

Appendix B. Detailed Mitigation Measures Table

Application number	SSD-75660711
Project name	Crows Nest OSD Site A – Detailed SSDA
Location	32 Hume Street, Crows Nest
Applicant	Thirdi Crows Nest Commercial Developments Pty Ltd

Category of Measures	Detail
Mitigation Measures – Incorporated into Design of Project as Proposed	Wind
	Ground level - Continue the awning along Oxley Street, wrapping around to Clarke Lane to mitigate the north-easterly winds impacting the local exceedance at the corner of Oxley Street and Clarke Lane. - The inclusion of strategic planter boxes and temporary screening at the corner of Oxley Street and Pacific Highway which reach the underside of the awning is expected to address the exceedance at this corner. - It is recommended to retain the proposed tree planting, which should be of a dense evergreen species to provide shelter from winds year-round and capable of growing to 3-5m tall.
	Level 2 Northern end of the terrace is to be non-trafficable and will only be accessed for maintenance purposes.
	Level 4 - Include 1.8-2m tall (max 50% porous) balustrades/screens along the eastern and western perimeter of the Level 4 terrace between the northern and central wing of the Proposed Development. - Recommended to retain the proposed landscaping scheme with the selection of evergreen trees capable of growing to 2-3m at the proposed tree locations. The inclusion of additional trees within the planters is expected to provide additional shelter to the winds. - Relocate seating provisions in the more sheltered eastern section of the terrace.

Category of Measures	Detail
	Reflectivity
	Extend and make deeper the external shading fins on the Pacific Highway and Clarke Lane elevations of Towers 1 and 2. The depth of these fins should be 300mm, and they should extend from one spandrel zone to the next.
	Visual Impact
	Minimising bulk and scale through horizontal and vertical articulation and choice of materials: A simple vertical articulation in the form to break up the height of the building that is sympathetic to its context. Including a building separation to allow greater podium planting, increased solar access and greater view depth
	The overall bulk and scale of the Proposal allows for an appropriate 'transition in height, bulk and scale from the highway to the surrounding neighbourhood areas' (NSW Department of Planning, Industry and Environment, 2020) as well as the emphasis on transitioning the scale of built-form from the taller forms of St Leonards business district down to the single-storey residential dwellings.
	Maintaining solar access to Willoughby Road between 11:30am and 2:30pm (mid-winter, 21 June) and Earnest Place between 10am and 3pm (mid-winter, 21 June) to reduce overshadowing.
	Trees and Landscaping
	Landscape
	Planting Along the Western Facade A dense layer of vegetation is strategically planted along the western facade to act as a natural buffer, reducing the impact of discharged air from the station's exhausts. These plants also improve air quality, enhance aesthetics, and contribute to local biodiversity.
	Shade Structures on Rooftops Custom-designed shade structures are installed on rooftops to mitigate heat gain, reducing the urban heat island effect.
	Screening Through Planting Screening through carefully selected planting is provided along apartments adjacent to open spaces. This serves as a dual-purpose barrier, enhancing privacy for residents while reducing noise pollution from the surrounding area. Dense vegetation is utilized to create a visual and acoustic buffer. These plants not only improve the aesthetic appeal of the space but also contribute to better air quality and support local biodiversity.
	Crime Prevention through Environmental Design
	Condition of the CSSI Approval included several matters which will/have been implemented in the construction of the metro box, which will assist with achieving this CPTED principles. Condition E104 (lighting) and Condition E105 (CCTV cameras) of the CSSI Approval are also relevant to the safety and security of the site and include a requirement for the NSW Police to be consulted regarding the final placement of CCTV cameras.
	Ecologically Sustainable Development

Category of Measures	Detail
	As advocated through the ESD Report, the development already has and will continue to be refined to incorporate sustainable design initiatives.
	Water Management
	Water
	As part of the OSD Site A enabling works, the Metro Station Contractor connects a DN100 potable water service connection and a DN150 fire water service connection to the newly augmented DN250 Sydney Water main within Pacific Highway.
	Sewer
	As part of the OSD Site A enabling works, sewer drainage connections are made to the DN225 Sydney Water sewer main located within Clark Lane and be capped off outside the footprint of the station/OSD within a 750x1200 pit with a gatic lid.
	Stormwater
	3 potential stormwater connection points have been provided as part of the OSD Site A enabling works to allow flexibility in the design of the new development.
	The proposed OSD tanks have been sized to reduce the site runoff in the 1% AEP proposed development to 20% AEP pre-development flows using DRAINS model.
	The design integrates a combination of Oceanguards and Stormfilters have been used to achieve the council's water quality targets.
	There are existing connections from the roof of Crows Nest Metro station into the council's existing drainage infrastructure under Clake Lane. This existing method of disposal is not to be altered.
	- For Tower 1 and 2, the on-site detention tank outlet from the development has been designed to discharge to the installed pipe system of Crows Nest station roof. - For Tower 3, the discharge connection has been designed as per the Drainage Design for Sydney Metro Crows Nest Station by Crows Nest Design Consortium (Drawing Number: SMCSWCN-SMC-SCN-DD-DWG-207012); revision 07.
	Flooding
	The adopted finished floor level (FFL) for the ground floor of Site A OSD is RL 90.90, which exceeds the required flood protection level (FPL) of RL 90.83 for the OSD Site A entry, as outlined in the Concept SSDA approved flood assessment.
	Infrastructure and Utilities
	Water
	As part of the OSD Site A enabling works, the Metro Station Contractor connects a DN100 potable water service connection and a DN150 fire water service connection to the newly augmented DN250 Sydney Water main within Pacific Highway.
	Sewer
	As part of the OSD Site A enabling works, sewer drainage connections are made to the DN225 Sydney Water sewer main located within Clark Lane and be capped off outside the footprint of the station/OSD within a 750x1200 pit with a gatic lid.
	Power

