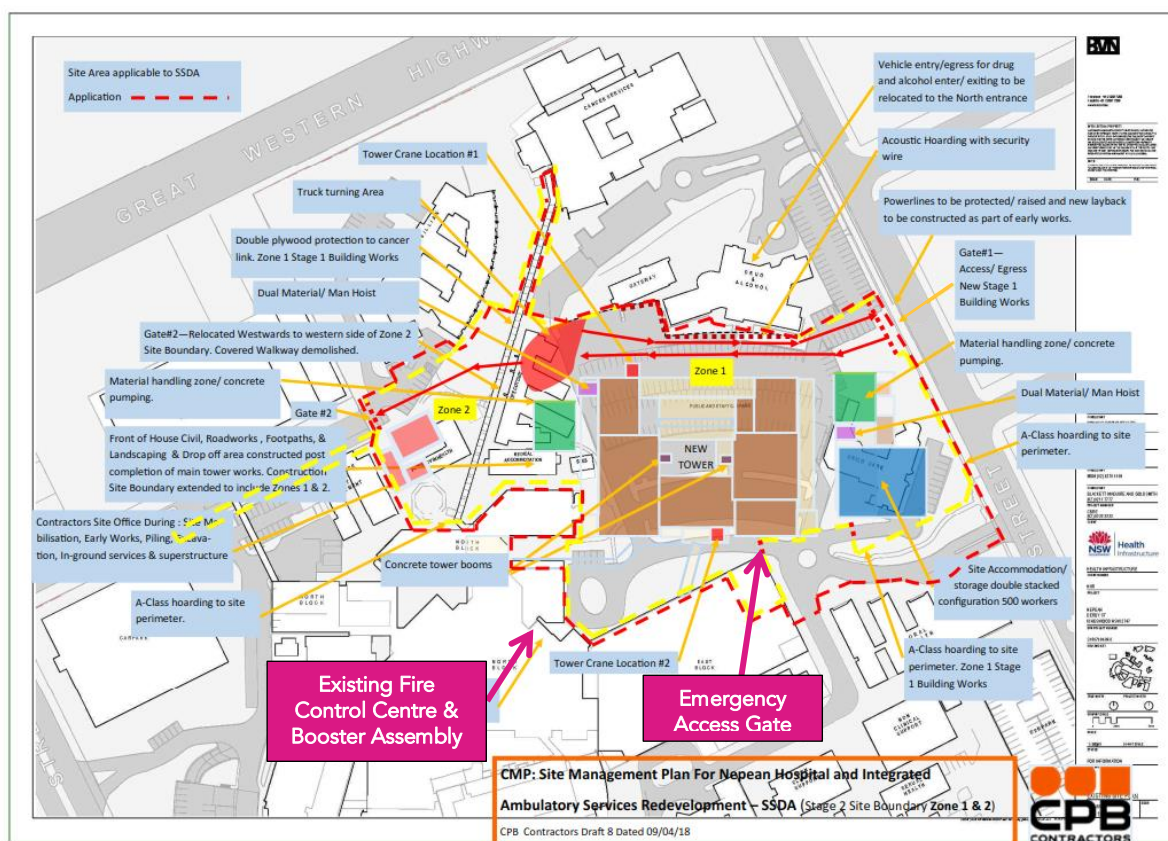


Figure 18 – Proposed Site Establishment Plan

As part of CPB's operation protocols, traffic controllers will be stationed at the gate during the day to allow access for emergency fire trucks to the Fire Control Centre and Fire Tender hard stand area. It is noted that this will only apply to the Stage 1 Building Construction (Phase II) after the completion of the Early works (Phase I).

Emergency vehicles will always be given priority during operation hours. Outside of operation hours, on-site staff will be present and will be able to provide access to emergency vehicles, if required.

7.16 Access to adjoining properties

Access to all adjoining properties is to be maintained throughout the works.

