

Westmead Hospital Central Acute Services Building (CASB)

Outline Construction Management Plan

Review of Environmental Factors

June 2016

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1. Introduction

This preliminary Construction Management Plan (CMP) has been prepared as part of the State Significant Development application for the Westmead Redevelopment Central Acute Services Building, Entry Plaza and Innovation Centre which forms part of the Westmead Redevelopment Stage 1A/1B. The CMP will be finalised by the Principal Contractor appointed to the project at the time of contract award.

The Westmead Precinct is one of the largest health, research and education and training precincts in the world. The Precinct is home to one of the largest concentrations of biomedical, scientific and healthcare focused minds in Australia with over 12,000 FTE staff in 2014 (and projected to grow to over 25,000 FTE by 2036).

The Precinct includes:

- Two major referral hospitals (Westmead Hospital and The Children's Hospital at Westmead (CHW)) which provide nationally funded services, quaternary and tertiary services for NSW, and extensive clinical and translational research.
- A research hub including two world leading facilities - Westmead Institute for Medical Research (WIMR) and the Children's Medical Research Institute (CIMR).
- A national and state provider of pathology services (Institute of Clinical Pathology and Medical Research (ICPMR)).
- The Westmead Centre for Oral Health, the major referral and teaching hospital for dental in NSW, with over 180 dental chairs.
- Westmead Private Hospital.
- Academic Partners including the University of Sydney (USYD), which has a long established relationship with Westmead and has made an investment commitment of \$500 million to support growth in Western Sydney and the Westmead Precinct over the next 20 years, and Western Sydney University including its campus on the corner of Darcy Road and Hawkesbury Road that is currently undergoing a major redevelopment.
- Cumberland Hospital East and West (which also accommodates one of the largest concentrations of mental health services in Australia).
- Darcy Road accommodation.
- State Newborn and Paediatric Emergency Transport Service (NETS).
- Careflight helicopter service.

The development of the Westmead Precinct will transform it into a landmark health, research, education and training centre. Through the NSW Government's strong commitment to rebuilding infrastructure in NSW and investing in Western Sydney, Westmead will be reinforced as an iconic hospital, meeting the needs of the people of Western Sydney, NSW and Australia.

