

## Appendix G: Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the Section 75W Modification Application to the Concept Plan Approval (MP 10\_0198) for 6-30 Artarmon Road, Willoughby has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the Secretary's Environmental Assessment Requirements, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

**Figure 1** indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

**Table 1** presents the findings of the ERA for this project.

| Significance of impact | Manageability of impact |                    |                    |                    |                   |
|------------------------|-------------------------|--------------------|--------------------|--------------------|-------------------|
|                        | 5<br>Complex            | 4<br>Substantial   | 3<br>Elementary    | 2<br>Standard      | 1<br>Simple       |
| 1 – Low                | 6<br>(Medium)           | 5<br>(Low/Medium)  | 4<br>(Low/Medium)  | 3<br>(Low)         | 2<br>(Low)        |
| 2 – Minor              | 7<br>(High/Medium)      | 6<br>(Medium)      | 5<br>(Low/Medium)  | 4<br>(Low/Medium)  | 3<br>(Low)        |
| 3 – Moderate           | 8<br>(High/Medium)      | 7<br>(High/Medium) | 6<br>(Medium)      | 5<br>(Low/Medium)  | 4<br>(Low/Medium) |
| 4 – High               | 9<br>(High)             | 8<br>(High/Medium) | 7<br>(High/Medium) | 6<br>(Medium)      | 5<br>(Low/Medium) |
| 5 – Extreme            | 10<br>(High)            | 9<br>(High)        | 8<br>(High/Medium) | 7<br>(High/Medium) | 6<br>(Medium)     |

**Figure 1 – Risk Assessment Matrix**

**Table 1** – Environmental Risk Assessment for S75W Modification Application to Concept Plan Approval (MP 10\_0198) for 6-30 Artarmon Road, Willoughby

| Identification of Potential Environmental Impacts |       |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Risk Assessment        |                         |                 |
|---------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|-----------------|
| Item                                              | Phase | Potential Environmental Impact                                                                                                                                                                                                                              | Proposed Mitigation Measures and / or Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Significance of Impact | Manageability of Impact | Residual Impact |
| Construction Impacts                              | C     | <ul style="list-style-type: none"> <li>Construction noise and vibration</li> <li>Dust</li> <li>Erosion and sediment run-off</li> <li></li> </ul>                                                                                                            | <ul style="list-style-type: none"> <li>This Concept Plan Approval does not provide consent for construction activities. A construction management plan will be required to be provided with each future Development Application for physical works within the Site.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Moderate               | Standard                | Low/Medium      |
| Traffic                                           | C / O | <ul style="list-style-type: none"> <li>Construction traffic and parking</li> <li>Impact of proposed intersection and site access works on existing traffic flows</li> <li>Impact of future residential traffic loads on local and regional roads</li> </ul> | <ul style="list-style-type: none"> <li>The construction management plan required to be provided with each Development Application shall also be required to address construction traffic management and construction worker parking. Wherever possible, parking for construction workers should be provided on-site so as to minimise disruption to local parking availability.</li> <li>Future planning applications for works affecting the site access points to Richmond Avenue and Artarmon Road will be required to be accompanied by</li> </ul>                                                                                                                                                                                                                                                                                                                                                                | Low                    | Standard                | Low             |
| Contamination                                     | C / O | <ul style="list-style-type: none"> <li>Potential human health and environmental impacts associated with known and potential areas of contamination within the Site.</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>The existing Concept Plan approval included a Remedial Action Plan prepared by JBS Environmental dated November 2012.</li> <li>There is some potential contamination within the Site associated with underground fuel storage tanks and potential asbestos in fill material within some areas of the Site.</li> <li>Condition 39 of the existing Concept Plan Approval requires the submission of a detailed contamination assessment and remedial strategy with each future Development Application in accordance with the requirements of State Environmental Planning Policy No.55 – Remediation of Land to ensure that the site is suitable for the proposed land uses.</li> <li>Future Development Application(s) for the demolition of existing buildings and structures within the site will required to be accompanied by a Hazardous Materials Assessment.</li> </ul> | Moderate               | Standard                | Low/Medium      |
| Safety and Security                               | C / O | <ul style="list-style-type: none"> <li>Site security during the construction phase</li> <li>Impacts of urban design and architecture on actual and perceived safety and security of public and residents</li> </ul>                                         | <ul style="list-style-type: none"> <li>The construction management plan accompanying each future Development Application for physical works shall outline details of site security measures to be implemented during the construction phase.</li> <li>Council may require that future Development Applications for buildings and open space within the Site be accompanied by a Crime Prevention Through Environmental Design (CPTED) report prepared by a suitably qualified assessor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                    | Low                    | Standard                | Low             |

