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PENRITH NEPEAN HOSPITAL_REVISED DRAFT STATEMENT OF COMMITMENTS

Prepared for NSW Health Infrastructure
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HASSELL

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1 ____Revised Draft Statement of Commitments (27 November 2009)

A Draft Statement of Commitments has been prepared to outline the proposed environmental management of the development, including mitigation and monitoring measures to be implemented to minimise the potential impacts that have been identified.

1.1_Construction and Operational Environmental Management Plans

An Environmental Management Plan (EMP) outlines the environmental goals of the project, the mitigation measures to be implemented, the timing of implementation, responsibilities for implementation and management, and a review process to determine the effectiveness of strategies.

A Construction Environmental Management Plan (CEMP) will be prepared by NSW Health prior to construction, and an Operational Environmental Management Plan (OEMP) ~~is to~~ will be prepared by NSW Health ~~for the construction and operation of the development~~ prior to occupation of the development. The objectives of the EMPs would be as follows:

_Ensure works are carried out in accordance with the assessments detailed in this Environmental Assessment to mitigate the potential for adverse environmental impacts;
_Ensure that the works are carried out in accordance with statutory requirements and non-statutory policies;
_Ensure that employees engaged to undertake the works comply with the conditions detailed in the EMPs as well as relevant OH&S requirements; and
_Identify management responsibilities and reporting requirements to demonstrate compliance with the EMPs.

The EMPs would be working documents and are to be amended should the strategies implemented be found to be inadequate to manage environmental impacts. The EMPs would typically:

_Establish environmental goals and objectives;
_Detail the required mitigation measures recommended in this Environmental Assessment;
_List actions, timing and responsibilities for implementation that arise from the mitigation measures recommended in this Environmental Assessment;
_Detail statutory requirements;
_Provide a framework for reporting on relevant matters;
_Detail training requirements for personnel in environmental awareness and best practice EMS;
_Outline emergency procedures including contact names and corrective actions;
_Detail process surveillance and auditing procedures;
_List compliant handling procedures; and
_Detail quality assurance procedures.

1.2_Mitigation Measures and Monitoring

The following mitigation measures and monitoring procedures have been proposed for the development, and are summarised from the main body of this report.

Safety, Security and Crime Prevention

As requested by Penrith City Council, consultation is to be undertaken with the Penrith and St Mary's Local Area Commands during the detailed design stage regarding community safety considerations and implications of the development.

Lighting

It is recommended that the following lighting design criteria, as outlined in the Penrith DCP (2006:6), is taken into consideration during the detailed design of the lighting for East Block. A review of the existing lighting in place for the ICU and Renal units should also be undertaken against these criteria and measures incorporated where possible.

(a) All areas intended to be used at night should allow appropriate levels of visibility.

(b) Pedestrian pathways, lane ways and access routes in outdoor public spaces should be lit to the minimum Australian Standard of AS 1158. Lighting should be consistent in order to reduce the contrast between shadows and illuminated areas. Lighting should be designed in accordance with AS4282 – Control of the obtrusive effects of outdoor lighting.

(c) Lighting should have a wide beam of illumination, which reaches to the beam of the next light, or the perimeter of the site or area being traversed. Moreover, lighting should clearly illuminate the faces of users of pathways.
(d) Streetlights should shine on pedestrian pathways and possible entrapment spaces as well as on the road.
(e) Lights should be directed towards access/egress routes to illuminate potential offenders, rather than towards buildings or resident observation points.
(f) Lighting should take into account all vegetation and landscaping that may act as an entrapment spot.
(g) Lighting should be designed so that it is "vandal tough" or difficult for vandals to break.
(h) Where appropriate use movement sensitive and diffused lights.
(i) Avoid lighting spillage onto neighbouring properties as this can cause nuisance and reduce opportunities for natural surveillance.
(j) Illuminate possible places for intruders to hide.
(k) As a guide areas should be lit to enable users to identify a face 15 metres away.
(l) All lighting should be maintained and kept in a clean condition with al broken or burnt out globes replaced quickly.
(m) Use energy efficient lamps/fittings/switches to save energy.