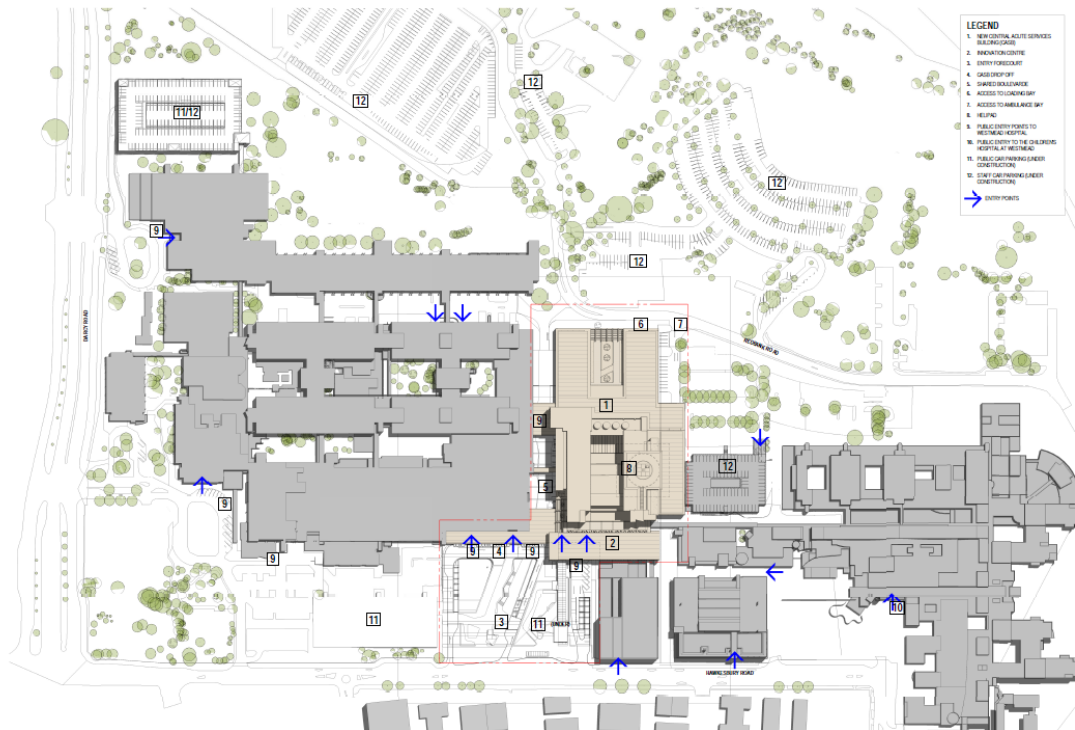


Figure 1 – Westmead Redevelopment, Stage 1 Proposed Site Plan

2. Proposed Works

2.1. Background

The Final Business Case for the Westmead Redevelopment project was completed in 2014, and the Final Business Case Addendum was completed in 2015.

The Westmead Redevelopment Stage 1A/1B works are scheduled to be constructed during 2017 – 2020.

2.2. Scope of works

The scope of works for Stage 1A/1B of the Westmead Redevelopment includes:

The Central Acute Services Building is a 13 storey building comprising the following components:

- Acute Inpatient unit
- Emergency department
- Paediatric Emergency department
- Operating theatres
- Surgical wards
- Intensive Care unit
- Various Clinical and Medical support
- Rooftop Helipad

The Entry Plaza consists of the following components:

- Vehicular access to Emergency department and proposed car park, including two separate public set down/pick up loops
- Undercroft car park
- Landscaping

The Innovation Centre consists of the following components:

- University of Sydney Innovation Hub
- Infrastructure for Bio-banking
- Further expansion opportunities for Education, Training and Research facilities

3. Phasing Program and Key Milestones

Milestone	Timeframe noted April 2016
Main Works Construction	Q1 2017 to Q4 2019
CASB Operational Commissioning	Q4 2019 to Q1 2020

4. Construction Management Plan Components

The Plan covers the following areas of management:

- The operations of site management when undertaking the works:
 - Legislative requirements
 - Hours of construction works
 - Public fencing
 - Disruption
- Mitigation and/or minimisation of impacts to amenity and environmental factors:
 - Noise
 - Vibration management
 - Dust Management
 - Odour control
 - Protection of trees
 - Stormwater management and soil erosion
- Traffic/pedestrian management in the duration of the works;
- Waste management:
 - Construction
 - Storage of dangerous goods
 - Hazardous materials management
- Services disconnections
- Aviation.

5. Operations of Site Management

The Works will be undertaken by a Principal Contractor.

All statements and proposals documented in this Construction Management Plan will be reviewed at the time of contract award for the Works to ensure alignment with the proposed methodologies and construction staging of the appointed Principal Contractor.

5.1. Legislative Requirements

The Works will be undertaken in accordance with the following legislative requirements, together with any others that must be complied with in carrying out the Works as required:

- Protection of the Environment Operations Act and Regulations;
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)
- Environmentally Hazardous Chemicals Act 1985;
- Protection of the Environment Administration Act and Regulations;
- Occupational Health and Safety Act 2000 and relevant codes of practice and Standards;
- Occupational Health and Safety Regulation 2001 and relevant codes of practice and Standards;
- Resource and Recovery Act 2001;
- Environmental Planning and Assessment Act 1979;
- Heritage Act 1997;
- Local Government Act 1993;
- Applicable aviation standards e.g. CASA requirements;
- Occupational Health and Safety Act 1983;
- Soil Conservation Act 1983.

5.2. Hours of Operation

The following hours of operation apply to the Westmead Redevelopment CASB, Entry Plaza and Innovation Centre:

- Monday to Friday: 6:30am to 6:00pm
- Saturdays: 7:00am to 5:00pm
- Sunday and Public Holidays: No work

The hours of 6.30am weekdays have been suggested to remove the clash of the construction vehicle entry peak with the Westmead staff entry peak. Modelling by GTA traffic consultants has suggested the clash of these peaks will result in significant congestion and queuing within the site and surrounds. This also will ensure that any delays to public transport services are minimised.

Situations, where construction work may need to be undertaken outside these hours are:

- The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads;
- Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm;
- Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours;
- Public infrastructure works that shorten the length of the project and are supported by the affected community and
- Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours

5.3. Public and Property Protection

Appropriate hoarding/fencing (as specified in Australian Standards and Workcover requirements) will be installed to prevent public and staff access and to maintain security for the various areas of the works. Access to the Hospitals, public and staff car park areas and on-site facilities including the Childcare Centre will be maintained during the works.