Category of Measures	Detail
	As part of the OSD Site A enabling works, application has been made by Metro Station project to Ausgrid which provisioned for two chamber substations, 3x1500kVA each, to service OSD Site A. As part of the OSD Site A works, a suitable and compliant chamber substation with 3 x 1500 kVA transformers has been allowed for in the previously approved original Concept SSDA scheme, which has sufficient capacity to cater for the proposed new development based on the latest maximum demand calculations. The new OSD Site A chamber substation is to be serviced by new dedicated HV conduits as required by Ausgrid.
	Telecommunications As part of enabling works for OSD Site A, station contractors are providing a Communications pit in Pacific Highway. As part of OSD Site A project, Building Fibre Devices (BFDs) are used to connect external fibres from NBN network to the internal fibre cabling and devices. For this development, a large BFD (BUDI-M) is used and will be located in the communications room.
	Natural Gas As part of enabling works for OSD Site A, the natural gas pipework shall rise within the OSD gas meter room located in the corner of Oxley Street and Clark Lane and be capped off inside the room for future installation of gas boundary regulator and gas meter
Mitigation Measures – Required as Conditions to address Residual Impacts	BCA and Fire Safety
	Further detailed regulatory reviews will need to be progressively undertaken as designs advance and become more resolved to ensure compliance is achieved. Whilst not precluding the issue of a Construction Certificate, it is noted that many detailed design issues are not indicated on the drawings. These issues are designated “Compliance Readily Achievable” in the “Status” column of the assessment in Section 15 of the BCA Assessment Report and should be resolved prior to construction.
	Key issues which require additional details and those issues requiring a Performance Solution have been listed under Section 11 of the BCA Assessment Report and need to be clarified with SWP or the building certifier for the project prior to the issue of a construction certificate.
	All fire/essential safety measures installed within the building are required to be certified upon completion of the project and prior to occupation of the building by the owner of the building, by issuing a Final Fire Safety Certificate under the Act. The owner is also required under the EP&A Act to certify each of the Fire Safety Measures annually by issuing a Fire Safety Statement.
	Accessibility
	For any items that have been listed as “compliance readily achievable” - suitable specifications and details shall be provided at the construction certificate stage to ensure these areas are complied with during construction.
	Detailed regulatory reviews will need to be progressively undertaken as the designs advance and become more resolved to ensure compliance is achieved.
	Wind
	Additional wind tunnel testing is advised after the construction of the adjacent building to the west to validate the effectiveness of the proposed mitigation measures.
	Reflectivity
	Limit the external light reflectance of the window glazing to 12%. This applies to the external windows (i.e. not those facing onto balconies) on each of the three towers.

Category of Measures	Detail
	Light Spill
	The proposed detailed design is to demonstrate compliance with the criteria under AS/NZS 4282:2019 relating to controls of obtrusive lighting to neighbouring areas.
	Ground floor awning and perimeter • Limitation of upward light to covered sections of pathway only. • Selection and placement of luminaires to minimise light spill beyond the site boundary
	Ground floor building entry plazas • Limitation of upward light spill through placement and selection of fittings to aim directly down and focused towards area requiring illumination with exception of tree uplights. • Selection and placement of luminaires to minimise light spill beyond the site boundary. • Integration of linear and wall lighting to minimise direct views to light sources.
	Landscape terraces • Limitation of upward light spill through placement and selection of fittings to aim directly down and focused towards area requiring illumination. • Selection and placement of luminaires to minimise light spill beyond the site boundary. • Integration of linear and wall lighting to minimise direct views to light sources.
	Rooftop bar • Limitation of upward light spill through placement and selection of fittings to aim directly down and focused towards area requiring illumination. • Selection and placement of luminaires to minimise light spill beyond the site boundary.
	Visual Impact
	Undertake regular landscape maintenance work to vegetation and planting on the podium and upper levels to ensure an enhanced level of scenic amenity.
	Ensure all selected materials are chosen for their longevity as well as aesthetic appearance and complimentary character to the surrounding urban environment
	Traffic, Transport and Accessibility
	Green Travel Plan
	The initiatives in the GTP should be implemented during the operational phase of the development and monitored to ensure that they are achieving the desired benefits, including travel surveys to establish travel patterns and mode share of trips to and from the site. The GTP may be further updated based on further changes to travel behaviour