| Identification of Potential Environmental Impacts |       |                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Risk Assessment        |                         |                 |
|---------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|-----------------|
| Item                                              | Phase | Potential Environmental Impact                                                                                                                               | Proposed Mitigation Measures and / or Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Significance of Impact | Manageability of Impact | Residual Impact |
| Overshadowing                                     | O     | <ul style="list-style-type: none"> <li>■ INSERT</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>■ Shadow studies for the proposed master plan demonstrate an acceptable overshadowing impact assessment as outline in the S75W Modification Application planning report.</li> <li>■ Future Development Applications for Buildings D, E, F, G, H and J will be required to provide updated solar impact studies consistent with Appendix 2 of the Concept Plan Master Plan Report by CHROFI, identifying any variance from the master plan to allow for assessment of any changes to the overshadowing impacts of the redevelopment of the Site.</li> </ul> | Low                    | Standard                | Low             |
| Visual Privacy                                    | O     | <ul style="list-style-type: none"> <li>■ Proximity of new dwellings to existing dwellings,</li> </ul>                                                        | <ul style="list-style-type: none"> <li>■ All proposed residential buildings exceed the minimum recommended separation distances for habitable-to-habitable dwelling separation required under the Apartment Design Guide, and in most cases significantly exceed these requirements.</li> <li>■ INSERT</li> </ul>                                                                                                                                                                                                                                                                                 | Low                    | Standard                | Low             |
| Heritage                                          | O     | <ul style="list-style-type: none"> <li>■ Potential impacts on local heritage conservation areas and listed heritage items.</li> </ul>                        | <ul style="list-style-type: none"> <li>■ The Heritage Impact Statements prepared by Godden Mackay Logan find that the impact of the redevelopment of the Site will have minimal and acceptable impacts on local heritage places.</li> </ul>                                                                                                                                                                                                                                                                                                                                                       | Low                    | Simple                  | Low             |
| Education Infrastructure                          | O     | <ul style="list-style-type: none"> <li>■ Potential impacts of future residential population on local government school capacity.</li> </ul>                  | <ul style="list-style-type: none"> <li>■ The proponent shall consult with the Department of Education regarding the</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Low                    | Simple                  | Low             |
| Electromagnetic Radiation                         | O     | <ul style="list-style-type: none"> <li>■ Potential impacts on human health arising from proximity of new dwellings to the TXA transmission tower.</li> </ul> | <ul style="list-style-type: none"> <li>■ The EMR Assessment by Kordia indicates that the exposure levels to electromagnetic radiation in new dwellings would be well below the relevant ARPANSA standards for human health.</li> <li>■ The Statement of Commitments have been updated to ensure that a further updated report for the EMR Assessment is undertaken once the detailed design details of each potentially affected building is known, and that this assessment is submitted with future Development Applications for individual buildings.</li> </ul>                               | Minor                  | Standard                | Low/Medium      |

| Identification of Potential Environmental Impacts |       |                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                         | Risk Assessment        |                         |                 |
|---------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|-----------------|
| Item                                              | Phase | Potential Environmental Impact                                                                                                                                 | Proposed Mitigation Measures and / or Comment                                                                                                                                                                                                                                                                                                                           | Significance of Impact | Manageability of Impact | Residual Impact |
| Wind                                              | O     | <ul style="list-style-type: none"> <li>Potential impacts of finished buildings on local wind conditions impacting on pedestrian comfort and safety.</li> </ul> | <ul style="list-style-type: none"> <li>Preparation of further pedestrian wind assessment with future Development Applications for public domain, landscaping and tall building elements to ensure that detailed building design and landscaping measures are implemented to ensure an appropriate pedestrian wind environment within the Site and surrounds.</li> </ul> | Low                    | Standard                | Low             |