

Appendix D – ENVIRONMENTAL RISK ASSESSMENT AND MITIGATION MEASURES

A consolidated set of mitigation measures required for each of the environmental and social impacts identified in Section of the EIS are outlined in the table below. The mitigation measures directly respond to each impact and are based upon the range of technical consultant reports appended to the EIS.

The type of mitigation measure as noted within the table below are as follows:

- **Performance based measure ('Pe')** – identify performance criteria that must be complied with to achieve an appropriate environmental outcome but do not specify how the outcome is to be achieved.
- **Prescriptive measure ('Pr')** – require action to be taken or specify something that must not be done.
- **Management based measure ('Ma')** – identify one or more management objectives that must be achieved through the implementation of a management plan.

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment.

The mitigation measures have also been allocated to the construction ('C') and / or operational ('O') phase.

SEARs	Potential Area	Stage of project	Approach	Type of Measure
Traffic and Transport	Impacts on road network from the construction and operational phase	C and O	A Construction Traffic Management Plan has been prepared to ensure the construction works are completed in a safe manner whilst providing temporary traffic management solutions. This includes: ▪ Traffic control devices, – Signage. – Traffic cones and bollards. – Trailer mounted VMS boards. ▪ Traffic controller to manage traffic flow. ▪ No stopping zones for both sides of Martin Road along the start and end of the construction site. ▪ Notification to relevant authorities. ▪ Monitoring and inspections. ▪ Review and improvement. In addition, a green travel plan has been prepared to increase use of non-car modes for travel. A speed bump and colour pavement treatment will provided at each of the proposed access driveways. This will be supplemented with speed limit signage.	Pr/Ma
Built Form and Urban Design	Built form, scale and appearance which will be visible from Martin Road and some surrounding properties	O	▪ Visual interest in the façade through articulation and varying materiality and treatments. ▪ Incorporation of significant front, side and rear setbacks	Not applicable

Visual	Visual impacts from key viewpoints within the surrounding area	C and O	The proposed development employs considerable landscape planting to offset the visual impact at the property boundaries. It will provide vegetation screening through dense tree and shrub planting within the landscape setbacks, which will be most effective after 15 years for those receptors who receive direct views. In addition to this, the surrounding adjacent properties will experience considerable development under the Enterprise zoning. As such, the future character of the area will transition, and the development will be amongst other large logistics style warehouse development.	Pr
Landscaping	Impact on existing trees within the site to be retained	O	In relation to tree removal, the hierarchy for the management, preservation, retention, clearing and removal of trees comprises avoidance; minimisation; and mitigation. Recommendations in relation to tree removal are noted as follows: ▪ Avoiding impact: – Relocation of infrastructure to maximise the distance between trees and proposed works. – Relocation of underground services to maximise the distance between trees and proposed works. ▪ Minimising impact: – Design modification to maximise the distance between trees and proposed works. – Bridging the root zone by utilising suspended slabs, elevated walkways and boardwalks. – Pier and beam footing design. – Cantilevered design. ▪ Mitigating the impact: – Implementation of a tree protection plan. – Installation of tree protection fencing, trunk protection and ground protection. – Project arborist supervision and monitoring of trees during construction.	Pr/Ma
Noise and Vibration	Construction and operational noise and vibration impacts on nearby sensitive structures	C and O	<u>Construction Noise</u> A range of construction noise mitigation measures were identified to be implemented where required and feasible. General engineering noise controls:	Pe/Pr/Ma

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- Implementation of noise control measures, such as those suggested in Australian Standard 2436-2010 '*Guide to Noise Control on Construction, Demolition and Maintenance Sites*', are expected to reduce predicted construction noise levels.
 - The RTA' listed noise reductions are conservatively low and should be referred to in preference to those of AS2436.

Noise management measures:

- Use quieter and less noise/vibration emitting construction methods where feasible and reasonable. Where loud plant and/or equipment are being used in construction works, where feasible and reasonable the selection of alternative quieter plant and/or equipment should be considered for tasks.
- Plant and equipment must be properly maintained. Provide special attention to the use and maintenance of 'noise control' or 'silencing' kits fitted to machines to ensure they perform as intended.
- Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work.
- Loading and unloading of materials/deliveries is to occur as far as possible from sensitive receivers.
- Site sheds to be strategically located to provide shielding to nearby residences.
- Locate laydown and staging areas within the construction area as far from residences as practicably possible.
- Where feasible and reasonable, construction should be carried out during the standard daytime working hours.
- In response to noise complaints, a noise monitoring program should be carried out for the duration of works in accordance with the Construction Noise and Vibration Management Plan (CNVMP) or CEMP and any approval conditions.
- If during construction planning it is identified that some residences could be 'highly noise affected' due to changes to the construction methodologies, respite periods should be considered where feasible and reasonable.