Car Parking

It is recommended that the following matters are incorporated into the project in the detailed design stage:

Lighting of the car park should meet Australian standards for car parking, and be of a uniform nature so as to avoid problems associated with adjustment of vision for motorists and pedestrians moving from dark to light areas. Lighting should cover all of the parking area and not just driving aisles. Pedestrian exit and entry points should also be uniformly lit to ensure smooth visual transition from the interior of the facility to the external environment.

The car park is retained as light grey concrete or painted in a light colour in order to reflect as much light as possible. ~~CCTV, intercoms and emergency alarms should be incorporated into the car park.~~

The car park incorporates signage to indicate the location of the exit, lifts, stairwells, intercoms, and emergency alarms.

The car park is generally spacious and open, however there are corners in the north-east and north-west which could provide concealment opportunities. It is recommended that mirrors are provided in this area to provide full visual coverage to pedestrians and vehicles approaching this area.

Particular attention should be paid to providing sufficient lighting and CCTV coverage to the lift area and stairwells, as they represent potential entrapment points.

~~All s~~Stairwell doors to incorporate transparent panels where appropriate to provide sightlines and give advanced warning of any potential dangers.

Signage and tactile pavement treatment is incorporated into the East Block car park detailed design, to direct disabled users to the lifts.

Entrapment Spots and Blind Corners

It is recommended that the following matters are incorporated into the project in the detailed design stage:

Consideration should be given to installing mirrors at the edge of the external East Block courtyard area to provide views around the corners.

Doors to ~~any~~ stairwells throughout the development to incorporate glass panels where appropriate.

Landscaping

It is recommended that a detailed landscape plan is prepared in the detailed design stage that:
_stipulates the use of canopy trees and low-level shrubs;
_stipulates spacing requirements for any dense low growth foliage;
_requires any vegetation near the main entrance to be of low-level so as to maintain visibility of the entrance;
_highlights the location of street lighting and stipulates vegetation of a height and type that will not interfere with the lighting of the public space; and

_recommends appropriate plant varieties to achieve the above.

Building Identification and Way Finding

It is recommended that prior to occupation of the development:

Signage on the Hospital campus is to be updated to clearly show the location of the new buildings and facilities, and to provide directions.

Where possible, new signage seeks to meet the following design criteria outlined in the Penrith DCP (2006:24):

(a) *Signs should be large and legible, with strong colours, standard symbols (e.g. for washrooms) and simple graphics. They should indicate where to go for help or assistance.*
(b) *Signs should be strategically located at entrances and near activity nodes such as intersections of corridors or paths.*
(c) *Signs should indicate how to report maintenance problems in the complex.*
(d) *The main pedestrian route through a large building, sets of building or areas of open public space should be indicated as such with appropriate signage.*
(e) *Where exits to pedestrian routs are closed after hours this should be indicated at the entrance to the route and information on alternative routes should clearly advised.*
(f) *Signs that provide way finding information should not be relied upon solely, the overall legibility of the design needs to be well considered. Users of the space need to be able to intuitively understand where they are within the complex or area and how they can get away.*

Security

It is recommended that prior to occupation of the development:

Existing security systems provided at the Hospital are to be extended to the new buildings.

A Security Management Plan is prepared detailing the processes that will be implemented to effectively manage the security of patients, staff and visitors to the new facilities. This includes the use of security personnel, closed-circuit television systems, alarms and monitoring systems to provide a safe and secure environment.

Sustainability

A commitment is made, as per the NSW Health *Engineering Services and Sustainable Development Guidelines (TS11), Version 2,* to achieve a design that is capable of achieving a Green Star rating of at least 4 stars.

Waste Management

The operation of the new and refurbished facilities will be subject to standard Hospital procedures in regards to waste management, which include guidelines for meeting legislative requirements. Waste management is coordinated across the Sydney West Area Health Service (SWAHS) and is subject to the Waste Management Policy Manual, attached at Appendix AB.

Utilities and Services

Prior to the start of construction, utility and services companies are to be contacted to confirm the location of existing infrastructure on the site, and to arrange connections and disconnections.

Construction access and ingress is to be limited to Somerset Street. If there is any requirement to deviate from this, it must be agreed with Jemena Gas Networks and any other relevant utility providers.

Drainage, Stormwater and Groundwater Impacts

Soil erosion and sediment control measures, to prevent or minimise any discharge into waterbodies, are included in section 9.23 of this report. These measures are to be implemented prior to construction.