At times it may be necessary to direct pedestrians and cyclists onto the road carriageway and adequate warning signs and barricades would be provided. Traffic controllers or other traffic devices to direct traffic will be provided in accordance with AS 1742.3: 1996.

The construction schedule for the development will aim to minimise:

- disruption to traffic movements particularly at peak periods; and
- interference with public transport services.

These public and property protection measures will be reviewed at the time of contract award for the works to ensure alignment with the proposed preferred methodologies and construction staging and to ensure that the safety of the public and staff is maintained at all times during the works.

5.4. Disruption Notices

Any planned disruptions to hospital operations and services will be managed through the process of Disruption Notices (DNs). For such stoppages, the DN will describe the applicable works, timetable, issues and contingency plans.

DNs are submitted by the Principal Contractor to the Project Manager and stakeholders impacted by the works for approval. Depending on the nature of the works these may be required between 48 hours and 6 weeks prior to commencement of works.

6. Environment and Amenity

The Principal Contractor undertaking the Works will be required to submit for approval to the Principal a comprehensive Environmental Management Plan (EMP) to ensure compliance with all statutory requirements as well as NSW Health's requirements.

As a minimum, the erosion and sediment controls for the Works shall be designed, installed and maintained in accordance with the requirements of Managing Urban Stormwater: Soils and Construction "The Blue Book" 2004 (4th edition) and/or details provided by the project engineering consultants.

The environmental performance of the Principal Contractor will be monitored throughout the Works.

The following specific environmental management principles will be implemented on site:

- Noise management,
- Dust management and
- Erosion and sediment controls

Mitigation strategies for the above will be documented in the Contractors Construction Environmental Management Plan

6.1. Noise and Vibration

Note: This section is to be read in conjunction with the Noise and Vibration Impact Assessment Report prepared by Acoustic Studio.

Noise from the site shall not exceed the limits set out in the EPA's Interim Construction Noise Guidelines and Australian Standards such as AS:2436 and a Construction Noise Impact Statement specify requirements for the contractor. No machine work will occur outside the normal working hours set unless approval has been given through the DN process.

The noise and vibration from the use of any plant equipment and/or building services associated with the premises shall not give rise to an offensive noise as defined under the provisions of the Interim Construction Noise Guidelines, EPA and Australian Standards.

As part of the noise mitigation treatment for the project, the Principal Contractor will be responsible for the management, checking of compliant maintenance regimes and statutory supervision of all equipment, such as making sure all trucks and machinery involved in the Works will be checked for defective exhaust systems and general servicing.

6.2. Dust

Note: This section is to be read in conjunction with the Erosion and Sediment Control Plan and Statement prepared by Arup.

To control dust generation water will be sprayed where necessary at the source of origin and surrounding areas to prevent airborne dust particles migrating into the surrounding environment. Management of dust prevention is to be developed by the Principal Contractor and agreed by the project stakeholders.

Additional precautions that will be implemented during the Works include the covering of all haulage trucks with tarpaulins and monitoring of weather conditions (including wind). Management and contingency plans will be developed to prevent any foreseeable impacts from dust.

Furthermore, during the Administration Building refurbishment, measures will be put in place to separate the construction works from the hospital operations to reduce the impacts of dust.

6.3. Odour Control

The scope for demolition activity for the site will be minor and odour problems will be minimal. All plant and machinery involved in the Works will be regularly serviced and checked for exhaust emissions and catalytic converters.

6.4. Protection of Trees

The contractor undertaking the Works will be required to comply with Australian Standard 4970- 2009: Protection of Trees on Development Sites to include tree management guidelines for the proper care and protection of trees retained and integrated into construction projects.

Where trees are required to be retained and are close to the works, the contractor will be required to put in place procedures to for their protection at every stage of the development process.

Note: There are no trees for protection on the construction site as they have been removed as part of Stage 1 Early and Enabling Works.

6.5. Stormwater Management

Note: This section is to be read in conjunction with the Civil Design Report prepared by Arup Civil.