7.17 Work Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold RMS accreditation in accordance with Section 8 of Traffic Control at Worksites.

7.18 Contact Details for On-Site Enquiries and Site Access

Contact details for on-site enquiries and site access will be provided in due course, prior to the mobilisation of the contractor.

8. Summary

This CTMP has been prepared to outline the construction traffic measures to improve site safety to the public and workers and the construction process. In light of our assessment, it is not anticipated that the construction activity will have a significant impact on the local road network.

It is envisaged that this document will be continually reviewed and amended if required, due to changes in design, or additional requirements of DPE, Council, RMS or any other authority requirements.

Appendix C: Waste Management Plan

Waste Management Plan

Nepean Hospital and Integrated Ambulatory Services Redevelopment – Stage 1

Project number:	N3033
Document number:	NHR-CPB-MPL-QLT-TB1-ALL-0000101
Revision date:	21/07/18
Revision:	C

Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
A	18/12/17	C. Billinghamurst	Raz Favotto		
Signature:					
B	06/04/18	C. Billinghamurst	Raz Favotto		
Signature:					
C	21/07/18	C. Billinghamurst	Steve Garzo		
Signature:					

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Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this plan is reviewed and approved. The Project Environmental Manager is responsible for updating this plan to reflect changes to environmental, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Details
A	Issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment – Concept and Stage 1 SSDA
B	Issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment – SSDA
C	Issued for Nepean Hospital and Integrated Ambulatory Services Redevelopment – SSDA. SEARs Table added with Cross References.

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1. Structure of this Plan

This Waste Management Plan (WMP) is a sub plan to the Environmental Management Plan and outlines how we will achieve acceptable Waste Management & associated environmental outcomes on the Nepean Blue Mountains Local Health District Nepean Hospital, for the demolition of the existing on grade public & staff carpark and during the early works, excavation, piling and installation of in ground services and the by the application of the CPB Contractors Environmental Management System (EMS).

In addition to the Project Management Plan, other Project Plans that interface with the Environmental Management Plan include:

- Construction Management Plan
- Engineering and Design Management Plan
- Quality Management Plan
- Safety and Health Management Plan
- Completion Management Plan

The plan has the following structure:

Part A: Overview	<p>This section clearly defines:</p> <ul style="list-style-type: none">■ Purpose and Scope of the WMP■ Project Description■ Waste Management Contract Requirements■ Objectives and Targets■ Key Waste Stakeholders
Part B: Waste Management Plan	<ul style="list-style-type: none">■ Scope■ Project Compliance Requirements■ Waste Management Streams■ Objectives and Targets■ Controls Used to Manage Waste■ Waste Management Licenses■ Monitoring
Appendices	<p>This section provides information supporting the WMP including:</p> <ul style="list-style-type: none">■ Waste Management Plan Schedule Summary of estimated Waste generated and how it will be re-used, recycled or sent to land fill.

2. Project Overview

2.1 Purpose and Scope

CPB Contractors has been contracted by Nepean Blue Mountains Health District/NSW Health Infrastructure to provide a draft Waste Management plan for the **Nepean Hospital and Integrated Ambulatory Services Redevelopment - SSDA**.

This Waste Management Plan has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) dated 22 November 2017 relating to the SSDA for the proposed Nepean Hospital and Integrated Ambulatory Services Redevelopment (Stage 1)

The following table presents the SEARs relevant to Waste Management during the Construction Delivery Phase of the Stage 1 Building works and confirms that each of these items have been addressed in the preliminary Construction Management plan and this Waste Management Plan.

Table 1: SEARs with Comments & Cross References.

SEARs Item No.	Comments & Cross References
Item 13 - Waste	
<ul style="list-style-type: none">Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	<p>The management of waste during the construction process is described in section 3 of this Plan.</p> <p>Operation Waste streams are identified in the Operational Waste Plan in Appendix 18 of the EIS.</p>

This Plan is established in accordance with 'The Way We Operate' framework and is the key sub plan to our Environmental Management Plan that integrates Waste requirements and client waste requirements during project delivery.

