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MEMO: ESD STATEMENT - ACUTE HOSPITAL - DIRECTOR GENERAL'S REQUIREMENTS FOR PLANNING APPROVAL

This response has been prepared by Steensen Varming, for inclusion with the State Significant Development application for the proposed Acute Hospital, located at Campbelltown (Lot 6 DP 1058047), Sydney.

The key intent is to provide a response to the ESD criteria stated in the Director General's Requirements for the Acute Hospital building, issued on the 1st of December 2011.

DGR REQUIREMENTS

The Stage 1 Development Application number SSD 5003 applies to the proposed Acute Hospital building. The Director General Requirements (DGRs) for SSD 5003, consist of the following requirements for Ecologically Sustainable Design (ESD).

1. Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 will be incorporated in the design, construction and ongoing operation phases of the development).
2. Include a description of the measures that would be implemented to minimise consumption of resources, water and energy, including an Integrated Water Management Plan which details any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.

RESPONSE TO DGR – ITEM 1

The proposed design will be developed in accordance with the Clause 7(4) of Schedule 2 of the EP&A Regulations (Environmental Planning and Assessment regulations). The proposed design also responds to the various regulations and technical requirements, mentioned below:

- NSW Health requirements
- Clause 7 (4) of Schedule 2 of the EP&A Regulations
- BCA Section-J 2011.

ESD INITIATIVES DURING DESIGN

The ESD strategies incorporated in the proposed design are addressed in the following section. The strategies are listed according to their design discipline:

ELECTRICAL SERVICES – ENERGY EFFICIENCY STRATEGIES

The proposed electrical services design will incorporate the following initiatives:

- Efficient external lighting to meet or exceed the minimum requirements of AS 1158 for illuminance levels.
- The use of luminaries with high efficiency lamps and electronic control gear and high frequency ballasts
- The use of switching systems and arrangement of switching to minimise energy usage.
- Will be in accordance with the requirements of BCA Section J-8.

MECHANICAL SERVICES – ENERGY EFFICIENCY STRATEGIES

Energy efficiency has been an integral part of all mechanical services design. Key mechanical services strategies are pursued in conjunction with other ESD initiatives to reach the minimum requirements of BCA Section-J.

The proposed mechanical services design will incorporate the following initiatives, as these are normal good practice initiatives:

- Outside air economy cycles will be included in all air-conditioning systems, heat recovery between exhaust/relief and outside air will be included whenever these duct routes permit.
- The use of high efficiency equipment such as chillers
- Fan coil units shall be used to serve large intermittently occupied rooms such as meeting rooms such that they can be switched off when not in use.
- Advice to improve thermal performance of building envelope through effective sun shading and construction details, in accordance with BCA section J requirements

HYDRAULIC SERVICES – ENERGY EFFICIENCY STRATEGIES

It is recommended that the hydraulic services design potentially adopts the following sustainable initiatives:

- Rainwater harvesting - Rainwater collected from the roof shall be passed to the harvesting tank via gutters and downpipes.
- Efficient water fixtures and fittings shall be installed.
- A central hot water system is recommended
- Generally water meters should be provided.

ARCHITECTURAL – ENERGY EFFICIENCY STRATEGIES

The proposed architectural design has considered the following strategies:

- Maximise daylight availability in both perimeter and core areas.
- Incorporate daylight glare-control treatments such as blinds and louvres.
- Incorporate efficient facade treatments which will include shading and thermal performance improvement.
- Landscape planting will be appropriate to site and climatic conditions.
- Environmentally preferable materials will be utilised.

ESD INITIATIVES DURING CONSTRUCTION AND OPERATION

The proposed development will incorporate suitable ESD strategies in the design, as identified above. The design will be implemented as part of the construction by the selected contractor. The ongoing operation phases of the building will be managed by the hospital in accordance with the maintenance manuals and procedures.

The following ESD initiatives will be targeted during construction and operation, in order to ensure an efficient and sustainable outcome and minimise the building's ongoing energy use:

- Implement comprehensive commissioning process
- Implementation of a simple building users guide.

RESPONSE TO DGR – ITEM 2

The design team recognises that hospitals generally have an impact on the environment, due to their energy and water demand, for specific functional needs.

In accordance with good practice design, the design team is committed to design towards creating an environmentally sensitive and energy efficient building.

Fundamental ESD aspects that have been considered in the proposed design include:

- Energy
- Materials
- Indoor environmental quality – Adequate ventilation, day lighting.
- Water – Rainwater harvesting and reuse.
- Waste minimisation – During construction and operation, waste management strategies will be implemented.

Details of the above ESD strategies have been presented in the previous sections of this report, under each design discipline.

An overview of the energy and water reduction approach has been outlined below.

ENERGY

Healthcare facilities have high energy demands due to their specialist equipment loads and ventilation requirements. Energy-efficiency is one of the key priorities for the proposed project.

In order to achieve energy efficiency, the proposed design has incorporated the following Energy Hierarchy:

- Minimise energy consumption
- Encourage operational training and education.

Following sources of energy would be utilised, in the following order of priority:

- Natural gas – (the gas service to the facility will extend from the existing service that is serving the main hospital campus)
- Grid electricity – available on site.

WATER

Details of the water management strategies will be addressed in the Integrated Water Management Plan prepared by others. This document would provide details of the proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.

Yours sincerely

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