Measures will be employed on each stage, and on the site overall, to control soil erosion during construction. These measures will be in accordance with currently accepted principles, as described in Managing Urban Stormwater: Soils & Construction (4th edition, Landcom, 2004).

Appropriate elements of the drainage system on the site will be cleaned out to remove sediments prior to commencing the Works on site.

The site will be continually cleaned of rubble to minimise possible sediment flow during rainfall periods.

Stormwater kerbs and drainage lines will have sediment controls in the form of hay bales, sedimentation socks or similar (to be approved by project civil engineer).

Stormwater grate inlets surrounding works areas will be covered with geotextile fabric to allow water to enter into drains whilst retaining sediments.

Should external surface run-off flow into works areas, it may need to be diverted to reduce sediment transportation by the use of using hay bales or similar (to be approved by project civil engineer).

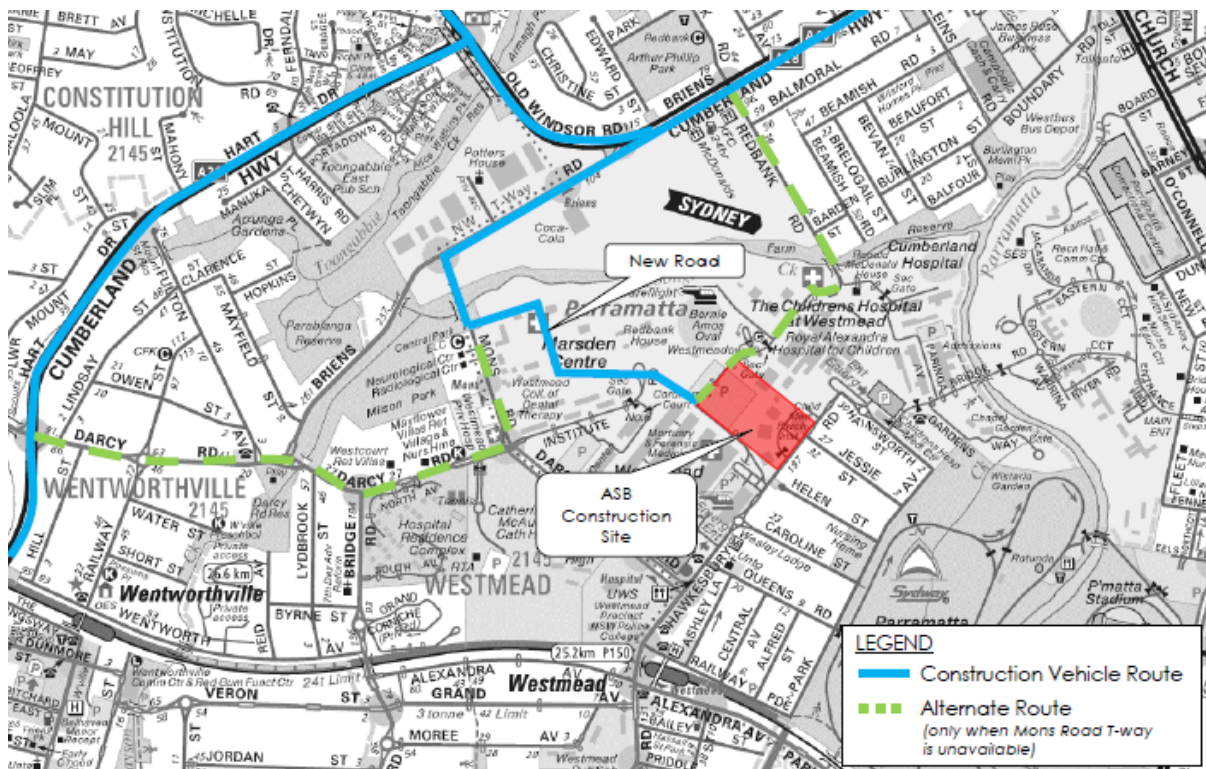
All drainage control devices will be regularly checked particularly during heavy rainfall periods.

7. Traffic Management / Construction Entry & Exit

Note: This section is to be read in conjunction with the Construction Traffic Management Plan prepared by GTA Consultants.

As part of the Principal Contractors Construction Management Plan, the contractor will be required to submit a Traffic and Pedestrian Management Plan for approval to the Principal prior to commencement of the works.