Transport, Traffic and Access

Suitable bicycle parking and storage areas are to be integrated on the site prior to issue of a Construction Certificate. The bicycle storage area must be designed in accordance with Australian Standard *AS 2890.3:1993 Parking Facilities – Bicycle parking facilities*. Details are to be provided prior to the issue of a Construction Certificate.

~~A commitment is given to further investigate measures to encourage the use of alternative transport options, as outlined in the TEF Consulting Report (attached at Appendix Y), and to implement where possible.~~
A Transport Access Guide (TAG) will be developed and distributed to staff of the Hospital. The TAG will consider and incorporate the following measures as appropriate:

_Make all staff aware and encourage the use of www.131500.com.au by regular emails and by inclusion in TAG.
_Introduce a system which would inform staff members about other staff who reside in their neighbourhood, for the purposes of car pooling.
_Prepare and distribute a guide on health benefits of walking and cycling.

Accessibility

The development will comply with the requirements of Part D3 of the Building Code of Australia (BCA) and Australian Standard *AS 1428.1 General requirements for Access*.

Heritage

If an item of archaeological significance is found during excavation or construction, work would cease immediately, the site would be closed and the Heritage Office would be informed. Actions would be undertaken in accordance with the *Heritage Act 1977, Part 6 Division 8 Controlling and restricting harm to buildings, works, relics and places not subject to interim heritage orders or State Heritage Register listing*, in particular Clause 136 *Order restricting harm to buildings*.

Flora

If an external site compound is to be set up, it should be located away from any existing landscaping plantings.

Any landscaping or revegetation is to incorporate locally indigenous plant species that are characteristic of Cumberland Plain Woodland.

Machinery is to be cleaned of soil and debris before bringing it on to the site to reduce the potential spread of weeds and the fungal pathogen *Phytophthora cinnamomi*.

The site is to be made good on completion of construction with no excess construction materials or debris to remain on the site.

Prior to construction, trees to be retained on the site are to be protected from construction activities using the following measures:

_Services should be designed so that no trenching is required within 8 metres of the trees.
_A site arborist should supervise any activities in the vicinity of trees, including fencing, excavation and root pruning, and make periodic visits and reports to monitor the state of the trees.
_Excavation in the vicinity of trees should be done initially by hand. Any roots encountered that are less that 50 millimetres in diameter should be cut cleanly with a hand saw. Any roots encountered that are greater than 50 millimetres in diameter should be retained intact and referred to the site arborist for advice.
_Prior to the start of construction, trees should be fenced (in groups where possible) to a radius of 8 metres from each trunk except where access is required for construction, to form tree protection zones. Fences should be chainlink, 1.8 metres high, and supported by steel posts.
_Where access is required within these radii for building purposes, the fence should be set back 1.5 metres from the building face and the soil surface between the fence and the building should be protected by plywood sheets or strapped planking.
_Where not otherwise protected, trunks should be armoured with 2 metres lengths of 50x100 millimetre hardwood timbers spaced at 150 millimetre centres and secured by 8 gauge wires or steel strapping at 300 millimetre spacing. The trunk protection should be maintained intact until the completion of all work on the site.

_There should be no pedestrian or vehicular access to the tree protection zones. No building activities should take place within the tree protection zones, including storage or stockpiling. Runoff from the site should not be allowed to enter the tree protection zones.
_The soil surface within the tree protection zones should be mulched with a layer of composted organic material (Vitagrow Landcure or similar) to a depth of 100 millimetres.
_At the end of construction all retained trees should be pruned to remove deadwood and weak branches. All pruning should be done in accordance with *AS4373 Pruning of Amenity Trees*.

Fauna

Prior to construction, temporary fencing should be installed around construction and storage compounds to prevent access by native fauna and minimise opportunities for fauna to shelter in machinery or materials stockpiles.

Contamination

~~It is recommended that~~ A detailed contamination assessment will be ~~is~~ undertaken in the area of the proposed East Block prior to the commencement of construction works, in accordance with the *DECC Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA, 1997), and any necessary remedial action or further investigations prescribed accordingly.

If any contamination is found during construction, it is to be removed in accordance with Department of Environment and Climate Change (DECC) and Workcover requirements.