Category of Measures	Detail
	A Travel Plan Coordinator (TPC) will be appointed by the Building Manager (preferably independent employee) to oversee the General Travel Plan (GTP) from the first day of occupancy and throughout the duration of the development. The TPC will be responsible for leading, developing, implementing, and overseeing all GTP-related initiatives, while also monitoring and evaluating its progress. A committee will be formed upon the commencement of occupancy.
	The applicant will provide an annual funding to ensure that the GTP is adequately funded and resourced for five years for the ongoing travel demand initiatives outlined in the Implementation Plan.
	The GTP will be subject to ongoing monitoring to ensure that it is achieving the desired benefits or to modify it if required.
	Within 3 months of occupation of the new development and from a yearly basis thereafter, a travel survey will be conducted. The results of the travel survey will indicate the existing desired travel modes used by employee and residents / tenants. In this way, the TPC will be able to examine the success of the GTP and make appropriate recommendations in improving the GTP outcome.
	Construction Traffic Management Plan
	Detailed CPTMP - The Preliminary CPTMP should be further developed, and a Detailed CTMP that complies with the relevant standards and guidelines will be submitted prior to the commencement of construction works. - A Detailed CPTMP is to be prepared, once a contractor is appointed. - As part of the Detailed CPTMP, a Construction Worker Transport Strategy will be developed which outlines how workers will travel to the site and measures to be in place to minimise impacts to the surrounding street network.
	Complaints A Complaints Register will be maintained for the duration of construction.
	Site Induction All workers and visitors employed on the site by the Contractor (including sub-contractors) will be required to undergo a formal 'site induction' process, and all the inductions will be explicitly performed for each trade according to the occupational health and safety requirements of the New South Wales Work Cover Authority requirements.
	Construction Hours - Any work outside the approved construction hours would be subject to specific prior approval. - The appointed contractor will be responsible for instructing and controlling all subcontractors regarding the hours of work.
	Construction-related vehicle movements Truck movements to be spread throughout the day. Queuing or marshalling of construction vehicles will not be permitted on the road network.
	Impact on On-Street Parking - A tool storage area to be provided on-site to allow workers to travel with ease via public transport. - During the site induction, workers will be notified not to travel to the site via private vehicles.

Category of Measures	Detail
	Impact on Public Transport Services - Bus stops along Pacific Highway to be retained during the general construction activities. - Truck visitations to be scheduled to occur outside of the peak hours whenever possible.
	Impact on Pedestrians - During construction, pedestrian movements along the footpath of the site's frontage are to operate and be maintained throughout the construction stages. - Construction-related traffic movements for rigid vehicles in and out of the Works Zone will occur under the supervision of accredited traffic controller.
	Impact on Emergency Vehicle Access All truck movements to/from the Works Zone on Clarke Lane would be suspended and cleared to allow emergency vehicles to pass if necessary.
	Impact on Neighbouring Properties Workers/ sub-contractors will be directed not to park their vehicles in the driveways of the neighbouring properties. This will be incorporated into the site induction program.
	Vehicular Servicing Management Plan
	The VSMP should be reviewed on a regular basis, at least annually, to ensure that it remains relevant and effective for the ongoing operations of both the Metro Station and the residential OSD.
	Bicycle user safety
	To comply with the design principles outlined in NSDCP, the following measures will be incorporated during prior to construction certificate phase: - CCTV Surveillance: Installation of closed-circuit television cameras at all entry and exit points, as well as along the designated access route to and from the goods lifts, to enhance security. - Wayfinding and Line Marking: Implementation of clear wayfinding signage and directional line markings to guide cyclists safely along the designated route. - Safety Enhancements: Installation of convex mirrors and warning lights at entry/exit doors. The warning lights will activate upon door operation, facilitating the safe management of two-way cyclist movement within the 1.5-metre-wide passageway.
	Car Parking Strategy and Management Plan
	<u>Sustainable Travel Incentives</u> Travel Access Guide (TAG): Develop a Travel Access Guide that details nearby public transport services, walking and cycling routes, car share locations, and ride-hailing options. The TAG should be readily available to all residents and employees as both a physical brochure and a digital resource.