Implementation of the Waste Management Plan will:

- Identify the waste management obligations attached to the tender / project and the hazards and risks associated with the works
- Assist in the prevention of unauthorised environmental harm
- Fulfil the Client's waste management requirements as defined in the Contract, including complying with relevant permits and approvals
- Comply with all relevant waste management and environmental legislation
- Minimise negative impacts on the community that relate to the Project's waste management and associated environmental impacts
- Identify and implement feasible opportunities to reduce and recycle waste to minimize the impact of the Project to the environment.to meet compliance requirements
- Fulfil CPB Contractors' waste management and environmental requirements enabling continued certification to ISO14001 and contribution to CPB Contractors' overall Business Plans.

The Project Manager, with advice and input from senior construction staff, is responsible for the Plan.

2.2 Project Description

The works covered within this Waste Management Plan includes the demolition of the existing on grade Public and staff car park to make the land vacant to enable the commencement of the early construction works associated with the new Stage 1 Building works located within the north eastern part of the project site.

Demolition will include removal of the bitumen on grade carpark including concrete kerbs, gutters and footpaths and some vegetation to clear the site in preparation for the commencement of the excavation, associated piling works and services diversions

Demolition of some existing buildings and structures will be undertaken prior to or during the Stage 1 Early works if vacated, following approval sought under Part 5 of the EP&A Act.

During excavation there will be some demolition works associated with existing redundant storm water services and other services as required.

The Early works package of work consists of the following:

- Site Mobilisation
- Construction of new driveway layback within Somerset Street frontage - Gate 1 for site access/ egress.
- Clearing existing Site (Including landscaping and trees within the footprint of the New Hospital Tower, Front of House drop off area and Ambulance bay)
- Demolition of on grade carpark
- Diversion of services around site as required
- Excavation
- Piling
- In ground works

The demolition works would be undertaken at the location (identified as hatched and notated in red) in the Figure 2-1.

