

# Environmental Management

## 1.1 Environmental Management Plan

Stage 1 works/ activities would be delivered in accordance with a Construction Environmental Management Plan (CEMP) which incorporates environmental site inductions, toolbox sessions and awareness. A preliminary CEMP was submitted with the EIS. A detailed CEMP would be developed, reviewed and approved prior to any works/ activities commencing, and would include all relevant sub plans, such as:

- Biodiversity Management Plan
- Soil and Water Management Plan
- Construction Waste Management Plan
- Construction Traffic Management Plan, including Traffic Control Plan
- Construction Noise and Vibration Management Plan
- Dust/ Air Quality Management Plan
- Access and Movement Plan (for construction staff).

The CEMP would incorporate all relevant safeguards and management measures detailed in the EIS and Response to Submissions (RtS), as updated in this document, and the requirements of the development consent. These would be implemented and complied with throughout all stages of the Project. An updated list of mitigation measures is provided in the following section.

## 1.2 Mitigation Measures and Safeguards

The submitted EIS identified a number of management and mitigation measures to minimise adverse environmental, social and economic impacts that could potentially arise from the Project. The RtS and supplementary material has made a number of changes to the Project scope and also proposed additional or altered measures. The summary table of mitigation measures and safeguards from the EIS has therefore been updated and is presented below.

Table 1.1 below provides an update to Table 9.1 in the EIS and outlines the measures to manage construction risks associated with Stage 1 Early and Enabling Works of the State Significant Development (SSD) application. Successful implementation would reduce the risks of impact. The identified measures would be incorporated into a detailed CEMP prior to commencement.

Table 2.2 provides an update to Table 9.2 in the EIS and identifies the relevant assessments that provide preliminary recommendations and measures relevant to the Concept Proposal and overall Project that would further inform and be addressed/implemented at Stage 2.

The environmental management measures for Stage 1 Works have been derived from the assessment undertaken for the EIS, RtS and supplementary information provided to DPE.

**Table 0.1 Stage 1 Early and Enabling Works - Mitigation Measures and Safeguards Summary**

<b>Matter</b>	<b>Action/Measure</b>
General	<ul style="list-style-type: none"> <li>■ A detailed Construction Environmental Management Plan (CEMP) would be prepared by the contractor prior to any works/ activities commencing, and would include all relevant sub plans, such as: <ul style="list-style-type: none"> <li>– Biodiversity Management Plan</li> <li>– Soil and Water Management Plan</li> <li>– Construction Waste Management Plan</li> <li>– Construction Traffic Management Plan, Traffic Control Plan</li> <li>– Construction Noise and Vibration Management Plan</li> <li>– Dust/ Air Quality Management Plan</li> <li>– Access and Movement Plan (for construction staff).</li> </ul> </li> <li>■ All employees, contractors and subcontractors to receive a project induction. The environmental component may be covered in toolbox talks and should include: <ul style="list-style-type: none"> <li>– Environmental mitigation measures</li> <li>– Vegetation clearing operations and controls to prevent unauthorised clearing</li> <li>– Unexpected Finds Protocols and responsibilities (historic heritage, Aboriginal heritage, contamination and waste)</li> <li>– Waste management strategies and measures.</li> </ul> </li> <li>■ Implement community consultation measures to keep the community informed of the construction program and potential impacts, including relevant contact details.</li> <li>■ A complaint handling procedure and register will be implemented to assist in recording and managing complaints during construction.</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>■ Implement recommendations and measures of the Biodiversity Development Assessment Report (BDAR) prepared by Greencap, including: <ul style="list-style-type: none"> <li>– The Project will monitor and manage potential impacts which shall be outlined in a Biodiversity Management Plan and its sub plans: - Vegetation Management Plan; Water Quality Management Plan; and Fauna Management Plan. The Biodiversity Management Plan will include adaptive management for impacts on biodiversity and will include details of measures to monitor predicted impacts, guidelines and thresholds which will trigger adaptive management actions and other measures proposed to mitigate potential impacts.</li> </ul> </li> <li>■ All works to be undertaken in accordance with an approved CEMP, including relevant sub-plans and a Soil and Water Management Plan (including sediment and erosion control).</li> <li>■ Alternative commercially available flocculants (for sediment basins) that work effectively as a gypsum replacement that do not create the large increases in pH should be used.</li> <li>■ Traffic will be restricted to the southern portion of the Site where the project footprint is. Construction traffic must maintain low vehicle speeds and operators shall take care and be aware of any wildlife that may be in the area. Should wildlife enter the construction footprint, a suitable qualified fauna handler should be notified, and actions taken in accordance with the CEMP.</li> <li>■ To ensure the safety of any native fauna occupying trees and vegetation proposed for removal, during vegetation clearing works, a suitably qualified and experienced person shall be present as a fauna spotter-catcher to supervise the tree removal.</li> <li>■ On the day of clearing and prior to any clearing taking place, all trees within 30 m of those trees to be cleared are to be inspected for the presence of native fauna by an experienced fauna spotter-catcher.</li> <li>■ During tree removal and major earth works a fauna spotter-catcher needs to be used at a minimum of one operator per machine.</li> </ul>