Category of Measures	Detail
	- Public Transport Promotions: Offer residents/employee incentives like discounted or free Opal cards to encourage public transport use over car dependency. - Bicycle Support Programs: Introduce initiatives such as bike repair workshops and vouchers/discounts/codes from surrounding cafes to further support cycling as a primary travel mode.
	<u>Visitor and Employee Parking Management</u> - Encourage Sustainable Visitor and Employee Travel: Inform visitors and employee about available public transport and ride-hailing options to discourage car use. - Visitor and Employee Access Information: Offer clear directions for visitors and employee who may require occasional parking by providing a list of nearby paid public parking options.
	<u>Monitoring and Continuous Improvement</u> - Annual Travel Survey: Conduct a survey each year to assess travel behaviour and adjust the strategy as needed based on resident/employee feedback. - Review of Bicycle and Transit Facilities: Regularly evaluate bicycle storage, access to public transport, and travel incentives to ensure they meet demand and encourage sustainable travel. - Work with Local Authorities: Coordinate with local councils and Transport for NSW to stay aligned with updates to the metro, train, bus routes, and other transit services that impact the area.
	<u>Contingency Planning</u> - Temporary Parking Arrangements: Establish relationships with nearby public parking facilities to secure short-term parking arrangements if required for specific situations. - Communication of Updates: Maintain consistent communication with residents and employees about changes in transport services or parking options to ensure they remain well-informed.
	<u>Local Parking Information</u> - Short-term Local Parking Information for Visitors: Provide visitors with information on nearby public parking options to accommodate occasional vehicle needs without requiring on-site parking. Apps/websites like Parkopedia and Parkhound offer details on private and public parking availability, allowing visitors to book spots in advance if needed. - Medium-term and long-term Local Parking Information for Residents/Employee: Living directly above the Crows Nest Metro Station offers exceptional convenience and can greatly reduce the need for a personal vehicle. However, some residents may still find value in owning a car for various reasons, such as flexibility, job-related travel, comfort and accessibility needs, leisure and recreation, or simply as a backup option. For those seeking car parking nearby, services like Parkhound and Parkopedia list a range of available spaces at various price points. These platforms provide options to rent or reserve parking spaces based on budget, convenience, and duration, making it easier for residents to maintain vehicle access when needed without on-site parking.
	Noise and Vibration
	External Noise Emission – Operational
	Mechanical Services Equipment

Category of Measures	Detail
	- All future plant and equipment are to be acoustically treated to ensure the noise levels at all surrounding receivers comply with noise emission criteria detailed within the Noise and Vibration Impact Assessment, prepared by Pulse White Noise Acoustics. - Details of the required mechanical services equipment and acoustic treatments to ensure the relevant noise level criteria is achieved will be provided as part of the Construction Certificate submission of the project.
	Waste and Garbage Collection During detailed design phase, acoustic treatments to the building facade detailed in the Noise and Vibration Report, prepared by Pulse White Noise Acoustics, are to be implemented to ensure internal noise levels within the future dwellings of the project from the collection of waste will be acoustically acceptable and compliant with the recommended internal noise levels.
	Entertainment Noise Emissions <i>Rooftop Bar</i> - Based on the assumptions provided under 7.5.2 of the Noise and Vibration Impact Assessment, the following items are recommended to be implemented: - Amplified music is permitted within the roof top bar, however, must be limited such that there is a Sound Pressure Level of no greater than 70dB(A) @3m from any speaker. - Operational hours of the roof top bar is not operational after 12 midnight on any given night of the week. - A minimum 3m height solid perimeter parapet is required to be around the bar. The construction of the parapet is required to include a solid construction such as 10.38mm laminate glass (including a minimum acoustic performance or Rw 30). - Any noise generating equipment such as speakers and the like are to be vibration isolated from the building structure. - A contact number must be displayed for the purposes of receiving any complaints if they arrive. - Signs must be displayed at all exits reminding patrons to be mindful of noise when leaving the premise. - For the mitigation of potential noise levels generated from patrons using the roof top bar on the dwellings below the buildings construction is required to include a construction which includes that similar to the detail provided in Figure 7-4 of the Noise and Acoustic Report, reported by Pulse White Noise Acoustics. <i>Ground floor bar</i> - Based on the assumptions provided under 7.5.2 of the Noise and Vibration Impact Assessment, the following items are recommended to be implemented: - The operation of the bar includes the assumptions included the section above. - Amplified music is permitted within the premise, however, must be limited such that there is a Sound Pressure Level of no greater than 80dB(A) within the bar on the lower ground floor. - Any noise generating equipment such as speakers and the like are to be vibration isolated from the building structure. - Access to the bar areas is to include the main entry off the Pacific Highway. - A contact number must be displayed for the purposes of receiving any complaints if they arrive. - Signs must be displayed at all exits reminding patrons to be mindful of noise when leaving the premise.