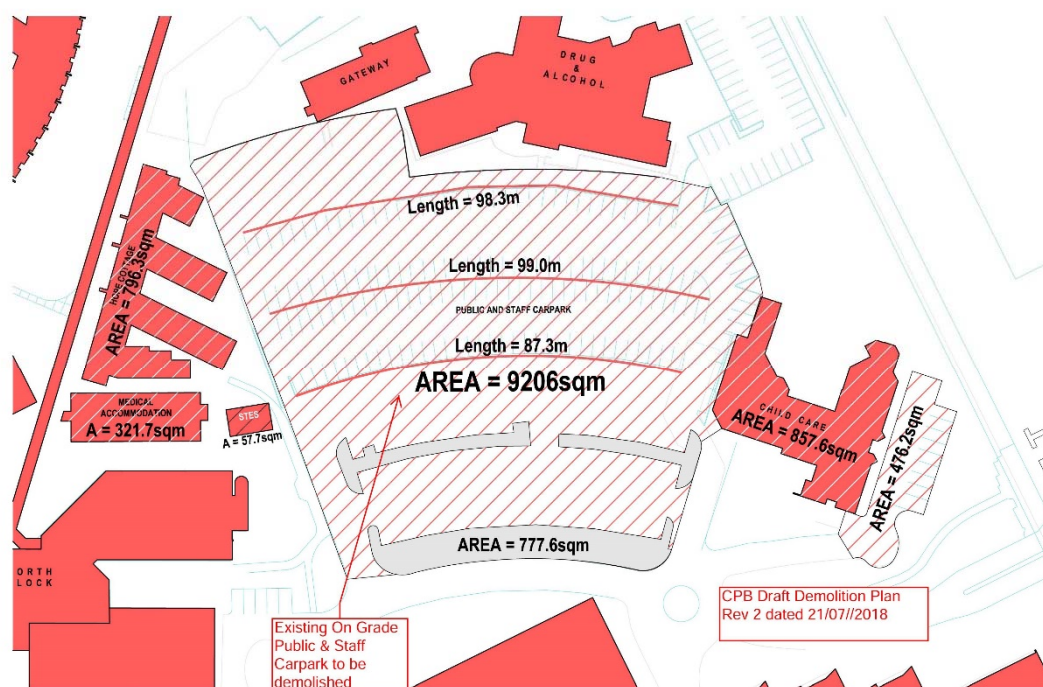


Figure 2-1 Extract of the existing site plan of showing extent of demolition of existing on grade carpark. (Source: BVN Architects mark up by CPB) including approximate areas)

2.3 Waste Management Contract Requirements

The following table sets out the minimum client requirements as defined in draft Contract HI17167 of the Preliminaries for the General Conditions (Main Works GC21 e2) as addressed within this Plan.

Table 1: **Draft** Contract Requirements for Environmental Management

Contract Reference	Content requirements	Where addressed	Comments
GC21 Preliminaries – 6.3	<p>Implement waste minimisation and management measures, including:</p> <ul style="list-style-type: none"> • recycling and diverting from landfill surplus soil, rock, and other excavated or demolition materials, wherever practical; • separately collecting and streaming quantities of waste concrete, bricks, blocks, timber, metals, plasterboard, paper and packaging, glass and plastics, and offering them for recycling where practical. <p>Ensure that no waste from the Site is conveyed to or deposited at any place that cannot lawfully be used as a waste facility for that waste.</p>	Waste Sub Plan	
GC21 Preliminaries – 6.3	<p>Monitor and record the volumes of waste and the methods and locations of disposal.</p> <p>Submit a progress report every two months, and a summary report before Completion, on the implementation of waste management measures, including the total quantity of material purchased, the quantity purchased with recycled content, the total quantity of waste generated, the total quantity recycled, the total quantity disposed of and the method and location of disposal in the form of a <i>Waste Recycling and Purchasing Report</i> available on the ProcurePoint website</p> <p>With the <i>Waste Recycling and Purchasing Report</i>, submit waste disposal certificates and/or company certification confirming appropriate, lawful disposal of waste.</p>	Waste Sub Plan	

2.4 Objectives and Targets

The Project has set the following Waste Management performance targets. These include current business plan environmental targets for the Business Unit and the whole of CPB Contractors:

Table 2: Lagging Indicators

Key Performance Indicator	Target	Time Frame	Actions to be Taken	Accountability
% of waste reused or recycled	75% of waste generated	12 months	Implementation of Waste Sub Plan	Environmental Manager

2.5 Key Environmental & Waste Management Stakeholders

Key waste management stakeholders for the Project will include:

- Principal's Authorised Representative Health Infrastructure
- CBRE
- CPB Contractors Pty Ltd
- CPB Business Unit Environmental Manager (NSW/ACT)
- CPB Project Environmental Manager
- Penrith Council
- Office of Environment and Heritage (EPA)
- Building Compliance – Certifying Authority

Part B: Waste Management Plan

3. Scope

This Plan addresses the management and reporting of waste streams generated on the project.

Under the NSW Protection of the Environment Operations Act, 1997 (POEO Act), waste is defined as:

- any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or
- any discarded, rejected, unwanted, surplus or abandoned substance, or
- any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance, or
- any processed, recycled, re-used or recovered substance produced wholly or partly from waste that is applied to land, or used as fuel, but only in the circumstances prescribed by the regulations, or
- any substance prescribed by the regulations to be waste.
- a substance is not precluded from being waste merely because it is or may be processed, recycled, re-used or recovered.

Activities conducted on the project that have the potential to generate waste are provided below.

