

***SYDNEY CHILDREN'S HOSPITAL
Child and Adolescent Mental Health Inpatient
Unit and Clinical Services Development***

CONSTRUCTION MANAGEMENT PLAN

October 2010



APP Corporation Pty Limited

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APPENDICES

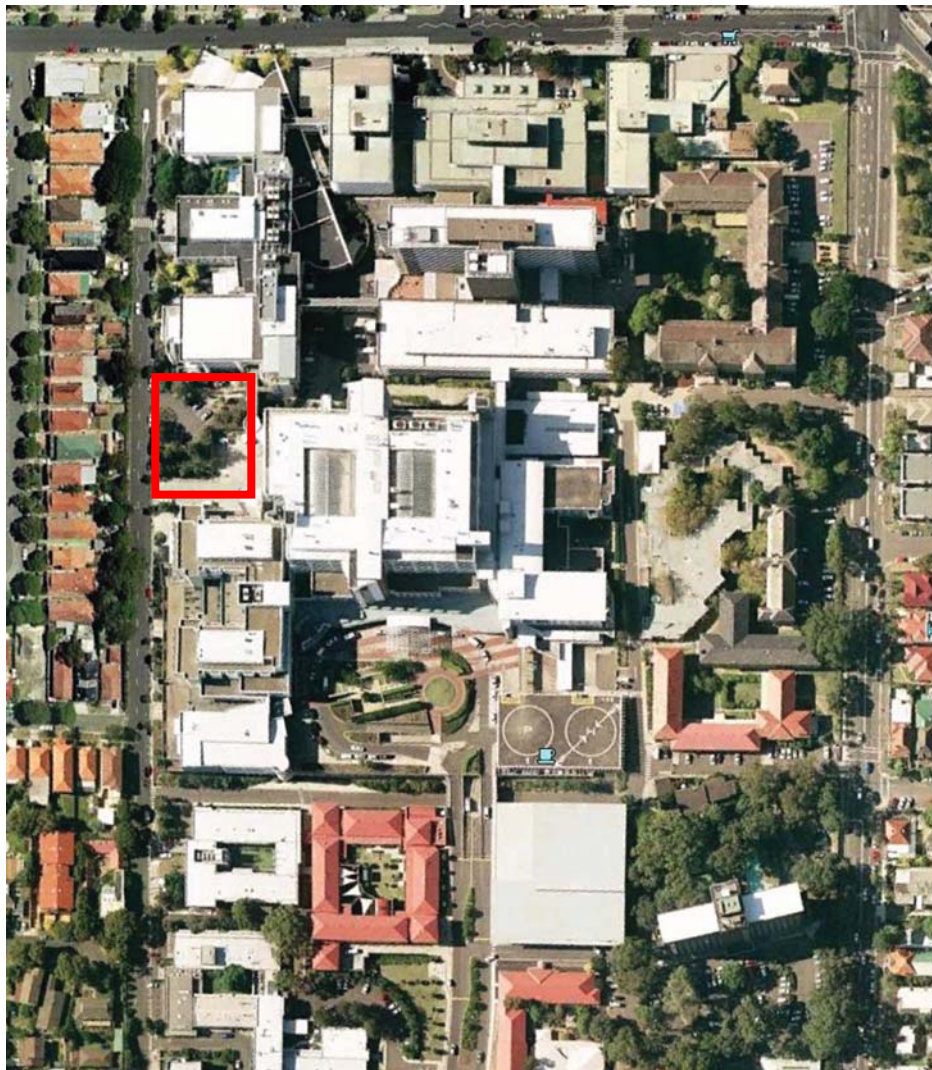
Attachment 1

Construction Vehicle Access Routes

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 Sydney Children's Hospital - Child & Adolescent Mental Health Inpatient Services & Clinical Services Development (SCH CAMHS), which is located within the Sydney Children's Hospital campus, Randwick.



2.0 PROJECT OVERVIEW

This Project Application relates to the development of the Sydney Children's Hospital - Child & Adolescent Mental Health Inpatient Services & Clinical Services Development, which is located within the Sydney Children's Hospital campus, Randwick.

The Sydney Children's Hospital (SCH), Randwick is a state wide tertiary facility for paediatrics and children's health. It provides a comprehensive range of services and is the hub of an extensive and well developed clinical network. It is also a part of and a lead agent for the South Eastern Sydney Illawarra Area Health Service (SESAHS).

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 Child and Adolescent Mental Health Service at the Sydney Children's Hospital.

The extent of the development is generally confined to the SCH CAMHS site, although some associated connection works to the surrounding existing buildings will occur.