Category of Measures	Detail
	○ All deliveries and waste removal from the facility to be undertaken during normal day time hours.
	Construction Noise and Vibration
	The following management controls are recommended to mitigate construction noise levels on the Site: • Construction to be undertaken within the approved hours detailed within the projects Conditions of Consent. • All plant and equipment are to be maintained such that they are in good working order. • A register of complaints is to be recorded in the event of complaints being received, including location, time of complaint, nature of the complaint and actions resulting from the complaint. • If required a noise level measurement of the offending plant item generating complaints is to be conducted and noise mitigations undertaken to reduce noise levels to within Noise Management levels in the event magnitude of noise levels is found to be above suitable levels. • The use of percussive and concrete sawing should be undertaken behind a closed façade when possible. • The use of percussive equipment including hydraulic hammering should be limited such that they are not undertaken prior to 7.30am on weekdays and prior to 8.30am on Saturdays.
	In the event noise levels are found to required additional noise reduction then all possible and practical mitigation measures are required to be included in the construction of the project. Possible acoustic treatments and controls may include the following: • Use of alternative appliances to complete the required works which result in reduced noise impacts on surrounding neighbours. • Period when noisy appliances are undertaken, such as undertaking noisy works on locations with the greatest distance to residential receivers during morning periods if possible. • Construction of acoustic screening to permanently located high noise generating equipment such as pumps and generators. • Scheduling of high noise generating works outside of noise sensitive periods if possible. • Other Site specific treatments and controls which may become possible once works commence.
	As part of the management of noise from the proposed construction activities to be undertaken on the Site the following noise and vibration measurements are recommended to be undertaken: • Attended construction noise surveys of the Site and surrounding impacts on neighbours should be undertaken during the following as a minimum: ○ Periodically during the construction period if required. ○ In response to any ongoing complaints received from neighbours.

Category of Measures	Detail
	During the proposed construction of the project (including demolition, excavation and construction) the building contractor is required to engage in community interaction. The community interaction and notification is required to include the following: • Notification of the proposed works to be undertaken on the Site and the periods when works will be conducted, including information regarding the programme of works such as demolition and excavation. • Details of the relevant Site representative where complaints can be registered. • Details of the methodology to respond to complaints raised from the surrounding receivers. • A register of complaints, to be kept on Site including record of time and nature of the complaint as well as the outcomes and comments regarding investigations resulting from the complaint.
	Environmental Noise Intrusion

Category of Measures	Detail																																												
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	The recommended acoustic constructions to the buildings external façade glass elements are to be complied with to ensure the recommended internal noise levels detailed above are achieved, with the façade building openings closed.																																												
<table><tr><th>Façade Orientation</th><th>Level</th><th>Room Type</th><th>Recommended Glass Construction</th><th>Minimum Façade Acoustic Performance¹</th></tr><tr><td rowspan="6">Facing Pacific Highway (including corner units)</td><td rowspan="6">All Levels</td><td>Bedrooms</td><td>6mm float/ 12mm air gap / 10.38mm Laminated</td><td>Rw 39</td></tr><tr><td>Living Rooms</td><td>6mm float/ 12mm air gap / 10.38mm Laminated</td><td>Rw 39</td></tr><tr><td>Wet areas</td><td>10.38mm Laminated</td><td>Rw 35</td></tr><tr><td>Common Areas</td><td>10.38mm Laminated</td><td>Rw 35</td></tr><tr><td>Commercial</td><td>6mm float/ 12mm air gap / 10.38mm Laminated</td><td>Rw 39</td></tr><tr><td>Retail</td><td>12.38mm Laminated</td><td>Rw 36</td></tr><tr><td rowspan="6">Eastern Façade (Facing Clark Lane)</td><td rowspan="6">All Levels</td><td>Bedrooms</td><td>10.38mm Laminated</td><td>Rw 35</td></tr><tr><td>Living Rooms</td><td>10.38mm Laminated</td><td>Rw 35</td></tr><tr><td>Wet areas</td><td>6.38mm Laminated</td><td>Rw 30</td></tr><tr><td>Common Areas</td><td>6.38mm Laminated</td><td>Rw 30</td></tr><tr><td>Retail and Commercial</td><td>10.38mm Laminated</td><td>Rw 35</td></tr><tr><td>Retail and Commercial</td><td>10.38mm Laminated</td><td>Rw 35</td></tr></table>	Façade Orientation	Level	Room Type	Recommended Glass Construction	Minimum Façade Acoustic Performance ¹	Facing Pacific Highway (including corner units)	All Levels	Bedrooms	6mm float/ 12mm air gap / 10.38mm Laminated	Rw 39	Living Rooms	6mm float/ 12mm air gap / 10.38mm Laminated	Rw 39	Wet areas	10.38mm Laminated	Rw 35	Common Areas	10.38mm Laminated	Rw 35	Commercial	6mm float/ 12mm air gap / 10.38mm Laminated	Rw 39	Retail	12.38mm Laminated	Rw 36	Eastern Façade (Facing Clark Lane)	All Levels	Bedrooms	10.38mm Laminated	Rw 35	Living Rooms	10.38mm Laminated	Rw 35	Wet areas	6.38mm Laminated	Rw 30	Common Areas	6.38mm Laminated	Rw 30	Retail and Commercial	10.38mm Laminated	Rw 35	Retail and Commercial	10.38mm Laminated	Rw 35
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<u>External Building Elements</u>																																													

