

Mitigation Measures Table

FIVE WAYS, CROWS NEST – MITIGATION MEASURES TABLE

Table 1: Mitigation Measures

Category of Measures	Detail
Mitigation Measures – Incorporated into Design of Project	Noise and Vibration
	External roof construction is proposed to be made from concrete elements, which are expected to provide sufficient acoustic insulation.
	External wall construction is proposed to be made from masonry elements, which are expected to provide sufficient acoustic insulation.
	Contamination and Remediation
	A hazardous building material survey should be undertaken prior to building demolition to identify any materials requiring specific management protocols prior to bulk demolition. A Hazardous Material Survey has been prepared by EI Australia (Appendix 21).
	Aboriginal Cultural Heritage
	Recommendation 1 – Submission of report with this SSDA A copy of this report should be submitted to the Department of Planning and Environment (DPE) in support of the SSDA.
	Recommendation 2 – Record Keeping The ADD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.
	Recommendation 3 – No Further Investigation The development may proceed with caution, subject to the following archaeological chance finds and human remains procedures being implemented and followed.
	Infrastructure Requirements
A new Ausgrid 2 x 1500kVA Chamber Substation is proposed to be located at Basement Level 1 within the property boundary, southern corner of the site.	
Mitigation Measures – Required as Conditions to address Residual Impacts	Environmental Amenity
	A solution to ensure the vertical illuminance levels during curfew hours comply with the requirements of AS/NZS 4282-2023 is required.
	Traffic, Transport and Accessibility
	The Construction Pedestrian Traffic Management Plan (CPTMP) is required to be further refined as the project progresses prior to the commencement of construction.
	Noise and Vibration

Category of Measures	Detail
	<p>External Noise Intrusion Assessment</p> <p>If any penetrations are required through the external roof, an acoustic sealant should be used to minimise gaps and prevent noise intrusion.</p> <p>If any penetrations are needed through the external wall, an acoustic sealant should be used to minimise gaps and prevent noise infiltration.</p> <p>Ventilation</p> <p>The Acoustic Assessment has provided three (3) options for acoustic treatment, which include:</p> <ol style="list-style-type: none"> 1. Acoustically Treated Balcony Soffit <ol style="list-style-type: none"> a. Option 1 - Staggered Opening Scheme b. Option 2- Awning Windows with Absorptive Ceiling 2. Acoustically treated trickle ventilation system 3. Acoustic plenums <p>These measures will be implemented in coordination with the Acoustic Consultant.</p>
	<p>Ground and Water Conditions</p> <p>A geotechnical review of the foundation and shoring design will be required. Additional geotechnical investigation will be required, comprising at least three cored boreholes, drilled to 5 m below the proposed basement level 7 finish floor level (RL 74.8 m). These boreholes can be drilled after the completion of the demolition works.</p> <p>Installation of 3 groundwater wells outside the excavation perimeter (including at least one upgradient) and subsequent measurement of groundwater levels would be required.</p> <p>Calibrated Flowmeter connected to pump-out system.</p> <p>No visible oil and grease, 'sheen' and / or no significant discolouration or odours.</p> <p>If any of the above signs are noted, then any discharge will be suspended until further analytical testing is completed.</p> <p>Sample collection will be based on the dewatering method to be used. In general, samples are to be collected from both water entering the system and water following treatment. Contaminant and physical properties tested to be nominated by the authority accepting water but to include:</p> <ul style="list-style-type: none"> • Metals (total and dissolved) • TR • BTE • PAH • Conductivity • pH • Dissolved Oxygen • Turbidity • Total dissolved solids

