PRINCE OF WALES HOSPITAL
Mental Health Intensive Care Unit (POWH MHICU)

CONSTRUCTION MANAGEMENT PLAN

December 2010

APP Corporation Pty Limited

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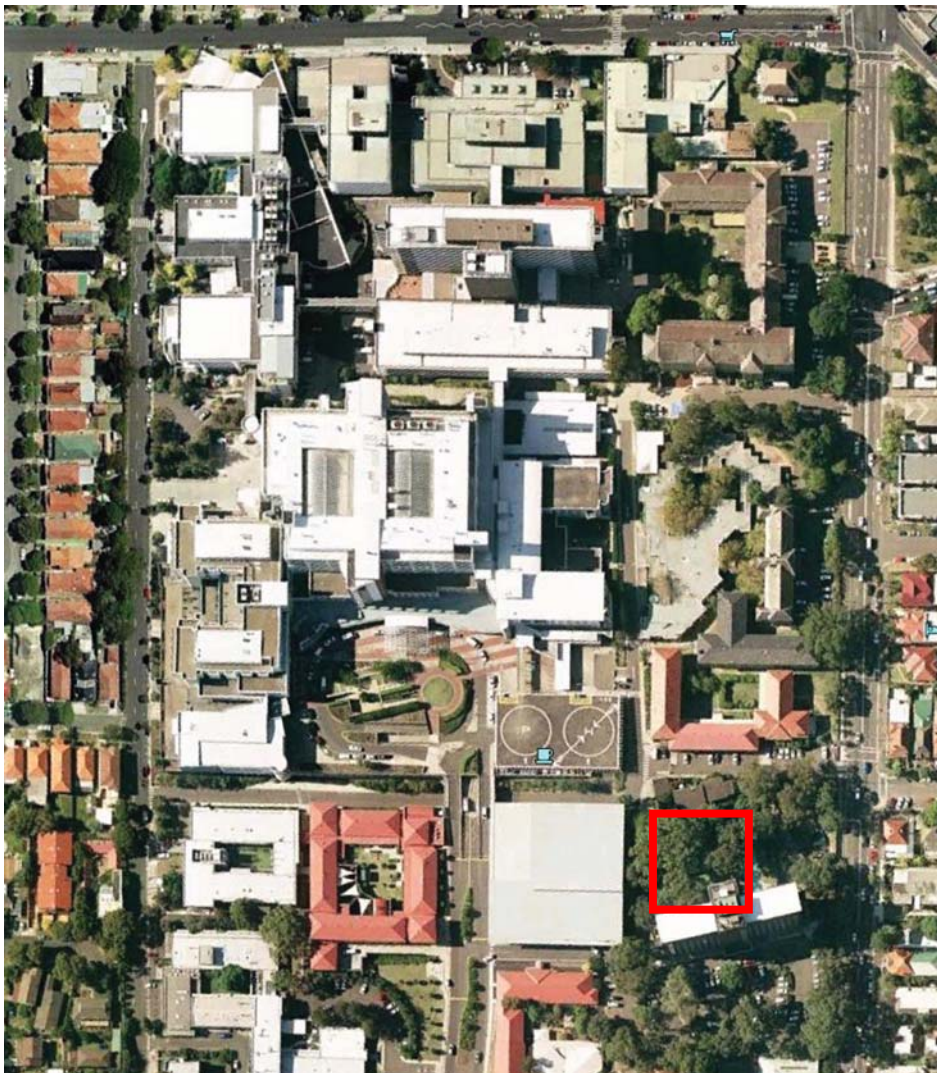
APPENDICES

1.0 INTRODUCTION

This Construction Plan has been prepared to accompany the Environmental Assessment Report submitted, under Part 3A of the Environmental Planning and Assessment Act 1979, to the NSW Department of Planning.