Category of Measures	Detail
	Any lightweight external pasteboard walls should be constructed from a construction with a minimum acoustic performance of Rw 50 to all façade elements.
	<u>External Roof</u> The required external roof and ceiling constructions for the project are required to include concrete external roof construction – no additional acoustic treatments required.
	<u>External Opening and Penetrations</u> All openings and penetrations are required to be acoustically treated such that the performance of the building construction is not compromised. This may require lining of duct work behind mechanical service openings/grills, treatments to ventilation opening and the like.
	<u>Alternative Ventilation</u> As internal noise levels with windows open will result in noise levels which are greater than 10 dB(A) with windows open to 5% of the floor area for ventilation an alternative method of providing outside air ventilation will be required to all units within the development. As part of the proposed development the provision for an alternative outside air source to all residential dwellings is required. The detailed design of the development should consider the alternative ventilation requirements outlined under Section 5.2.5 of the Noise and Vibration Impact Assessment, prepared by Pulse White Noise Acoustics.
	Waste Management
	Construction Waste Management
	Source Separation and Recycling - Dedicated skips and bins shall be provided for separating waste materials such as concrete, bricks, metals and other wastes to maximize resource recovery and recycling rates. - Materials such as timber, concrete, asphalt shall be reused on-site where feasible, reducing waste sent to landfills.
	Hazardous Waste Management - Any hazardous waste materials, such as asbestos should be managed and disposed of by licensed contractors in accordance with EPA requirements. - Contaminated materials shall be stored securely on HDPE liners and within bunded areas to prevent leaks or environmental contamination.
	Induction All construction personnel shall undergo waste management induction training, including legal obligations and waste segregation procedures.
	Waste Tracking and Reporting Records of all waste generation, recycling, and disposal activities will be maintained, with receipts provided to council or regulatory authorities as required.

Category of Measures	Detail
	Waste audits will be conducted periodically to evaluate the efficiency of implemented measures and identify improvement opportunities.
	Operational Waste Management
	Well-Designed Waste Rooms: Waste rooms shall be designed to comply with the recommendations of the OWMP, including adequate ventilation, lighting, and access for efficient waste handling. Bin rooms shall have clean surfaces, proper drainage, and equipment for bin washing to maintain hygiene and prevent foul odours.
	Source Separation and Accessibility: Dedicated chutes for general waste, recycling, and FOGO are provided to support effective source separation at each level of the residential buildings. Frequent monitoring shall be performed to prevent chute blockage and improper disposal. Adequate storage areas for bulky waste items to ensure safe and organized disposal, preventing unauthorized dumping or obstructions
	Collection and Transportation Procedures: Waste collection paths shall be designed to be obstruction-free, with appropriate grades for bin transportation and safety. Bin moving devices are supplied to reduce manual handling risks. Collection frequencies shall be planned to align with waste generation volumes, ensuring waste areas remain manageable and do not overflow
	Pollution and Odor Control: All waste facilities are to be secured to prevent unauthorized access and potential stormwater pollution from waste leakage.
	Stakeholder Responsibilities: Building managers are tasked with regular maintenance of waste facilities, ensuring compliance with council guidelines and addressing any operational issues promptly.
	Social Impact
	Implement recommendations as per the Noise and Vibration Impact Assessment, prepared by Pulse White Noise Acoustics (dated 23 October 2025).
	Implement actions as per the Green Travel Plan, prepared by Transport Strategies Alliance Pty Ltd (dated March 2025).
	Ensure continued community engagement at appropriate intervals during the construction and Occupation Certificate stages.
	Consider the commission of a First Nations artist to develop the public artwork for the Site.
	Licensee is to implement the requirements and recommendations identified in the Operational Plan of Management for the Crows Nest OSD – Site A, prepared by Gyde Consulting Pty Ltd (dated 23 October 2025) for the Licenced Premise.
	Prepare a Construction Noise and Vibration Management plan prior to Construction Certificate.
	Construction, Operation and Staging

Category of Measures	Detail
	Operational Plan of Management
	The occupation, operation and management of the rooftop bar is to be in accordance with the Operational Plan of Management, prepared by Gyde Consulting dated 7 November 2025.
	The Licensee must review and where required amend this Operational Plan of Management every 12 months from receipt of Occupation Certificate.
	Amendments to the Operational Plan of Management resulting from reviews will be submitted to North Sydney Council for approval.
	As a condition of consent, the Licensee can request approval of any amendments to this Operational Plan of Management without the need for a cl. 4.55 modification.
	Air Quality Management Plan
	The Air Quality Management Plan is to be updated as the project progresses from pre-approval to post-approval and implementation phases. The version attached to the Detailed SSDA EIS is preliminary and indicative and will need to be updated with construction related conditions of consent if development consent is granted.
	Construction Environmental Management Plan
	The CEMP is to be updated as the project progresses from pre-approval to post-approval and implementation phases. The version attached to the Detailed SSDA EIS is preliminary and indicative and will need to be updated with construction related conditions of consent if development consent is granted.
	Crime Prevention Through Environmental Design
	The recommendations in the CPTED Report, prepared by Gyde Consulting Pty Ltd (dated 7 November 2025) are to be implemented into the conditions of consent or otherwise detailed in the Construction Certificate documentation. These recommendations include: • <u>Surveillance</u> ○ Incorporation of formal surveillance via CCTV cameras strategically positioned (such as at the building entrances, both the residential and bar lobby, and around the through site links) could serve as a deterrent for potential offenders to enhance the overall surveillance capacity on the premises. ○ NSW Police are to be consulted regarding the final placement of CCTV cameras. • <u>Space Management</u> ○ Development should employ a dedicated building manager or concierge for the BTR apartments, the residential entrances and a Plan of Management is to be prepared to address how common areas will also be well-maintained.
	Ecologically Sustainable Development
	Future development applications must demonstrate how the principles of ESD have been incorporated into the design, construction and ongoing operation of the proposal. This shall include preparation and implementation of Environmental Sustainability Strategies that incorporate low-carbon, high efficiency targets aimed at reducing emissions, commitment to energy rating level such as Greenstar and BASIX, optimising use of water, reducing waste and optimising carparking provision to maximise sustainability and minimise environmental impacts.