Additional mitigation measures for cumulative noise impacts are outlined below and would be included in the CNVMP or CEMP and detail how these measures would be incorporated during the works.

- Coordinating work between construction sites to manage cumulative noise impacts, where feasible and reasonable. An example would be to ensure that where multiple sites are undertaking noise intensive works, such as demolition works, and these construction works could occur concurrently on multiple construction sites in proximity to the same noise sensitive receivers, these impacts are to be managed with consideration of both projects (ie. ensure that works do not occur during designated respite periods).
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- Community consultation to gauge key noise impacts and issues and identify any unknown impacts from concurrent or consecutive sets of constructions works.
 - Consideration of cumulative construction noise impacts during the development of noise mitigation and management measures for the worksites, including coordination between construction projects, where reasonable and feasible (ie. consideration of respite periods provided by other projects for approved OOH, so that timetables between projects don't result in other projects or the Proposal impacting the same noise sensitive receivers during designated periods of respite).

Operational Noise

- The future Operational Noise Management Plan (ONMP) should include the following provisions:
 - The *Noise Policy for Industry* (NPfI) includes provision for the implementation of 'best management practice (BMP)' which pertains to the adoption of operational procedures that minimise noise while retaining productive efficiency. Examples of BMP that could be adopted for the proposal include:
 - Reducing peak 15-minute heavy vehicle movements across the site by staggering delivery / arrival / departure times during sensitive time periods (i.e. night).
 - Minimising concurrent use of mobile plant near hardstand openings (i.e. ground floor exit) and / or limiting their use to the less sensitive daytime and evening periods.
 - Minimising use of reversing alarms by providing forward manoeuvring where practicable.
 - Switching vehicles and plant off when not in use.
 - Keeping equipment well-maintained and operating it in a proper and efficient manner.
 - Training staff and drivers on the effects of noise and the use of quiet work practices (e.g. informing drivers of the noise impacts from the sudden braking or accelerating, bangs and clangs, etc.).
 - Best Available Technology Economically Achievable (BATEA):
 - The use of quieter mobile plant, such as electric forklifts instead of gas-powered forklifts.
 - Using equipment with efficient muffler design.
 - Fitting and maintaining noise reduction packages on plant and equipment.
 - Ensure hardstand surfaces, roadways and vehicular access points are smooth as to not result in jolting of the truck (i.e. at the entrance to the site).
 - Noise compliance monitoring.
 - On-site tenancy management.
 - On-site design mitigation measures, as outlined in Table 6-10 of the NVIA, include a perimeter noise barrier along the eastern border. This barrier should be at least 6 metres above the
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			hardstand level of Warehouse 1 and 5 metres above the hardstand level of Warehouse 2. This will effectively shield the hardstands and the truck entry/exit roads from the line of sight. – Temporary noise barriers, 6 metres high, should be installed from the south-western corner of the warehouse to the exit road gatehouse if needed during	
Groundwater Management	Impacts on groundwater resource (quality and quantity)	C and O	<i>Construction</i> - Any hazardous materials and refuelling will be undertaken in bunded areas. Spill kits will be kept on site and staff informed of how to use them in an incident. - Where possible, extracted water will be used for dust suppression on site. Approval for treatment and disposal to sewer / stormwater will be obtained if large volumes of groundwater is required to be dewatered - A soil and water management plan will be prepared and implemented to minimise impacts arising from construction works to water quality. The plan will be prepared in accordance with best practice and measures in accordance with the 'Blue Book'. - Alternative technologies such as under-boring will be considered and implemented (where practical) to minimise the time excavations are left open and the size of excavations. Where possible, excavations will be sited away from groundwater receptors. - All hazardous goods and re-fuelling activities are to be undertaken in bunded areas. <i>Operational phase</i> - Water sensitive urban design measures are to be implemented as detailed above. - Gypsum stabilisation of site won material reused as general fill will be considered.	Pr/Ma
Stormwater Management	Impacts on surface resource (quality and quantity)	C and O	<i>Erosion and sediment control</i> - A Soil and Water Management Plan (SWMP) will be prepared for the proposed development. The SWMP will include Erosion and Sediment Control measures. - Erosion and sediment control measures to be incorporated into the SWMP may include clean water channels, dirty water channels, a sediment basin, sediment fences and stabilised site access.	Pr/Ma

