Communication Tower Report
Discipline: Architecture

Prepared for Multiplex Constructions Pty Ltd
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Section

Technical Function of the Communication tower:

Fundamental to the clinical operation of the Hospital is the ability to communicate with other healthcare facilities especially tertiary institutions providing a higher degree of clinical specialties. The Hospital has identified the need for a microwave tower to be established at the top of the proposed building to provide a high speed and secure telecommunications link with Westmead Hospital.

This tower has been placed at the centre of the building and designed as a lattice form to reduce the visual impact. The tower will replace the existing microwave antennae currently located on the existing Auburn Hospital and will be the subject of further detailed design to meet the technical requirements of its function.

Language of the Communication tower:

The tower has been designed as a minimalist structure to form a support lattice for the installation of the required communication dishes and antennae. It comprises of a vertical Vierendeel Truss with primary vertical members and secondary horizontals supporting the service platforms. The connection between the primary and secondary members has been designed to visually separate the elements to reduce the perceived mass. Service trunking and access ladders have been coordinated to the vertical expression to further control the massing

The overall size of the tower has been governed by the signal "line of sight" and other characteristics required by the hospital communication web and the requirements of lightning strike protection.

The tower has been oriented in alignment with the main axes of the Hospital and is located centrally in the Hospital footprint. These measures both serve to minimise the perceived massing from the street and the neighbourhood.

Colour selection:

The main structural steel columns supporting the tower are proposed to be clad with metal sheets or similar materials with matt finish. The surface is finished with a paint colour of low reflectivity and sheen that will achieve the characteristic of patina of Micaceous Iron Oxide (MIO) to subdue the appearance of the whole structure itself and also to minimize drawing too much attention to the tower. Each platform is painted in a light grey colour so when viewing from a distance they will blend in with the background of the sky and thus will minimise the visual impact of the Tower against the surrounding area.

Access gained:

Access for Tower maintenance personnel to the Communication Tower will be thru the Loading Dock or Mortuary drive to the Staff lifts (lift 3, 4 and 5) to level 5 and by Fire Stair 5 up to the roof level and then by steel step ladders to the roof of the Communication room which is the base of the Communication Tower.

Access for heavy equipment will be the same route as for Tower maintenance personnel up to level 5 Staff lift lobby, heavy equipment will then be hoisted up to the roof level through a roof hatch by a swing arm crane located at the front of the Communication Room and then lift up to the appropriate platform of the tower by retractable monorail at the top of the Tower.

Parking for maintenance staff:

Tower maintenance staff(s) will use the loading dock as temporary parking where equipment can be loaded or unloaded easily. Equipment can then be transferred to the lift lobby thru the back-of -house corridor. Similarly alternative access can be gained from the Mortuary drive on the southern side of the hospital thru back-of house corridor.

Material handling in the future:

Replacing of heavy equipment in the future will be in the same sequences as described in the access gained for heavy equipment above.