Hazardous Materials

A hazardous materials assessment is to be undertaken on the Intensive Care Unit and Renal Dialysis Incentre Unit buildings prior to the commencement of works on these buildings.

Soil and Soil Erosion

Geotechnical Investigations

Additional geotechnical investigations and testing is to be undertaken to prior to construction to:
_Evaluate design and construction requirements to alleviate the effects of the potential saline condition of the subsurface clay.
_Confirm the behaviour of the CLASS H site (high ground movement), in accordance with *AS/NZS 287001996 'Residential Slabs and Footings'*.
_Assess soil erosion potential, with testing to comprise particle size distribution of the soils and the determination of the Emerson Class Number to assess the dispersive nature of the soils.

Earthworks

Earthworks for the proposed cutting and filling shall be performed as follows:
_Excavate the existing topsoils from within the development footprint and stockpile these separately for either re-use for landscaping or removal from site.
_Excavate the subsurface soils in the building areas to the design level of the building pads / floor slab sub-grade. Stockpile these materials separately for removal from site or, should it be required, these soils may be suitable for re-use within the development as 'controlled fill' if they are suitably combined with appropriate imported granular materials.
_A suitably qualified Geotechnical Engineer is to be present during proof-roll testing of exposed residual soils at foundation levels for the building pads / floor slab sub-grade to assess the ability of the prepared surfaces to act both as a foundation platform for shallow footings and also as a sub-grade for the undercroft and walkway pavements. Should soft heaving areas be identified, such soils are to be removed as directed by the engineer on site and replaced using suitable granular fill material.
_Fill material is to be placed in no more than 250mm loose thickness and suitably compacted. The degree of compaction is to be verified by in-situ and laboratory testing.

The exposed residual clay soils will not be trafficable under wet conditions. Trafficked areas during the construction works need to be covered by a suitable layer of crushed gravel or concrete.

Footings

Footings are to be designed and constructed in accordance with sound engineering principles and the following preliminary recommendations and advice:

_All footings of the proposed East Block building or walkways must found on ground of similar bearing capacity to prevent differential movement resulting from the varying foundation materials. It is therefore recommended that all footings found either entirely within the residual soils or entirely at depth within the weathered shale using deepened pier footings where necessary.

_All footing excavations must be suitably cleaned free of loose debris and wet soil before construction.

_The foundation material is to be inspected at the time of footing excavation to ensure that all footings found on suitable ground with anticipated foundation conditions.

_With regards to the proposed ICU extension, the type and layout of the existing building foundations and the condition of the foundation materials are to be established to assess the capacity of the existing footings to carry the additional loading.

Soil Erosion and Sediment Control

Proposed soil erosion and sediment control measures during construction are as follows:

_Initial works shall be undertaken in the following sequence prior to commencing construction:

  _Install all temporary sediment fences and barrier fences. Where fences are adjacent to each other the sediment fence can be incorporated into the barrier fence.

  _Construct temporary stabilised site access.

  _Install sediment traps.

_Undertake site development works so that land disturbance is confined to areas of minimum workable size.

_At all times and in particular during windy and dry weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control.

_Any sand used in the concrete curing process (spread over the surface) will be removed as soon as possible and within 10 working days from placement.

_Water will be prevented from entering the permanent drainage system unless it is relatively sediment free, i.e. the catchment area has been permanently landscaped/stabilised and/or any likely sediment has been filtered through an approved structure.

_Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised / rehabilitated.

_Acceptable receptors will be constructed for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter.

_Any existing trees which form part of the final landscaping plan will be protected from construction activities by:

  _Protecting them with barrier fencing or similar materials installed outside the drip line:

  _Ensuring that nothing is nailed to them:

  _Prohibiting paving, grading, sediment wash or placing of stockpiles within the drip line except under the following conditions.

  _Encroachment only occurs on one side and no closer to the trunk than either 1.5 metres or half the distance between the outer edge of the drip line and the trunk, which ever is the greater

  _A drainage system that allows air and water to circulate through the root zone (e.g. a gravel bed) is placed under all fill layers of more than 300 millimetres depth

  _Care is taken not to cut roots unnecessarily nor to compact the soil around them.

_Allow for grass stabilisation of unstable areas, open channels and rock batters as and where directed.

_Allow for establishment of other erosion protection measures as directed.