			The contractor will minimise the extent of disturbed area on site at any one time and undertake stabilisation of disturbed areas or previously completed earthworks as necessary. <u>Stormwater drainage</u> A stormwater drainage network is proposed to manage post-development flows leaving the site. The stormwater drainage system incorporates On Site Detention (OSD) to limit post-development peak flows to pre-development peak flow rates	
Flooding	Potential damage to development from flood waters	O	The proposed warehouse floor levels will be more than 3 metres above the maximum 1% Annual Exceedance Probability flood level at the site.	Pr
Soils	Impacts on soil resources, including related infrastructure and riparian lands on / adjacent to the site	C and O	<u>Geotechnical</u> - All footings are to be inspected by a geotechnical engineer prior to pouring concrete or installing steel reinforcement to verify the actual ground conditions against the proposed design parameters. - Any topsoil, uncontrolled fill, organic materials, and other unsuitable or deleterious material should be stripped beneath the footprint of the shallow footings. - All footings will be inspected and approved by an experienced geotechnical engineer to confirm the foundation material and design values, and to ensure the excavations are clean and stable. - Following excavation to the required level, slab areas on soil will be proof-rolled by a pad foot roller to check for any weak, wet or deforming soils that may require replacement. - Suitable replacement fill will be compacted in not thicker than 150mm layers to not less than 98%StdMDD. - Topsoil, silty soil, existing uncontrolled fill material and any medium to high and high plasticity, clayey soils will not be used in controlled fill construction. - A geotechnical engineer will inspect all cut batters during construction to confirm stability.	Pr/Ma

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- Permanent cut and fill batter slopes will be formed at no steeper than 2(H):1(V) in soil and be protected against erosion by shotcreting, stone pitching or other suitable methods.
 - Free-draining granular backfill or synthetic fabric drains will be installed behind all retaining walls. These will connect to weep holes and/or a collector drain, and ultimately to the stormwater system. Granular backfill will be wrapped in a suitable filter fabric to minimise infiltration of silt/clay fines.
 - The initial design of any retaining system, or shoring with a single row of anchors or propping, will be predicated on a triangular earth pressure distribution, utilizing the earth pressure coefficients delineated in Table 6 of the Geotechnical Report.
 - For construction of any new fill foundation platforms and road subgrades:
 - Areas will be fully stripped of all topsoil, fill material and soft/loose soils. A general stripping depth of 0.2m/1.6m is expected. Stripped foundations will be proof-rolled by a vibratory pad-foot roller of not less than 10 tonne static mass to check for any weak or wet areas that would require replacement. No fill will be placed until a geotechnical engineer has confirmed the suitability of the foundation.
 - Controlled fill comprising suitable site excavated or imported materials of not greater than 75mm maximum particle size, will be compacted in not greater than 150mm layers to not less than 98%SMDD at about OMC
 - Fill placement and control testing be overviewed and certified by a geotechnical engineer.
 - All pavement subgrades will be stabilised by overlying with a 300mm thick layer of CBR12 select fill. Stabilised subgrades will then utilise a California Bearing Ratio (CBR) value of 5% for pavement design. Alternatively, subgrades can be cement/lime stabilised, or the upper 300mm of the subgrade removed and replaced with a fill material with a higher CBR value.
 - Exposed subgrades will be inspected by a geotechnical engineer to check the recommended design CBR value.