Construction vehicular access/egress to the site will at all times avoid Hawkesbury Road. The current proposal is for all traffic to enter the construction staging area off Mons Road and enter the hospital site through New Road. All construction workers shall park in the staging area off Mons Road.



Early starting hours have been suggested to ensure the construction traffic peak does not clash with the staff peak entry to the site. The modelling has suggested this will alleviate grid lock and long queuing on the roads to and within the Westmead precinct.

At times it may be necessary to direct pedestrians and cyclists onto the road carriageway and adequate warning signs and barricades would be provided. Traffic controllers or other traffic devices to direct traffic would be provided in accordance with AS 1742.3: 1996.

The construction schedule for the development will also aim to minimise:

- disruption to traffic movements particularly at peak periods
- interference with public transport services

All demolition and construction related vehicles would comply with relevant Parramatta City Council traffic and parking regulations. Vehicular access points to the construction site have been configured to avoid conflict with pedestrian desire lines.

Appropriate traffic controls will be put in place during construction to separate construction activities from the public. In addition, traffic controllers will be engaged to manage the interface between pedestrians and to direct vehicles entering and leaving the site including pedestrian traffic along Darcy Road, Mons Road and Redbank Road.

Details of construction vehicle per day including likely arrival and departures have been assessed within the Preliminary Construction Traffic Management Plan prepared by GTA Consultants.

It is likely the following construction equipment will be used:

- Articulated vehicles for delivery of excavation machinery;
- Heavy and medium rigid trucks for construction material delivery;
- Heavy rigid tankers for fuel delivery for compacting and excavation machinery;
- Rigid trucks for removal of excavated material;
- Mobile cranes; and
- Concrete delivery trucks & concrete pumps.

Given the available space on the site, it is anticipated that a majority of all contractor's parking will be made available on the ADHC North site. This will also enable allow for temporary set-down of equipment and deliveries. In addition, the Children's Hospital at Westmead staff car park will be used as a logistics area directly adjacent to the construction zone.

It is anticipated that construction associated personnel will also use car-pooling and public transport options to travel to and from the site.

Construction worker access (via foot) will be via the existing hospital entrance off Hawkesbury Road, as well as the secondary entrances from Darcy Road and Redbank Road.

7.1. Pedestrian Protection

Pedestrian and vehicular passage to and around the site will be maintained, or alternate routes determined where necessary, and be defined by clear signage.

Temporary hoarding appropriate to the interaction between pedestrians and construction works (as per Workcover requirements and Australian Standards) will be constructed to prevent unauthorized access to the Site. These hoardings and fences may be staged to allow access to in-use areas during the Works.

8. Waste Management / Recycling Principles

Note: This section is to be read in conjunction with the Construction Waste Management Plan prepared by JBS&G

The Principal Contractor will be required to recycle and reuse where possible. The Principal Contractor will be required to arrange for the sorting and recycling of waste materials and packaging to ensure maximum recycling is achieved. The Principal Contractor will be committed to achieving compliance with the EPA guidelines.

The scope for demolition activity for the site will be minor, including the removal of existing facades to allow for the connection of new extensions.

8.1. Storage of Dangerous Goods

Dangerous goods (such as petrol, diesel, oxy-acetylene, oils etc) will be stored in a lockable compound with sufficient ventilation in accordance with relevant codes of practice and standards.

Material safety data sheets on all of these flammable and potentially harmful liquids will be provided by the contractor undertaking the Works.

9. Service Disconnections

In general terms the following principles will be adopted when disconnecting services; Services impacts on the existing Westmead Hospital Campus facilities will be done with full coordination; development and input with relevant hospital and authority stakeholders and will only proceed with approval from same, via a Disruption Notice process.

Impacts on the hospital will be kept to the absolute minimum, which may result in 'Out of Hours' work. At all times patient care will be paramount and Staff/Visitor safety, access and security maintained.

All Service authorities will be consulted prior to the Works commencing to ascertain lead times and correct termination locations.

All termination works will be undertaken in accordance with project design engineers' specifications and instructions. All termination works will be undertaken by suitably licensed contractors.

10. Aviation

Note: This section is to be read in conjunction with the Helicopter Operations Assessment prepared by Rehbein Airport Consulting

The Principal Contractor will take into account the helicopter flight paths during the construction phase to ensure no interruption to service due to cranes and other equipment.