Health Infrastructure (HI) has appointed APP as Project Director for the development of the Prince of Wales Hospital – Mental Health Intensive Care Unit (POWH MHICU), which is located within the Prince of Wales Hospital campus, Randwick.



2.0 PROJECT OVERVIEW

This Project Application relates to the development of the Prince of Wales Hospital Mental Health Intensive Care Unit (POWH MHICU), which is located within the Prince of Wales Hospital campus, Randwick.

The Prince of Wales Hospital (POWH), Randwick is a major teaching hospital based in Sydney's eastern suburbs that serves all of New South Wales and forms a part of the South Eastern Sydney Illawarra Area Health Service (SESIAHS). The SESIAHS does not have a Mental health Intensive Care Unit (MHICU) within its catchment area.

In 2007, NSW Health gave approval for the development of a Business Case in the form of a Combined Services Procurement Plan/ Project Definition Plan (SPP/PDP) for the Mental Health Intensive Care Unit at the Prince of Wales Hospital, Randwick Hospitals Campus.

The extent of the development is confined to POWH MHICU site.

In summary, the extent of works can generally be summarised as follows:

- Construction of a two storey purpose built standalone building on the POWH site. This building will house the following services:
  - A Mental Health Intensive Care Unit of twelve (12) beds, accommodation for health service personnel and administration built to contemporary standards and regulations that will operate in collaboration with other services across the SESIAHS.
  - Support areas for cleaning, catering, amenities and administration as required by the AHFGs and other operational standards and regulations.

3.0 PROJECT STAGING AND KEY MILESTONES

The project is intended to be delivered in a single construction stage which will involve:

- Minor demolition/ excavation works to existing site and installation of new foundations,
- Construct new concrete podium structure (Lower Ground) with lightweight structure for inpatient unit on Ground Level,
- Construct new driveway and footpath provisions for ambulance/ service vehicle and pedestrian access,
- Internal fitout of clinical services, clinical support and shared areas,
- New landscaping to Mental Health courtyard s (Ground Level).
- New external landscaping to areas immediately adjacent the new building.

3.1 PROGRAM AND KEY MILESTONES

The indicative program and key milestones are outlined in the following POWH MHICU project schedule:

Key Milestone	**Date**
Complete Construction Documentation	February 2011
Issue Tender Documentation	April 2011
Award Construction Tender	June 2011
Site Establishment	June 2011
Commence Construction	July 2011
Preliminary Practical Completion	September 2012
Complete Construction (Final Practical Completion)	October 2012
Complete Hospital Clinical Services Commissioning	November 2012
Patient Service Commencement	December 2012
End of Defect Liability Period	October 2013

4.0 CONSTRUCTION ACTIVITIES

4.1 SITE ESTABLISHMENT

Site establishment will be located immediately adjacent to the site boundary on the adjacent vacant land within the POWH campus.

Hoardings and scaffolds will be erected as required for safety and site demarcation.

Security protocols, check points, cranage and loading zones will be established.

4.2 SERVICES DIVERSIONS

Services affected during construction will be identified and traced so as to ascertain the exact requirements for construction works and to minimise disruption to all other adjacent facilities.

Thorough investigation will be undertaken to ensure that capping and removal of services does not affect other parts of the POWH campus.

All hydraulic services, including water, gas, stormwater and sewer drainage will be located and capped at the perimeter of the construction site during the excavation works.

4.3 DEMOLITION

The demolition of the existing concrete paths and kerbing will be carried out using a combination of concrete saws, crushers and small rock breakers. Concrete will be recycled where possible.

No demolition work will commence until a hazardous material assessment has been completed, and any identified hazardous materials have been removed.

The demolition work will commence once all live services have been disconnected and the required hoardings and protection scaffolds are erected.

There will be close consultation with all stakeholders during the demolition/excavation phase to inform of timing of any demolition works, which may impact on their operations and amenity.