Salinity

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- Sediment and erosion control measures will be implemented during construction. These will be detailed in a Progressive Erosion and Sediment Control Plan for the site.
 - All sediment and erosion controls will be installed prior to the commencement of any works and maintained throughout the duration of construction until disturbed areas have been revegetated / established.
 - Groundwater seepage will be collected through localised drainage measures (i.e. sump and pump) and re-infiltrated into the aquifer on site or treated on site and disposed to the sewer under a trade waste agreement.
 - Filled areas will be capped with a more permeable material, revegetated and adequate surface drainage infrastructure installed to avoid excessive infiltration, minimise salt leaching and soil erosion.
 - Where possible, materials used in the construction of fill embankments will be selected to contain minimal or no salt.
 - Where saline soils are exposed in cut or excavated and subsequently placed as filling, a permeable capping layer will be provided.
 - Stockpiles will have adequate controls in place for erosion, covering and stabilisation and will be placed sufficiently away from any watercourses.
 - Underground water carrying pipes and on-site sewerage systems will be properly installed to eliminate leaks with regular maintenance and checks.
 - Groundwater recharge will be minimised by:
 - Directing runoff from paved areas into lined stormwater drains rather than along grassed channels
 - Lining water sensitive urban design water bodies to avoid groundwater recharge
 - Encouraging on site detention of roof runoff and use of low water demanding plants
 - Tree planting proposed on the site
 - Limiting the use of recycled wastewater for the watering of landscaping
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- The following will be considered in the design of stormwater and drainage systems on-site:
 - Underground water carrying pipes (including wastewater) and on-site sewerage systems will be properly installed to eliminate leaks with regular maintenance
 - Services will be joint trenched where possible
 - Water supply pipes will be copper or a non-metal acceptable to Sydney Water
 - Sewer pipes will be un-plasticised Poly Vinyl Chloride (PVC) or other material acceptable to Sydney Water
 - The design slope of exposed/open concrete slabs and surrounding areas will be designed to minimise ponding and the potential for increased infiltration
 - Slab, foundations and retaining walls will be designed to allow good drainage / minimise water logging
 - Guttering and down pipes will be properly connected and maintained
 - Infiltration trenches will be avoided where possible
 - Areas of established vegetation will be maintained and protected where practicable.
 - Irrigation systems will be properly installed to avoid leakage. The use of smart sprinkler systems will be considered.
 - Vegetation will be designed to retain as much of the natural site water balance as possible.
 - Non-saline soils sources from the site or imported will be re-used in landscaped gardens where practicable
 - A damp proof course will be constructed beneath any buildings, paths and driveways that are constructed on susceptible or exposed areas
 - Salt resistant bricks and construction materials will be used where possible. A corrosion expert will be consulted to assess the compatibility of building materials with soil conditions at the site
 - Susceptible construction materials will be avoided as far as possible.
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			▪ Appropriate sub-surface drainage that does not divert moisture to road layers will be considered. ▪ Road materials that are not susceptible to corrosion will be selected	
Contamination	Impacts from any ground or soil contamination to users of the site during both construction and operation	C	The following industry best practice measures will be implemented: ▪ Salinity management measures will be included as part of the construction environmental management plan for the site. ▪ Anthropogenic material from the demolition of the existing shed and infrastructure will be removed from the site prior to any vegetation clearance or earthwork activities ▪ An unexpected finds protocol will be implemented to address any unidentified contamination that may be encountered during construction ▪ Where any on-site material requires disposal, this will be assessed in accordance with NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014) and the NSW EPA Waste Recovery Framework prior to disposal or beneficial re-use.	Pr/Ma
Waste Management	Waste associated with demolition of the existing structures, site clearance and the construction of the new warehouse or distribution centre buildings.	C and O	The following mitigation measures will be implemented: ▪ Bin storage areas will be naturally ventilated ▪ Appropriately drained wash down areas will be provided in the waste storage areas and the bins regularly cleaned. The wash down areas will discharge to a litter trap. Alternatively, a third-party washing service will be engaged and suppliers will retain all waste water within their washing apparatus. ▪ Building management and cleaners will be responsible for ensuring the prevention of litter dispersion throughout the site. This will be implemented by preventing overfilling of bins; requiring waste contractors to remove any spillages that occur during collections, and educating anyone found responsible for inappropriate waste disposal of correct waste disposal techniques. ▪ All waste areas will be designed to meet EPA, Building Code of Australia and Australian Standard acoustic requirements as appropriate ▪ Waste contractors will be required to minimise noise disturbance by ensuring compaction is only carried out while moving, bottles are not broken at the point of collection, and noisy verbal communication is avoided. ▪ All waste areas will comply with Australian Standard AS1428:1:2009.	Pr/Ma

