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PROJECT: Byron Shire Central Hospital Redevelopment

PROJECT NUMBER: 26609-SYD-E DATE: 30 July 2014

SUBJECT: Electrical Services – External Lighting Design – Information for Development Application

The following information is provided to confirm that the design prepared by WGE will ensure that the impact which the external lighting will have on the adjacent residential land will be minimal and will comply with the relevant standards.

1. GENERAL

The following is an overview of the lighting design methodology to be applied for the new pathways on the site. A detailed design will be formulated during the design development stage of the project however the main design principles are provided in this report for the Development Application

The following issues have been considered in this report and will be addressed in the detailed design stage:

- Energy efficient lighting
- Creation of a safe well lit environment
- Limiting spill light adjacent residential land
- Aesthetically suitable lighting arrangement
- Lighting control systems
- Maintenance and ongoing running costs

2. DESIGN CRITERIA FOR EXTERNAL LIGHTING

The exterior lighting will comply with the following standards and guidelines:

WGE - vital experience

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- AS 4282- Control of obtrusive effects of outdoor lighting
- AS/NZS 1158.3.1- Pedestrian area lighting (category P)
- AS 3000- SAA wiring rules

3. PEDESTRIAN PATHWAY LIGHTING

Pathways will be designed to comply with both AS/NZS 1158.3.1 – Pedestrian area lighting (category P), and AS/NZ 4282-1997– Control of the obtrusive effects of outdoor lighting as follows:

We are of the opinion that there will be occasional high night pedestrian activity, a medium risk of crime and a high need to enhance prestige, the project therefore, fits into light category P2.

The light technical parameters associated with Category P2 lighting are as follows:

- Average horizontal illuminance – 3.5 lux
- Point horizontal illuminance – 0.7 lux
- Illuminance (horizontal uniformity) – 10
- Point vertical illuminance – 0.7 lux

It is proposed to utilize a combination of post top light fittings of 3 to 4 meter height and bollards. Luminaries utilising LED lamps will be specified. Fittings will have zero degree horizontal cut off to minimise any upward light spill and, were necessary, will be provided with shields to prevent light spill into adjoining properties.

The detailed lighting design will be undertaken during the design development stage and the design will include limiting the obtrusive effects of the lighting on adjacent properties to the limits set in AS 4282.

4. EXTERNAL LIGHTING CONTROL

It is proposed that a combination of photo electric cell (PE Cell) controlled external lights and PE Cell and time clock controlled external lights be utilised.

This will allow some lights to remain on from dusk to dawn and others to switch off at a preset time at night

5. MAINTENANCE

Energy efficient lamps, control gear and luminaries will be selected generally utilising LED sources. Vandal resistant luminaries and associated supporting facilities will be selected and ease of maintenance will be considered in the selection and design.

Prepared by: Mark Mulholland
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