Table 2: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Construction and demolition processes	Generation of waste product	Soil and water contamination
Plant maintenance	Generation of waste oil	Soil and water contamination
Operation and maintenance of offices, crib huts and camp facilities	Generation of general wastes	Unnecessary load on landfill availability

3.1 Project Compliance Requirements

3.1.1 Conditions of Project Environmental Approvals

The following is used as a guide for anticipated Conditions of Approval from the project approval process for *Demolition of the existing on grade carpark at Nepean Hospital, Kingswood*. *Final conditions are anticipated from State Planning Authority as part of the SSDA determination process and will be further addressed in this Plan when received from City Plan Services: as they apply to waste management.*

Table 3: Project requirements

Item/ Condition	Limit/Requirement
1	<p>A Demolition Waste Management Plan shall be prepared by an appropriately qualified contractor prior to the commencement of works. The Waste Management Plan should be prepared in accordance with DECCW's "Waste Classification Guidelines (2008)" and the Protection of the Environment Operations Act 1997.</p> <p>Note – this plan</p>
2	<p>The Demolition Waste Management Plan is to include the following requirements and details:</p> <p>a) The type and volume of all waste materials (e.g. bricks, concrete, timbers, plasterboard and metals) is to be estimated prior to the commencement of works, with the destination for each waste identified. Waste should be re-used or recycled as much as practicable. Where not practicable, the location of a suitable waste disposal facility is to be identified.</p>

Item/ Condition	Limit/Requirement
	b) Non-recyclable waste and containers are to be regularly collected and disposed of at a licensed disposal site. Frequency of collection should be identified. c) No burning or burying of waste is permitted on the site. d) Any bulk garbage bins delivered by authorised waste contractors are to be placed and kept within the property boundary.
3	The worksite should be left tidy and rubbish free each day prior to leaving the site and at the completion of works.
4	No hazardous materials or dangerous goods are to be used or stored on site.
5	All materials on-site or being delivered to the site must be wholly contained within the site. The requirements of the Protection of the Environment Operations Act 1997 are to be complied with when placing/stockpiling loose material or when disposing of waste products or during any other activities likely to pollute drains or watercourses.
6	The public way must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.
7	All equipment and machinery should be secured against vandalism outside of working hours.
8	A copy of the approved and certified plans, specifications and documentation shall be kept on site at all times and shall be available for perusal by the relevant Authority.
9	Any contractor(s) must meet all workplace safety legislation and requirements.
10	No vehicle maintenance is permitted in the demolition areas except in emergencies.
11	Any loose material stockpiles are to be stored within the temporary construction compound(s) and are to be protected from possible erosion.

3.2 Waste Streams

The following waste streams and waste classifications have been identified on Nepean Hospital and Integrated Ambulatory Services Redevelopment – Stage 1 works.

Table 4 Waste Streams

Waste	Classification	Potential Recovery/Reuse	Disposal (all tracked)
Green waste from pruning and timber off cuts	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Green waste would be reused as mulch onsite or provided to local schools for landscaping. 	<ul style="list-style-type: none"> Green waste from pruning to be removed by subcontractor. Timber off cuts to be segregated and removed by licensed contractor to licensed waste facility.
Excavated Natural Material (ENM)	General Solid Waste (Non Putrescible) – Resource Recovery Exemption	<ul style="list-style-type: none"> Where possible, all suitable fill materials would be used on site 	<ul style="list-style-type: none"> Wherever possible, ENM would be used on the project and excess material would be transferred to appropriately approved sites requiring ENM.
Mixed Spoil	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Where possible, all suitable fill materials would be used on site. 	<ul style="list-style-type: none"> Mixed unsuitable spoil would be transferred to appropriately approved waste facilities.
Demolition concrete	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Stockpiled and transported to recycling centre and recycled for project construction activities. 	<ul style="list-style-type: none"> Nil. Valuable resource.
Building rubble and structural element demolition materials	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Collected in designated collection areas and reused as much as practically possible. 	<ul style="list-style-type: none"> Mixed unsuitable materials would be transferred to appropriately approved waste facilities.