4.4 EXCAVATION

The excavation works on Lower Ground Level (for in-ground detention tanks and pits etc) will commence upon completion of any minor demolition/ site clearing works. Excavated material will be removed using excavators and trucks. Trucks will be dispatched via the designated access routes to the approved tip locations.

In parallel to this activity, piling operations will commence to form the foundations of the structural system, lift and stairs shafts.

4.5 FOUNDATIONS

Foundations will be constructed in such a way as to mitigate the risk of noise and vibration that may affect adjacent areas.

4.6 STRUCTURE AND FACADE

The new 2 storey structure and facade will be constructed from a combination of cast in-situ concrete elements and lightweight steel and masonry strucure. It is envisaged that the facade will be comprised of brickwork and with framed gazing elements installed on each elevation.

4.7 ROOF STRUCTURE AND ROOF CLADDING

The roof structure will involve structural steel elements and lightweight cladding. It is envisaged that the majority of these components will be fabricated of site and erected using a mobile crane.

4.8 FITOUT & FINISHES

The interior fitout and finishes of office on Lower Ground will commence once any formwork and propping of the main structure has been stripped. Interior fitout on Ground Level will commence in sequence following the completion of any structural steel.

This work will proceed in a conventional sequence with the masonry, services rough-ins and wet trades. Dry finishes and services fitout will be sequenced in relation to completion of the façade enclosure and waterproofing to each level.

4.9 SERVICES

In-ground infrastructure services, including water, stormwater drainage, sewer drainage, fire services and electrical reticulation will be installed at the same time

as the structure is commenced. The services design will determine the location of connection to mains supplies and also the need, if required, for any up-grade or relocation of these mains.

The rough-in and fitoff of services within the building will be undertaken as part of overall fitout of the relevant areas.

The commissioning of these services will be required before completion and handover of the facility. Integration of some POWH MHICU services with the control systems for the existing POWH facility will be a major commissioning task in achieving completion of the services.

4.10 MATERIALS HANDLING

Materials for the project will be hoisted and moved by a combination of mobile cranes and forklifts.

Concrete pumping for the new structure will generally take place from within the site with minimal impact on the surrounding occupants.

Following completion of the excavation and foundations, it is proposed that the new structures be constructed with the assistance of mobile cranes located immediately adjacent and within the POWH MHICU site.

5.0 IMPACTS ON ADJOINING NEIGHBOURS

The POWH MHICU site is located within the Prince of Wales Hospital campus Randwick, which is bounded by Hospital Road and High Street. The neighbours in the immediate vicinity of the site are CanTeen and the POWH Palliative Care Unit, the Prince of Wales Hospital car park/helipad and the residents of Avoca Street. Other neighbours within the broader vicinity of the POWH MHICU site are:

- Existing residents/occupants of the residential/ commercial areas surrounding the POWH Randwick Campus.

The effect of construction on adjoining neighbours will be:

- Noise during site clearing and construction activities
- Traffic from demolition and construction activities
- Perimeter hoardings
- Overhead mobile cranes
- Overhead works

6.0 CONSULTATION PROCESS

6.1 General

Prince of Wales Hospital/Health Infrastructure and its Contractor shall establish an appropriate Liaison Group with its neighbours. It is envisaged that the Liaison Groups will include the following:

- A Project Control Group (PCG)
- A weekly Operations Meeting

The PCG group will consist of members from POWH (or their representatives), the Contractor and Health Infrastructure. The main role of the PCG will be to develop a Communication Plan that will determine the appropriate communications with surrounding neighbours.

The weekly Operations Meeting will implement the Communications Plan and report to the PCG on the consultation process and any direction required.

6.2 Complaints Register

The Contractor will record details of all complaints received during construction. The Contractor is to establish and maintain a register of complaints and report to the PCG on the status of each complaint. The register is to be made available to Department of Planning as required.

The Contractor is to action each complaint within 2 hours of receiving the complaint and respond in writing outlining the action taken (if any).