_Receptors for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter are to be emptied as necessary. disposal of waste shall be in a manner approved by the site superintendent.

_Erosion and sediment control measures shall be inspected to ensure that they operate effectively. repairs and or maintenance shall be undertaken regularly and as required, particularly following storm events.

_The contractor shall provide all monitoring controls and testing.

_The temporary access shall be maintained in a condition that prevents tracking or flowing of sediment onto public rights of way. This may require periodic top dressing with additional gravel as conditions demand and repair and/or cleanout of any measures used to trap sediment.

_All sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately.

The contractor will be responsible for the establishment and management of a detailed erosion and sediment control scheme to meet Council requirements.

Noise

All building materials and systems will meet the requirements of the NSW Health Facility Guidelines, AS/NZS 2107:2000 *"Acoustics-Recommended design sound levels and reverberation times for building interiors"*, and the *NSW DECC Industrial Noise Policy Guidelines*.

A detailed assessment of plant noise emissions will be conducted ~~once the type and placement of mechanical plant is confirmed~~ prior to occupation of the development.

Noise attenuation measures are to be implemented for plant rooms at roof level, such as screens or barriers, internal insulation, attenuators and acoustic louvers, prior to occupation of the development.

Plant will be selected and operated in accordance with the *NSW DECC Industrial Noise Policy Guidelines* and the *Protection of the Environment Operations Act 1997*.

Following ~~completion of construction~~ occupation of the development, operational noise monitoring shall be undertaken to ensure noise levels meet criteria within the *NSW DECC Industrial Noise Policy Guidelines* (INP). If the results of operational noise monitoring are found to exceed operational noise criteria derived under the INP, further consideration of reasonable and feasible measures will be undertaken to minimise the noise impacts to surrounding sensitive receivers.

Investigative noise monitoring will be undertaken, as required, in response to any specific complaints that may be received.

Fire Safety

All works will comply with the provisions of the BCA, either in terms of the deemed-to-satisfy provisions or by way of alternate solution.

Elements of the development that are to be undertaken as alternative solutions under the BCA, are to be evaluated by a suitably qualified fire safety engineer in accordance with the *International Fire Engineering Guidelines 2005*, and to be referred to the NSW Fire Brigades for approval where required. The evaluation and verification of these matters by a fire safety engineer must be concluded prior to the issue of certification for the design under Section 116G of the *Environmental Planning and Assessment Act 1979*.

Construction Impacts

Prior to commencing construction, a Construction Management Plan will be prepared by the contractor. This plan will include the identification and mitigation of potential impacts during the construction of the project including the following:

_Development of a site specific soil erosion and sediment control plan;
_Construction hours;
_Air quality/dust control procedures;
_Noise management procedures;
_Construction waste management plan;
_Storage and handling of materials procedures;
_Details of hoarding requirements;
_Traffic Management Plan;
_Procedures during events, including pedestrian movements, signage etc;
_Environmental training and awareness; and,
_Emergency preparedness and response.

The Construction Management Plan is to clearly indicate the frequency of noise monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results, and if any exceedance is detected, the manner in which any non-compliance shall be rectified.

Work sites are to be inspected on a regular basis during construction to ensure that the dust control procedures, such as regularly watering unsealed areas, which are to be incorporated into the Construction Management Plan are

being implemented. Visual monitoring of dust generation from work areas is to be undertaken to ensure that excessive dust is not being produced.

Regular inspection of the work site(s) is to be undertaken to:
_Evaluate the effectiveness of waste storage and collection practices;
_Monitor waste recycling and disposal procedures to ensure they are being complied with;
_Ensure waste receptacles are not being overfilled and are being collected on a regular basis;
_Ensure there is no unauthorised waste disposal activity; and
_Inspect any portable toilet facilities to ensure they are being emptied on a regular basis.

General construction hours will be: Monday to Friday 7am to 6pm; and Saturday 7am to 3pm. Where construction work is undertaken which generates significant noise or vibration impacts, construction hours will be: Monday to Friday 9am to 12pm and 2pm to 5pm, and Saturday 9am to 12pm.

During construction, the project will be aiming for a minimum 80% recycling of construction waste which is line with the Greenstar Healthcare v1 tool. All waste will be separated into different streams on site by the Contractor.