Category of Measures	Detail
	BASIX and the NCC Section J set minimum standards that will be complied with through the delivery of the project. The applicable energy efficiency standards will also be applied under Section J of the NCC and are to be complied with and built in accordance with the commitments set out in the reports, where possible.
	Trees and Landscaping
	Arborist Report
	All trees to be retained must be protected in accordance with AS4970-2009 and in accordance with the Tree Protection Requirements outlined in Chapter 13 of the Arboricultural Impact Assessment Report, prepared by Urban Arbor Pty Ltd.
	All services plans should be subject to review by a consulting Arborist. Where possible underground services should be located outside the TPZ of trees to be retained. All underground services located inside the TPZ of any tree to be retained must be installed via tree sensitive techniques in accordance with AS4970-2009,
	Prior to any works commencing at the site a project Arborist should be appointed.
	All tree work should be carried out by a qualified and experienced Arborist with a minimum of AQF level 3 in arboriculture, in accordance with NSW Work Cover Code of Practice for the Amenity Tree Industry (1998) and AS4373 Pruning of amenity trees (2007).
	The project Arborist is to hold a pre-construction site meeting with principal contractor to discuss methods and importance of tree protection measures and resolve any issues in relation to tree protection that may arise.
	It is the responsibility of the principal contractor to install tree protection prior to works commencing at the site (prior to demolition works) and to ensure that the tree protection remains in adequate condition for the duration of the development.
	The project Arborist must supervise and certify that all excavations and root pruning are in accordance with AS4373-2007 and AS4970-2009.
	All landscaping works within the TPZ of trees to be retained are to be undertaken in consultation with a consulting Arborist to minimise the impact to trees.
	Where possible underground services should be located outside the TPZ of trees to be retained. All underground services located inside the TPZ of any tree to be retained must be installed via tree sensitive techniques.
	All contamination run off from the development such as but not limited to concrete, sediment and toxic wastes must be prevented from entering the TPZ at all times.
	Any wounding or injury that occurs to a tree during the construction process will require the project Arborist to be contacted for an assessment of the injury and provide mitigation/remediation advice.
	After all construction works are complete the project Arborist should assess that the subject trees have been retained in the same condition and vigour. If changes to condition are identified the project Arborist should provide recommendations for remediation.
	Ecologically Sustainable Development

Category of Measures	Detail
	The builder/ head contractor is to develop a site-specific Environmental Management Plan that covers the scope of construction activities through to completion.
	BASIX and the NCC Section J set minimum standards that will be complied with through the delivery of the project. The applicable energy efficiency standards will also be applied under Section J of the National Construction Code and are to be complied with and built in accordance with the commitments set out in the reports, where possible.
	Water Management
	Water
	A water demand of 235kL/Day has been allowed for in Sydney Water Case Number 179214 being logged by Crows Nest Metro station project. This provision is more than sufficient for the new development. The new water demand will be submitted to Sydney Water as part of Section 73 application by OSD Site A project during detailed design phase.
	Sewer
	A sewer demand of 93.8kL/Day has been allowed for in Sydney Water Case Number 179214 being logged by Crows Nest Metro station project. The increased sewer demand will be submitted to Sydney Water for assessment and approval during detailed design phase as part of OSD Site A project Section 73 application.
	Stormwater
	A Soil and Water Management Plan (SWMP) has been prepared for DA submission. The implementation of the SWMP shall be in accordance with the guidelines of the NSW Department of Housing publication "Managing Urban Stormwater: Soils & Construction" (The Blue Book).
	To maintain the quality of the Stormwater system, and in events where it is likely maintenance attention is required, the maintenance schedule outlined in Section 6 of the Stormwater Management Plan should be applied.
	Hazards and Risks
	Preliminary Hazard and Risk Screening
	Work Health and Safety Regulation
	Any handling and storage of hazardous materials must adhere to Section 7.1 of the <i>WHS Regulation 2017</i> .
	Backup Generators and Diesel Storage
	A temporary diesel storage facility and backup generators are assumed to be required for the construction only. Specific locations of generators and diesel storage have not been determined at the time of preparing this document. Details are to be provided prior to Construction Certificate.
	Hazardous Goods Storage
	All hazardous substances should be handled and stored properly, in line with Safety Data Sheets (SDS) and relevant legislative requirements.
	Manifest and Placard Quantities