7.0 CONSTRUCTION RISKS AND MITIGATION MEASURES

With regards to construction risks and mitigation measures associated with the construction, refer to Table 1 below.

Table 1:

Risks	Mitigation Measures
1. Noise from excavation/minor demolition activities	▪ excavator (and smaller rock breaker if required) will be used to break up any material excavated from Ground Level of site ▪ noise mitigation equipment will be fitted to construction equipment ▪ close consultation with all stakeholders during the demolition/excavation phase to inform of timing of any demolition works which may impact on their operations and amenity
2. Noise from construction activities	▪ noise mitigation equipment will be fitted to construction equipment ▪ position concrete pumping operations in locations to cause minimum effect to neighbours ▪ close consultation with all stakeholders during the foundation phase to inform of timing of any works which may impact on their operations and amenity
3. Vibration from foundation works	▪ the use of CFA piles in lieu of driven piles ▪ close consultation with all stakeholders during the foundation phase to inform of timing of any works which may impact on their operations and amenity
4. Dust from demolition & construction works	▪ use of perimeter site screens ▪ removal offsite of concrete elements to allow crushing at an offsite facility ▪ hose down of demolition activities ▪ hosing down of vehicle access routes ▪ hosing down of construction vehicles leaving the site ▪ regular cleaning of approach roadways
5. Stormwater runoff	▪ use of silt socks and filter fabric in stormwater runoff pits and gutters
6. Removal of hazardous materials	▪ no work will be commenced until the hazardous material assessment has been completed and approved removal and disposal methods will be employed if required
7. Waste water	▪ waste water from construction activities will be collected and treated prior to disposal

Risks	Mitigation Measures
8. Construction traffic	▪ ensure appropriate traffic control measures are employed to ensure separation of construction activities from the public ▪ pre-agreed safe public access pathways to be established and maintained

8.0 OCCUPATIONAL HEALTH AND SAFETY

The Contractor is to be appointed the Principal Contractor under the OH&S Act. The Contractor is to prepare a Site Specific OH&S Management Plan. Specific areas that have been identified of particular importance are:

- Stability of adjacent structures
- Excavation support
- Falls from heights
- Protection of the public
- Traffic controls around the perimeter of the site
- Working with high voltage electrical supply

Prior to commencement the Site Specific OH&S Management Plan is to be issued to the Department of Planning.

9.0 TRAFFIC MANAGEMENT (DURING CONSTRUCTION)

Construction access to the site will be from Avoca Street, with the installation of a temporary access ramp. The majority of the construction traffic will approach via Anzac Parade then onto Barker Street and then onto Avoca Street to the site. Please refer to **Attachment 1** for graphical representation.

Mobile cranes used on site will not adversely affect the use of POWH Helipad located north of the site (on the opposite side of Nurses Walk).

At this stage the vehicle types to be used for demolition and construction of the new building is unknown. However, it is likely to be the following construction equipment will be used:

- Articulated vehicles for delivery of 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 demolition and excavated material; and,
- Staff cars, vans and utilities and delivery vans.

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.

The number and path of vehicle movements will vary during the construction period of the project. Vehicles will access the POWH MHICU site directly from Avoca Street.

A vehicle wash-down will also be placed adjacent the site to prevent construction vehicles tracking dust onto public roads

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

Construction worker access (via foot) is to be via Avoca Street, adjacent the construction vehicle access, but via separate dedicated pathway for safety.

It is intended that the operation of Avoca Street will be maintained for the public, providing clear access between High St and Barker Street.

10.0 WASTE MANAGEMENT

The proposed main contractor will be required to arrange for the sorting and recycling of waste materials and packaging to ensure maximum recycling is achieved.

Where possible the separation and crushing is to occur on site, however due to space and weather economically feasible this may occur offsite.

Prior to commencement of excavation works, a hazardous material assessment will be undertaken on all soil material. Any hazardous materials identified will be disposed of in accordance with statutory and EPA requirements and guidelines.