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

- Construction of a five storey purpose built building on the SCH site that will link to existing buildings to ensure efficiency and easy path-finding as well as maximising the potential of the limited available site. This building will house the following services:
 - A CAMHS inpatient unit of eight (8) beds, accommodation for health service personnel and administration built to contemporary standards and regulations that will operate in collaboration with the CAMHS at Shellharbour and other services across the SESAHS.
 - Paediatric Rehabilitation Services to operate as a state-wide service offering a multidisciplinary team which includes Brain Injury Program, Cerebral Palsy Service, School Therapy Team, inpatient rehabilitation services, Spinal Clinic, General Rehabilitation Clinic and the Limb Management Clinic, and the Gait and Motion Analysis Services.
 - Day only/ short stay (peri-operative) facility of 27 day bed plus three "holding" bed spaces to consolidate multiple surgical and procedural functions from more than five current locations.
 - Treatment and consultation areas for Audiology, Respiratory Medicine and Cardiology Services.
 - Family Facility – family-friendly amenities and resource area for use by parents and carers visiting the SCH.
 - 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:

- Demolition/ excavation works to existing site (carparking/courtyard/ garden beds) and installation of new foundations,
- Construct new concrete structure (Level 0 –Level 4) with lightweight roof structure on Level 4,
- Construct new connections to existing SCH building Level 2/3 and associated reconfiguration for areas affected by access route,
- Internal fitout of clinical services, clinical support and shared areas,
- Construct two new levels of access linkway over existing linkway structure,
- New landscaping to Therapy courtyard, Mental Health courtyard and High Street frontage (ground level),
- New perpendicular carparking/landscaping to Hospital Road.

3.1 **PROGRAM AND KEY MILESTONES**

The indicative program and key milestones are outline in the following 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	June 2011
Preliminary Practical Completion	August 2012
Complete Construction (Final Practical Completion)	October 2012
Complete Hospital Clinical Services Commissioning	December 2012
Complete Patient Transfer and Service Commencement	December 2012
End of Defect Liability Period	October 2013

4.0 CONSTRUCTION ACTIVITIES

4.1 SITE ESTABLISHMENT

Site establishment will be located on an elevated platform immediately adjacent to the site boundary on Hospital Road.

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

Security protocols, check points, cramage 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 SCH/POWH/RHW 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 slabs, paths and kerbing will be carried out using a combination of concrete saws, crushers and small rock breakers.

Concrete will be recycled.

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 Ground Level (for in-ground tanks and pits etc) will commence upon completion of the demolition 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 5 storey structure and facade will be constructed from a combination of pre-cast and cast in-situ concrete elements. It is envisaged that the main vertical elements of the facade will be pre-cast panels and with framed glazing installed on all four elevations.

4.7 ROOF STRUCTURE AND ROOF CLADDING

The Level 4 roof structure will involve structural steel elements and lightweight cladding. It is envisaged that the majority of these components will be fabricated off site and erected using cranes.

4.8 FITOUT & FINISHES

The interior fitout and finishes of each level will commence once any formwork and propping of the main structure has been stripped.

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 these levels.

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 the SCH CAMHS services with the control systems for the existing SCH 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 demolition/excavation and foundations, it is proposed that the new structures be constructed using mobile cranes located immediately adjacent and within the SCH CAMHS site.

5.0 *IMPACTS ON ADJOINING NEIGHBOURS*

The SCH CAMHS site is located within the Sydney Children's Hospital campus Randwick, which is bounded by Hospital Road and High Street. The immediate adjoining neighbours to the site are the Royal Hospital for Women, Prince of Wales Hospital and the residents of Eurimbla Road (the rear boundary of these properties is Hospital Road). Other neighbours within the broader vicinity of the SCH CAMHS site are:

- o Existing residents/occupants of the residential/ commercial areas surrounding the SCH Randwick Campus,
- o Occupants/users of the UNSW High Street Campus.

The effect of construction on adjoining neighbours will be:

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

6.0 *CONSULTATION PROCESS*

6.1 *General*

Sydney Children's 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:

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

The PCG group will consist of members from SCH (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 demolition activities	- excavator (and smaller rock breaker if required) will be used to break up the 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 bored piers 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 Hospital Road. The majority of the construction traffic will approach via Anzac Parade then onto High Street and then onto Hospital Road to the site. Please refer to **Attachment 1** for graphical representation.

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:

- o Articulated vehicles for delivery of machinery;
- o Heavy and medium rigid trucks for construction material delivery;
- o Heavy rigid tankers for fuel delivery for compacting and excavation machinery.
- o Rigid trucks for removal of demolition and excavated material; and,
- o 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 SCH CAMHS site directly from Hospital Road.

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

Car parking for the daily influx of construction workers will be centred on the use of the public car park in the Sydney Olympic Park (SOP) car park. 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 Hospital Road, adjacent the construction vehicle access, but via separate pathway for safety.

It is intended that half of Hospital Road will be closed off from the main site access, whilst maintaining a single lane road for the public, providing clear access between High St and Barker Street.

10.0 WASTE MANAGEMENT

The demolition contractor will be required to recycle and reuse where possible.

Elements such as concrete, steel, aluminium and timber will be separated and recycled or reused where possible.

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 occur on site, however due to space and weather economically feasible this may occur offsite.

Prior to commencement of demolition and excavation works, a hazardous material assessment will be undertaken on all structures and 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 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 by origin

ATTACHMENT 1 - CONSTRUCTION VEHICLE & PEDESTRIAN ACCESS



- ○ ○ ○ ○ Construction Personnel Pedestrian Access
- Public Vehicle Access
- ← Construction Vehicle Access

Construction Traffic (Vehicle & Personnel) Entry point