Category of Measures	Detail
	If WHS Regulation (2017) manifest and placard quantity thresholds are anticipated to be exceeded, an emergency plan should be prepared for the site and provided to the NSW Fire and Rescue as per WHS Regulation (2017) requirements prior to Construction Certificate
	Contamination and Remediation
	Contamination Advice
	The following recommendations are made with respect to potential contamination on the eastern site boundary: - Where practical, information on the management of soil / fill beyond the excavation extent should be sought from Metro to identify if any specific activities were undertaken with respect to the potential impacts on the eastern boundary. - Where supporting documentation is not able to be recovered indicating the removal or management of the soils: - Direct sampling must be undertaken if the proposed design and construction includes disturbance of soil / fill in the area of potential contaminated soil to determine the concentrations of contaminants of concern within retained soils and whether a risk is present to future workers and site users during and following disturbance. - Sampling may also be considered where no disturbance is proposed to provide information on the contamination status of soils and to guide future management and mitigations, if required. If no evidence of management during Metro construction can be identified or sampling indicates that contaminants are present at unacceptable concentrations in retained soil / fill, management of impacted soils should be considered. This may include removal during planned disturbance, or implementation of controls including documentation on property files and maintenance of a register identifying the location of impacted soils.
	Aboriginal Cultural Heritage
	Implement the recommended interpretive actions / media including artwork as identified in WolfPeak Environment and Heritage 2020. Prepare graphics and select artists to ensure interpretive media and artwork can be integrated into design and completed concurrently with the completion of the construction.
	Environmental Heritage
	Develop a temporary protection plan that identifies the potential risks and outlines measures to reduce the potential for damage to heritage fabric of the nearby St Leonards Centre heritage item during the works. The temporary protection plan should include a crack monitoring regime that will allow for ongoing crack monitoring of the adjacent heritage building by the built heritage specialist in association with a heritage engineer during the construction period.
	Infrastructure and Utilities
	Power
	A new power supply connection will be submitted by OSD Site A project to Ausgrid during detailed design phase to reconfirm the number of required substations and corresponding transformer arrangement.
	Telecommunications

Category of Measures	Detail
	An application to be logged to NBN during detailed design phase by OSD Site A project to confirm the fibre connection to NBN network.
	Natural Gas A new application with the reduced demand on natural gas will need to be logged with Jemena by OSD Site A project during detailed design phase.
	Aviation
	Written approval shall be obtained from Sydney Airport for penetrating the obstacle limitation surface (OLS).
	Approval to operate construction equipment shall be obtained prior to any commitment to construct
	Following the condition B35 under SSD-9579 and make sure:
	- Buildings must not exceed a maximum height of 180 metres AHD. This includes all lift overruns, vents, chimneys, aerials, antennas, and roof top garden plantings, exhaust flues, etc. - The tallest building at the site (proposed Building A at the northernmost extent of the site with a previously indicated height of 180 m AHD as indicated in the Aeronautical Impact Assessment V2.1 dated 1 November 2018) must be obstacle lit by medium intensity steady red lighting during hours of darkness at the highest point of the building. Obstacle lights are to be arranged to ensure the building can be observed in a 360 degree radius as per subsection 9.4.3 of the Manual of Standards Part 139 – Aerodromes (MOS Part 139). Characteristics for medium intensity lights are stated in subsection 9.4.7 of MOS Part 13A. - The Proponent must ensure that the obstacle lighting has a built-in alarm system that will provide remote monitoring to notify the person responsible for the maintenance of the building's obstacle lighting. The designated person must be available 24 hours per day, 7 days per week. Immediate action must be taken to repair the obstacle lighting and notify Sydney Airport of any outage. Contact details for the person responsible for the obstacle lighting must be provided to Sydney Airport prior to the completion of the building construction and kept up to date. - The proponent must advise Airservices Australia at least 3 business days prior to the controlled activity commencing by emailing ifp@airservicesaustralia.com and quoting YSSYCA-146. - As soon as construction commences, the Proponent must complete the Vertical Obstacle Notification Form for tall structures and submit the completed form to AirServices Australia. - Separate approval must be sought under the Airports (Protection of Airspace) Regulations 1996 for any construction equipment (i.e. cranes) required to construct the building. Construction cranes may be required to operate at a height significantly higher than that of the proposed controlled activity and consequently, may not be approved under the Regulations. Therefore, it is advisable that approval to operate construction equipment (i.e. cranes) be obtained prior to any commitment to construct. - Within 7 days of completion of each building, the Proponent must provide the airfield design manager at Sydney Airport with a written report from a registered surveyor on the finished height of the building.