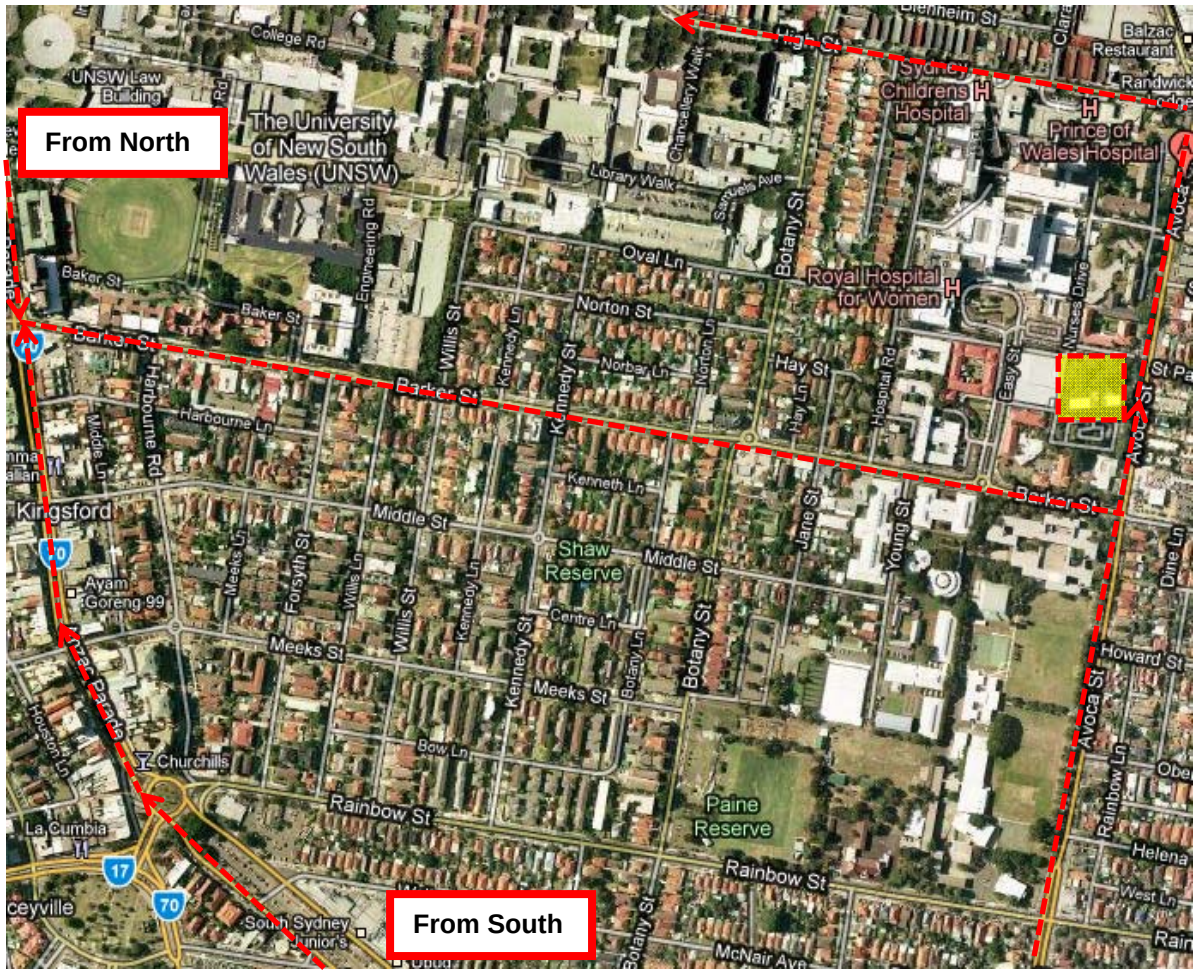
11.0 CONSTRUCTION NOISE MANAGEMENT

Prior to commencement of the demolition/excavation and construction works on site a Construction Noise Assessment will be undertaken. This is to include the construction traffic and the construction activities on site.