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	Water Management
	Water Quality Modelling Strategy
	10 x 690 storm filter cartridges to be installed within the water quality chamber incorporated in the OSD
	2 x OceanGuard to be installed in level 3 podium for pervious and impervious areas, the drainage in podium shall be collected to ensure the surface runoff is being treated in OceanGuard. Architect and Hydraulic consultant to further coordinate the grading on level 3 podium to ensure the area can be directed to pits installed with OceanGuards, multiple OceanGuards may be required depending on the podium grading.
	1 x OceanGuard to be installed within the stormwater pit on eastern side of the pedestrian ramp on the ground floor to treat surface runoff.
	Erosion and Sediment Control
	Sediment fence to be installed around the site perimeter to trap any sediment.
	Shaker grid/wash down facility to be installed at the site egress to limit any sediments from being carried outside of the construction site.
	Stockpile location to be confirmed by contractor on-site during the construction phase, preferably to be located at the high point of the site.
	Contamination and Remediation
	Clearance of the buildings by a qualified occupational hygienist once identified hazardous building materials are removed.
	Clearance of the ground surface by a qualified occupational hygienist once all buildings and hardstand are removed.
	Post-demolition intrusive investigation to confirm and formalise the waste classification of fill prior to off-site disposal.
	Intrusive investigation following the removal of all fill to confirm and formalise the classification of natural soils are bedrock to be excavated in forming the basement.
	Preparation of an unexpected finds protocol to inform assessment / management protocols in the event of unexpected contamination sources or impacts.
	Further groundwater assessment and report as part of an application and monitoring around dewatering for the basement.
	Waste Management
	Construction Environmental Management Plan
	<p>Site management</p> <ul style="list-style-type: none"> The construction site will be kept free of rubbish, waste material and debris.

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	<ul style="list-style-type: none"> • Waste will be disposed of in accordance with a Construction Waste Management Plan (CWMP) <p>Waste Management Plan</p> <ul style="list-style-type: none"> • Chemical waste will be removed from site and disposed of at licenced facilities. • Procedures for removal of other hazardous or dangerous materials from the site in accordance with State and Federal legislation including WorkSafe requirements. • Waste collection shall only occur during permitted hours. • For outside bins, self-closing lids must be installed to ensure waste does not become airborne. • Litter and debris 'trapped' against site fencing must be regularly cleaned. • Procedures for removal of waste (materials that cannot be reused or recycled) from the site • Demolished concrete will be reused on site for • construction driveways where possible or sent to a concrete recycling plant. • General waste will be stored in the designate bin/skip and removed by the waste contractor on a regular basis. • Recyclable waste will be stored in a designated bin/skip and removed by the waste contractor on a regular basis. • The waste bins will be stored in the designated materials handling areas. <p>Reduce</p> <ul style="list-style-type: none"> • Efforts to minimise waste on site by avoiding overestimation of purchasing requirements, minimising packaging materials, and buying environmentally approved and recycled content products. • Minimise use of packaging materials and recycle packaging products where possible. • Utilise quantity surveyor estimates to order materials, to prevent wasted materials. <p>Reuse</p> <ul style="list-style-type: none"> • Weeds and contaminated mulch will be disposed of separately. • The office will utilise recycle wastepaper bins. • The re-use of timber, glass, and other materials • The type and quantity of materials that are to be re-used are to be detailed in the WMP. <p>Recycle</p> <ul style="list-style-type: none"> • Procedures are to be put in place for the collection and sorting of recyclable construction materials • Training will be provided to all staff outlining the appropriate recycling procedures. • Recycled waste bins will be appropriately sign posted.

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	<ul style="list-style-type: none"> The type and quantity of materials that are to be recycled are to be detailed in the WMP
	<p>Staff waste</p> <ul style="list-style-type: none"> Provision of containers for recyclable materials including cardboard, glass, metal, and plastic and green waste. Provisions for collection of daily rubbish from workers.
	<p>Measurement and Monitoring</p> <ul style="list-style-type: none"> Waste monitoring will be recorded on the daily and weekly Inspection report.
	<p>Hazardous Material Survey</p>
	<p>Demolition of hazardous material must be undertaken in accordance with a Hazardous Material Survey prepared by a suitability qualified specialist.</p>
	<p>Operational Waste</p>
	<p>Construction of waste rooms must be undertaken in accordance with an Operational Waste Management Plan.</p>
	<p>Aboriginal Cultural Heritage</p>
	<p>Recommendation 4 – Unexpected Archaeological Finds Procedure</p> <p>any archaeological deposits be uncovered during any site works, the following steps must be followed:</p> <ol style="list-style-type: none"> All works within the vicinity of the find must immediately stop and the location cordoned off with signage installed to stop any accidental impact to the finds. The find must not be moved 'out of the way' without assessment. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Such management may require further consultation with Heritage NSW, preparation of a research design and archaeological investigation/salvage methodology and registration of the find with the Aboriginal Heritage Information Management System (AHIMS). Depending on the significance of the find, reassessment of the archaeological potential of the subject area may be required and further archaeological investigation undertaken. Reporting may need to be prepared regarding the find and approved management strategies. <p>Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW.</p>