Air Quality and Odour	Impacts from air emission sources at the proposed development (during construction and operation)	C and O	Given the proposal is expected to achieve all air quality criteria (including worst-case scenario conditions), there are no such project specific management and mitigation measures recommended by Northstar. Notwithstanding, it is expected site management practices include the observation of speed limits on-site and the minimisation of vehicle use would be sufficient to ensure that offsite impacts are minimised.	Ma
Bush Fire	Risk to human life of users of the future warehouse or distribution centres and to the buildings as a result of bushfire.	O	- Asset Protection Zones (APZ) will be provided in accordance with the minimum setbacks outlined in Planning for Bushfire Protection (PBP) 2019. The APZs are incorporated into the design of the proposed development. - Building construction will be undertaken in accordance with the requirements of the National Construction Code (NCC) and ember protection within section 7.5 of the PBP. The building is to be constructed in accordance with Type A construction as a large isolated building under the NCC. - Access and water and electricity supply will be provided in accordance with the acceptable solutions outlined in PBP 2019. Gas will only be supplied to the site is required by a future tenant. - All site fencing will be made of non-combustible material - A bushfire emergency / evacuation plan will be developed and implemented prior to occupation of the development.	Pe/Pr
Aboriginal Cultural Heritage	Impacts for any Aboriginal cultural heritage values on the site	C and O	- Ongoing consultation will be undertaken with Registered Aboriginal Parties throughout the life of the project - Prior to the commencement of ground disturbing works, an exclusion zone will be established around the boundary the PAD site. The location of BCBW18 AS 03 will be recorded on construction drawings and barrier fencing placed along the southern Lot boundary of the proposed works to ensure that the site is not subject to impact during construction works.	Pr/Ma

			- An unexpected finds policy will be implemented during ground disturbing works as detailed in the Aboriginal Cultural Heritage Assessment Report. - If suspected human remains are identified during construction works, all work in that area will cease and the area cordoned off. Where it is unclear whether the remains are human, a specialist, such as a physical anthropologist, will be called to site to confirm. Where it is either clear that the remains are human, or it has been confirmed by a specialist, the NSW Police and the Environment Line will be notified. Work would not recommence in the area where skeletal remains have been identified until such time as the relevant approval has been granted.	
Non-Aboriginal Cultural Heritage	Impacts for any environmental heritage values on the site.	C	- An unexpected finds procedure will be implemented during construction - All staff involved in the proposed works, including design professionals and tradespeople, will receive a heritage induction prior to the commencement of works. The heritage induction will include the Unexpected Finds Procedure and the appropriate steps to follow in the event that an unexpected archaeological find is encountered. Clear lines of communication will be established for the reporting of any such finds and for procedures to be rapidly implemented.	Pr/Ma
Biodiversity	Impacts to existing biodiversity value of the site	C and O	The following measures will be implemented as part of any construction environmental management plan: - All contractors will be suitably qualified, experienced and informed of the sensitive ecological features and potentially occurring threatened species - A Project Ecologist will be employed to conduct and oversee all ecological compliance requirements associated with constructing the proposed development - An ecologist will be present during the clearing of threatened species habitat required for the proposed development - Locally indigenous flora species representative of the River-flat Eucalypt Forest will be incorporated into the proposed soft landscaping - Pest control will be implemented during construction and operation	Pr/Ma

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- Relevant biological hygiene protocols and requirements will be implemented in accordance with NSW government guidelines
 - Ongoing management of priority weeds will be undertaken in accordance with statutory requirements
 - Vegetation protection fencing, stockpiling and sediment control will be undertaken during construction

Other measures include:

- The construction site compound and any construction storage, stockpile and laydown areas will be located away from any native vegetation that is planned to be retained.
- Any soil imported from outside the site will be free of weeds
- The existing hollow-bearing stags are to be salvaged and retained within the site if possible. If not possible, each hollow to be removed shall be replaced with a nest box at a 2:1 ratio
- Appropriate erosion and sediment controls measures will be installed and maintained during construction
- Lighting will be minimised to wherever it is required and turned off at designated times in the evening to reduce impacts of light spill. Warm coloured LED street lighting will be used where possible.
- Implementation of vegetation management plan and airport safeguarding measures as detailed below.

**Airport
Safeguardi
ng**

Impacts to the operation of WSI, including the risk of bird strike as a result of development on the site.

C and O

In relation to the Guidelines, relevant management and mitigation measures should include:

Pr/Ma

- Guideline C:
 - Regular monitoring surveys
 - Wildlife hazard assessments
 - Wildlife awareness and management training for relevant staff
 - Establishment of bird population triggers
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			– Implementation of activities to reduce hazardous bird populations ▪ Adoption of wildlife deterrent technologies to reduce hazardous bird populations	
Social	Cumulative social impact from the proposed development on surrounding residents and stakeholders	C and O	▪ Consider informing potential affected neighbouring properties. ▪ Limit works to standard construction hours. ▪ The movement of all construction vehicles to be restricted to designated routes and confined to the regional road network. ▪ Use best practice construction methods to reduce impact of dust and noise ▪ Implementation of standard measures as part of a CTMP. ▪ Ensure ongoing communication with the community. ▪ Implementation of Stakeholder Management Plan. ▪ Engagement with Local Aboriginal Land Council. ▪ Implementation of the identified measures within the ACHA. ▪ Employ dust suppression and air quality control measures. ▪ Employ measures identified within the AQIA. ▪ Consider restricting times of construction, as well as screening and enclosures. ▪ Implement the recommended mitigation measures from the Noise and Vibration Impact Assessment. ▪ Undertake the required engagement strategies which enables community engagement and communication mechanisms.	Pr/Pe/Ma
ESD	Sustainability impacts of the proposed development	C and O	Passive Design & Energy Efficiency ▪ A light external colour scheme that reduces the sites contribution to the urban heat island effect, also lowering internal temperatures by minimising the heat being transferred through the building fabric;	Pr