Waste	Classification	Potential Recovery/Reuse	Disposal (all tracked)
Waste metals	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Stockpiled and transported to recycling centre. 	<ul style="list-style-type: none"> Nil. Valuable resource.
General office waste – paper, cardboard, used printer cartridges.	General Solid Waste (Non Putrescible)	<ul style="list-style-type: none"> Office waste such as paper, cardboard boxes, comingled wastes (Cans, plastic bottles etc) and used printer cartridges would be recycled. 	<ul style="list-style-type: none"> Food wastes and non recyclables will be sent to landfill.
Asbestos or Asbestos Containing Material	Special Waste	<ul style="list-style-type: none"> Fragments of non-friable ACM identified from site investigations Area A. Refer EIS RAP. Asbestos contaminated material (ACM) if identified during further site investigations to Area B will be remediated in accordance with the RAP and the Asbestos Management Plan required to be developed by the contractor as required in the EIS RAP. 	<ul style="list-style-type: none"> Asbestos will be remediated in accordance with the RAP.
PCB containing capacitors	Special Waste	<ul style="list-style-type: none"> None currently identified/ Disposal 	<ul style="list-style-type: none"> Prior to demolition when the power is disconnected, inspect the light fittings. Metal PCB containing capacitors are to be removed, placed in plastic lined 200 litre drums and disposed of as PCB Scheduled Waste.

3.3 Project Objectives

Based on the project requirements, the findings of project risk management processes and the potential impacts to the environment or community, the following targets have been set for managing waste on the project.

Table 5: Waste management targets

Metric/Measure	Objective	Timeframe	Accountability
% of waste quantified in waste management reports	100%	At all times	Environmental Manager
% of regulated/hazardous wastes for which transfer certificates are retained	100%	At all times	Environmental Manager
Number of enforcement notices and penalties received from regulators and/or client	Zero	At all times	Environmental Manager
% waste recycled	75%	12 months	Project Manager

3.4 Controls Used to Manage Waste

Controls that are adequate to ensure compliance and to reduce risk to the lowest acceptable rating achievable are planned before any relevant works commence. Elimination of the waste is the first preference of control, followed by reuse and recycling. Controls used on this project include:

Table 6: Waste management controls

Control	Accountability
All wastes need to be classified, stored, tracked, transported and treated in accordance with contractual and regulatory requirements, including the use of licensed transporters and treatment facilities	Supervisor
The relevant licences of waste facilities utilised for the disposal or handling of waste will be obtained to ensure they are legally compliant.	Environmental manager
Storage containers (bins, skips, tanks, etc) are provided at each work area in sufficient numbers to facilitate segregation of waste at the source of generation, where ever possible. The correct bin type must be used to avoid contamination.	All
Containers are clearly sign posted to inform all project personnel of the correct material to be placed within each bin type. Containers are emptied at a frequency that is sufficient to ensure their correct use. If a bin needs to be collected contact your supervisor or project environmental representative	Supervisor
Burial or burning of waste is not permitted.	All
Excess concrete and concrete washout is not to be discharged to land or storm water; a concrete washout facility must always be used.	Supervisor
All waste data must be collated and tracked using Material Tracking Forms.	Environmental manager
An adequate number of fully maintained concrete washout pits will be maintained on the site at all times.	Supervisor
A Demolition Waste Management Plan shall be prepared by an appropriately qualified contractor prior to the commencement of works. The Waste Management Plan should be prepared in accordance with DECCW's "Waste Classification Guidelines (2008)" and the Protection of the Environment Operations Act 1997.	Environmental manager
<i>Note this plan forms the Demolition Waste Management Plan</i>	
The Demolition Waste Management Plan is to include the following requirements and details: <ul style="list-style-type: none"> a) The type and volume of all waste materials (e.g. bricks, concrete, timbers, plasterboard and metals) is to be estimated prior to the commencement of works, with the destination for each waste identified. Waste should be re- used or recycled as much as practicable. Where not practicable, the location of a suitable waste disposal facility is to be identified. b) Non-recyclable waste and containers are to be regularly collected and disposed of at a licensed disposal site. Frequency of collection should be identified. c) No burning or burying of waste is permitted on the site. d) Any bulk garbage bins delivered by authorised waste contractors are to be placed and kept within the property boundary. 	Project engineer
The worksite should be left tidy and rubbish free each day prior to leaving the site and at the completion of works.	Supervisor
No hazardous materials or dangerous goods are to be used or stored on site.	Supervisor
All materials on-site or being delivered to the site must be wholly contained within the site. The requirements of the Protection of the Environment Operations Act 1997 are to be complied with when placing/stockpiling loose material or when disposing of waste products or during any other activities likely to pollute drains or watercourses.	Supervisor
The public way must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.	Supervisor
All equipment and machinery should be secured against vandalism outside of working hours.	Supervisor