Noise and vibration monitoring devices will be positioned in a number of locations to monitor the construction noise and vibration throughout the construction phase. The results of these monitoring devices will be review and if appropriate will be addressed in the PCG meetings.

Attachment 1
Construction Vehicle & Pedestrian Access Routes

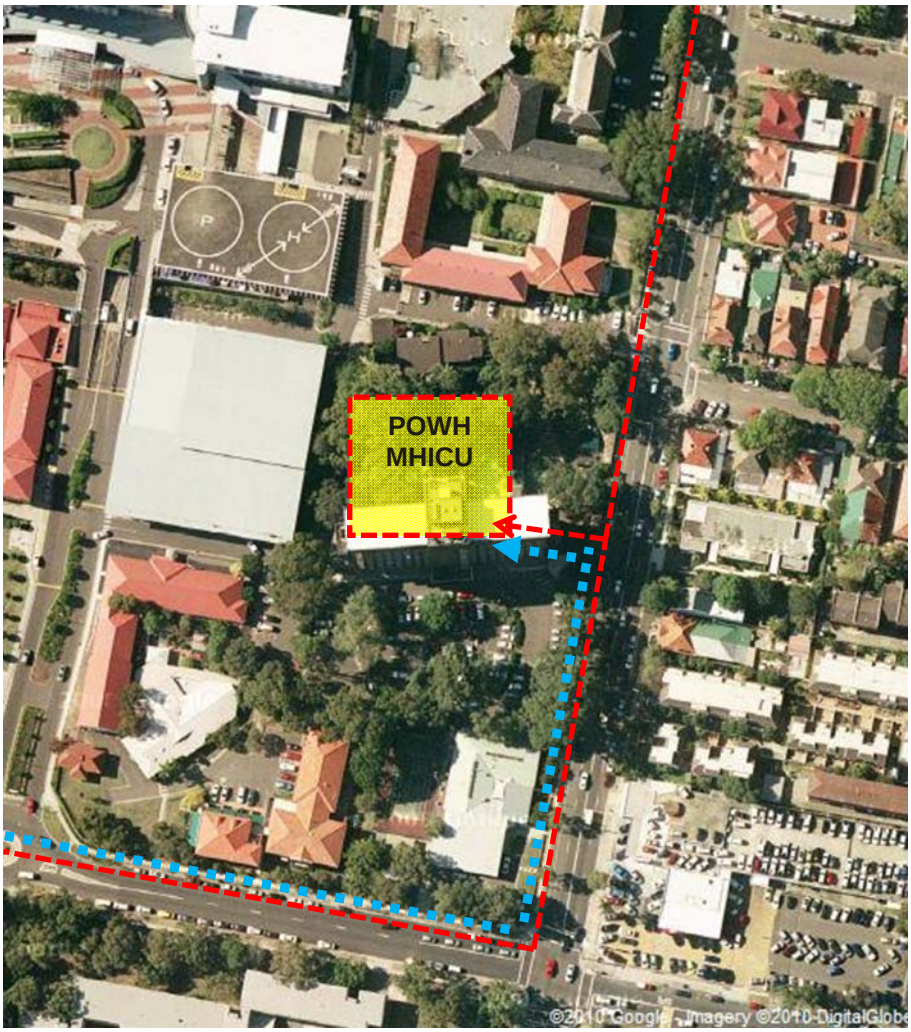
ATTACHMENT 1 - CONSTRUCTION VEHICLE ACCESS



Construction Traffic

Construction Traffic by origin

ATTACHMENT 1 - CONSTRUCTION VEHICLE & PEDESTRIAN ACCESS



Construction Vehicle Access

Construction Personnel Pedestrian Access

Construction Traffic (Vehicle & Personnel) Entry point