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	<p>Recommendation 5 – Human Remains Procedure</p> <p>In the unlikely event that human remains are uncovered during the proposed works, the following steps must be followed:</p> <ol style="list-style-type: none"> 1. All works within the vicinity of the find must immediately stop and the location cordoned off with signage installed to stop any accidental impact to the finds. 2. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW (Enviroline 131 555). 3. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist. <p>Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives. Works are not to recommence until the find has been appropriately managed.</p>
	<p>Social Impact</p>
	<p>It is recommended that CPTED principles are applied at the detailed design stage with consideration of CCTV monitoring of building and car park entrances and exits, foyers, mail areas and lift lobbies.</p>
	<p>Recommendation for adequate lighting of building entrances and exits, paths, car parking area, and common open spaces at night.</p>
	<p>Clear street signage recommended, including directional signage to direct visitors to different building entrances and areas.</p>
	<p>Regular maintenance of common spaces and landscaping recommended.</p>
	<p>Infrastructure Requirements</p>
	<p>Gas Supply</p>
	<p>Prior to construction certificate, a gas application will need to be submitted to Jemena, in order to formally confirm the adequacy of the natural gas supply.</p>
	<p>Electrical Infrastructure</p>
	<p>The substation chamber, access corridors and ventilation shafts will be covered under a Lease arrangement within the building in favour of Ausgrid.</p>
	<p>An Ausgrid easement will also be required over the new substation earthing grid below the lowest basement level (8000mm x 5000mm). 2x vertical earthing pipes from the substation at Level 1 to below the lowest basement level will also include a 1m² vertical easement in favour of Ausgrid.</p>
	<p>The 'substation site' is to be constructed and managed in accordance with the following points:</p> <ul style="list-style-type: none"> • Chamber room to be approximately 200sqm, including 3200mm height + 900mm cable zone. • Chamber room floor level to be at most 4300mm below the lowest point of adjacent street.

Category of Measures	Detail
	<ul style="list-style-type: none"> • 1 x dedicated access stair and corridor (1200mm W x 2500mm H) from Ground Level to Basement Level 1. • 1 x equipment access shaft (1600mm L x 900mm W) with minimum 3.2m clear head height, 1m clear zone around hatch, 24/7 4m wide right of way access from boundary, and 3.0m H x 1.0m W clear door opening. • 1 x Transformer hatch (2200mm L x 1610mm W) with specific requirements including location from adjacent roadway kerb, clear head height, clear zone, and 24/7 4m wide direct access from boundary. • 2 x dedicated ventilation shafts with specific size ratios, facade opening heights, FRL requirements, and separation distances from other building ventilation openings.
	<p>Aviation</p>
	<p>The building to be obstacle lit by medium intensity steady red lights at the highest point of the building, in accordance with Manual of Standards (MOS) Part 139 subsections 9.4.7 and 9.4.3.</p>
	<p>Cranes to be lit with medium intensity red lighting at night, placed at the highest point of the crane and able to be observed in a 360-degree radius as per section 9.4 of MOS.</p>
	<p>Cranes must be marked (red and white) in accordance with MOS Part 139 subsection 9.10.2. OR lit with medium intensity flashing white lights as per subsection 9.4.</p>
	<p>Any additional measures that maybe required by NSW Ambulance.</p>
	<p>Compliance with the approval conditions of Appendix 22.</p>
	<p>Construction, Operation and Staging</p>
	<p>Construction of the development shall be undertaken in accordance with the management techniques outlined within a Construction Environmental Management Plan and amended as necessary.</p>