Control	Accountability
A copy of the approved and certified plans, specifications and documentation shall be kept on site at all times and shall be available for perusal by any officer of Council.	All
Any contractor(s) must meet all workplace safety legislation and requirements.	All
No vehicle maintenance is permitted in the demolition areas except in emergencies.	Supervisor
Any loose material stockpiles are to be stored within the temporary construction compound(s) and are to be protected from possible erosion.	Supervisor/Environmental manager
Where available, recyclable site and construction waste are to be recycled in accordance with the NSW Government's Waste Reduction and Purchasing Policy (WRAPP guidelines). Any waste oil is to be sent to an approved recycler.	Supervisor
Non-recyclable waste and containers are to be regularly collected and disposed of at a licensed landfill or other disposal site in the area.	Supervisor
Any bulk garbage bins delivered by Authorised Waste Contractors are to be placed and kept within the property boundary.	Project engineer
Waste management practices for the proposal are to follow the resource management hierarchy principles embodied in the Waste Avoidance and Resource Recovery Act 2001.	Environmental manager
No burning of vegetation or other materials is permitted on site or at the compound.	Supervisor

3.5 Waste Management Licenses

A search of the Protection of the Environment Operations Act (POEO Act) licensed facilities local to the project include:

Table 7: Licensed Waste Facilities

License number	Operator	Address	Fee Based Activity	License review due date
13426	Dial-A-Dump (EC) Pty Ltd – Eastern Creek Landfill (landfill)	Honeycomb Drive, EASTERN CREEK, NSW 2766		
20121	Dial-A-Dump (EC) Pty Ltd (recycling)	Honeycomb Drive, EASTERN CREEK, NSW 2766		
20836	BORAL CEMENT LIMITED	10 Bernera Road, PRESTONS, NSW 2170		
12418	BORAL RECYCLING PTY LIMITED	25 Burrows Road South, ST PETERS, NSW 2044		
1924	BENEDICT INDUSTRIES PTY LIMITED	14309 Heathcote Road, SANDY POINT, NSW 2171		

3.6 Monitoring

Waste data is collected on the project to allow monthly reporting of the following:

- The quantity of each type of waste sent to landfill
- The quantity of each type of waste recycled
- The quantity of each type of waste reused
- The quantity of each type of hazardous/regulated waste generated on the project and:
 - Its method of treatment and disposal
 - The location of treatment and disposal

- Copies of records confirming the legal transport, treatment and disposal
- Measurement of any reduction in waste generation that has been achieved

The quantity of waste in each solid waste stream is measured by weight and liquid waste stream by volume, with records provided by the waste transport contractor. Alternative measures may only be used when an economical alternative is not available.

All relevant information is included in the project environmental monthly report.