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- Horizontal shading on the northern facades and vertical shading to the eastern and western façade to be incorporated, minimising peak HVAC loads whilst allowing winter daylight penetration ;
 - Suitably performing glazing for each facade, protecting from hot ambient air during summer whilst allowing heat to be kept inside during winter; and
 - Thermal mass utilised where possible, helping to smooth out daily temperature peaks and troughs.
 - Metering in line with minimum performance standards to track and monitor energy consumption;
 - Efficient, air-cooled HVAC systems that eliminate water consumption associated with heat rejection;
 - Heat pumps for Domestic Hot Water heating;
 - Limiting the use of gas on site;
 - Exceeding minimum energy efficiency provisions within NCC 2022 Volume 1;
 - Solar PV systems installed throughout site to provide a portion of the sites power, whilst reducing peak power demands;
 - Incorporating battery storage systems for energy generated from the PV systems;
 - Provide a net zero statement in line with SEPP C4 Net Zero Provisions;
 - Procurement of offsets in line with SEPP C4 Net Zero Provisions; and
 - Energy efficient LED lighting throughout with appropriate motion & daylight controls.

Transport

- Showers & locker facilities for staff;
- A car-pooling system for the staff shall be implemented; and
- Integrated Sustainable Transport Plan.

Materials

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- Environmental Performance Declarations (EPD's) for major material elements;
 - Disclosure of embodied emissions in line with SEPP C3 Embodied Emissions;
 - Recycled content in products where appropriate;
 - FSC timber;
 - Use of local materials;
 - Use of prefabricated modules;
 - Consider design for disassembly; and
 - Paints, adhesives & sealants specified to contain low VOC & formaldehyde, improving internal air quality.

Water

- Installing fixtures and fittings in line with Liverpool DCP 2008 requirements outlined in Table 4 of the ESD Report;
- Ensuring native plant species are incorporated throughout, where possible;
- Inclusion of rainwater reuse tank positioned between the main buildings to be used for landscape irrigation;
- Re-use of water captured from the sprinkler system;
- Create a site water management plan to be submitted with the development application which includes proposals to reduce mains water supply;
- Install stormwater run-off control and water quality management systems; and
- Air cooled HVAC systems, reducing water associated with heat rejection.

Construction

- Contractor construction waste management plan to investigate >80% of construction waste by weight being diverted from landfill; &
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- Responsible management systems such as an Environmental Management Plan & implementing an Environmental Management System in line with ISO 14001.

Land Use & Ecology

- Plant beds & trees at multiple locations which allow for deep planting and significant canopy cover, providing shade, improving air quality as well as enhancing local levels of biodiversity;
- Utilising stormwater and WSUD features in line with Liverpool DCP 2008, decreasing the strain on central water infrastructure systems;
- Light colour schemes to external surfaces and areas of deep soil vegetation that reduce the urban heat island effect; and
- A soil and groundwater contamination survey in accordance with the R&H SEPP

Emissions & Waste

- Stormwater & WSUD features in line with planning controls, reducing the sites impact from stormwater runoff and pollution;
- Adopting air cooled HVAC systems, eliminating the risk associated with legionella disease when cooling towers are installed on site;
- Provision of facilities to enable separation of multiple waste streams including glass, plastic, cardboard and organic waste (OWMP will be complete); &
- Minimisation of construction waste to landfill.

Climate Change Adaptation

- Rainwater tank to reduce the potable water consumption of the development and reduce the strain on central water infrastructure;
 - Light colour schemes keep the external surfaces of the building cool, reduce impacts of the urban heat island effect & keep naturally ventilated spaces cool;
 - Increasing capacity of mechanical and electrical distribution boards to accommodate an increase in building electrical loads associated with a warming climate;
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- Ensuring the development is constructed in accordance with recognised standards regarding wind tolerance and impacts from hail; &
 - Offering areas of respite during extreme weather events.
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