Disturbed areas and haul roads must be treated with dust suppressants (e.g. water trucks or chemical suppressants) especially in high risk areas and/or on during high risk days.	Supervisor
Stabilised access, rumble grids, wash bays or similar must be established for the entries site and exits to site to minimise mud on public roads. Sweepers shall be used periodically to clean public roads where mud has been deposited.	Supervisor
Traffic speed limit(s) are determined to minimise dust generation and must be adhered to at all times.	All
All construction plant and equipment must be maintained so they do not emit visible smoke for any period greater than: <ul style="list-style-type: none"> ■ 15 consecutive seconds for plant not being registered for use on public roads; and ■ 10 consecutive seconds for plant registered for use on public roads. 	Supervisor
Burning of any materials is prohibited onsite.	All
Competently designed and constructed rumble pads shall be established for the ingress and egress of all vehicles.	Project engineer
Air quality monitoring conducted in accordance with <insert relevant code, standard, guideline, etc> and at a frequency and at locations to confirm compliance with the regulatory limits will be conducted.	Environmental manager
No burning of vegetation or other materials is permitted	All
Dust generated during demolition activities is to be controlled by regular control measures such as on-site watering	Supervisor
All necessary maintenance for construction vehicles and equipment is to be undertaken during the demolition period.	Project engineer
Excessive use of vehicles and powered demolition equipment is to be avoided.	Supervisor
Exposed areas are to be progressively revegetated as soon as practical.	Supervisor
Vehicle wash down areas are to be established to ensure all mud and soil from construction vehicles is not carried onto public roads.	Project engineer
All vehicles involved in any demolition and departing the site with demolition materials, spoil or loose matter must have their loads fully covered before entering the public roadway.	
Any mud deposited on the road network due to truck movements to and from the site is to be cleaned up immediately.	

3.7 Monitoring

Air quality monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

Monitoring and analysis of data will be carried out by a competent person. Evidence of competence must be retained.

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

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Appendices

Appendix A: Waste Management Plan- Estimate of Waste Quantities for Re-use, recycling and Disposal during Early Works.

WASTE MANAGEMENT PLAN FOR: Nepean Hospital and Integrated Ambulatory Services Redevelopment –Stage 1 Building Works

SSDA FOR PROPOSED NEW HOSPITAL TOWER AT NEPEAN HOSPITAL CAMPUS- Site Bounded by Somerset St, Derby St, Parker St & Great Western Highway.

DETAILS OF WASTE MANAGEMENT – EARLY WORKS PHASE: DEMOLITION & EXCAVATION & INGROUND SERVICES				
MATERIALS ON SITE				
Type of Materials	Estimated	Re-use and Recycling	Disposal	
	Volume (m ³)	ON SITE- Proposed Re-use	OFF – SITE (Recycling)	OFF SITE – Landfill
Asphalt/ Bitumen	1300 m ³	Nil proposed for re-use on site. Recycle off site.	Concrete Recyclers	
Concrete (Kerbs, gutters and concrete footpaths and footings)	250 m ³	Nil proposed for re-use on site. Recycle off site.	Concrete Recyclers	
Excavation Material from Early works Bulk Excavation	32,895 m ³	Proposed re-use: 1,495 m ³ (Fill)	Recycling proposed re-use off site: 31,400 m ³	
Metal (Demolition Light Poles, Bollards Crash Barriers & other miscellaneous steel/ metal work and off cuts)	64 m ³	Nil	B Metal Recyclers: Bingo –Recycling Dial a Dump	
Block work, retaining Walls, crib walls as required.	150 m ³	Nil	Bingo –Recycling Dial a Dump	

PVC Pipe	32 m3	Nil	Bingo –Recycling Dial a Dump	
Terracotta/ Concrete Pipe	30 m3	Nil	Bingo –Recycling Dial a Dump	
Garden Organics	64 m ³	Nil	Bingo –Recycling Dial a Dump	
Packaging – used pallets	20 m ³	Nil	Bingo –Recycling Dial a Dump	
Plasterboard	7 m ³	Nil		Kurnell or other Landfill site T.B.A.