Matter	Action/Measure
	<ul style="list-style-type: none"> <li>■ The fauna spotter-catcher must not be involved in the vegetation clearing works whilst responsible for identifying fauna present on the site and will remain on site during any vegetation clearing works to ensure that any tree occupied by a fauna is not accidentally cleared or interfered with.</li> <li>■ Any uninjured native fauna detected during the tree removal shall be rescued and relocated into an area of appropriate habitat that is nearby, but outside of the development footprint.</li> <li>■ Any injured native fauna detected shall be rescued and transferred to a local veterinarian for treatment and/or NSW Wildlife Information Rescue and Education Service (WIRES) for rehabilitation.</li> <li>■ Should koalas be found on the Site during vegetation clearing works and/or earthworks, tree clearing works and/or earthworks must be temporarily suspended within a range of 30 m from any tree which is occupied by a koala.</li> <li>■ Works are to be avoided in any area between the koala and the nearest areas of habitat to allow the animal to move to adjacent undisturbed areas.</li> <li>■ Works must not resume until the koala has moved from the tree of its own volition.</li> <li>■ In order to minimise direct impacts on ground dwelling and arboreal fauna, any earthworks conducted to clear rocks and trees along the windrows (zone 4) shall have a suitably qualified fauna spotter-catcher as outlined above.</li> <li>■ Removal and management of weeds.</li> <li>■ Avoid light spill to remnant vegetation, through restricting work to project footprint and daily timing of construction activities such as avoiding night works as much as possible and directing lights away from remnant vegetation.</li> <li>■ Dust managed in accordance with a CEMP, including: <ul style="list-style-type: none"> <li>– Daily monitoring of dust generated by construction activities.</li> <li>– Dust suppression measures (setting maximum speed limits and application of dust suppressants)</li> <li>– Commence revegetation as soon as practicable.</li> </ul> </li> <li>■ Existing trees and areas of native vegetation not identified for removal shall be protected from damage during works, including: <ul style="list-style-type: none"> <li>– Establishing a Tree Protection Zone in accordance with AS 4970-2009 around native trees and vegetation adjacent to the construction footprint that are to be retained on the site</li> <li>– Erect temporary 1800 mm high protective fencing securely installed beneath the outer canopy of any tree to be retained</li> <li>– Trees and vegetation may be fenced off in clusters where it is not practical to fence off individual trees</li> <li>– There shall be no stockpiling, storing materials, parking machinery, washing machinery or changes to existing soil levels within the fenced areas</li> <li>– Specific trees identified to be retained are: Ficus obliqua tree located at the existing Site entry (refer tree removal/preservation plans).</li> </ul> </li> </ul>
Transport and Accessibility	<ul style="list-style-type: none"> <li>■ Implement recommendations of the Traffic Impact Assessment prepared by Bitzios, including a Construction Traffic Management Plan (CTMP) to be developed by the contractor and incorporated into the CEMP.</li> </ul>
Aboriginal Heritage	<p>The works would be in accordance with the recommendations of the Aboriginal Cultural Heritage and Archaeological Report prepared by Niche, including:</p> <ul style="list-style-type: none"> <li>■ A cultural heritage induction should be provided to all contractors and staff who will be involved in works that involve ground surface disturbance/ earthworks.</li> <li>■ In the event that suspected Aboriginal objects are encountered during construction, all work in the area that may cause further impact must cease and the Office of Environment and Heritage (OEH) should be contacted.</li> </ul>

Matter	Action/Measure
	<ul style="list-style-type: none"> <li>■ In the event that suspected human remains are encountered during construction, all work in the area that may cause further impact, must cease immediately. <ul style="list-style-type: none"> <li>– The location, including a 20 m curtilage, should be secured using barrier fencing to avoid further harm.</li> <li>– The NSW Police must be contacted immediately.</li> <li>– No further action is to be undertaken until the NSW Police provide written notification to the NSW Health Infrastructure.</li> </ul> </li> </ul> <p>If the skeletal remains are identified as Aboriginal, NSW Health Infrastructure or their agent must contact:</p> <ul style="list-style-type: none"> <li>– the OEH's Enviroline on 131 555</li> <li>– representatives of the Registered Aboriginal Parties.</li> </ul> <p>No works are to continue until the OEH provides written notification to NSW Health Infrastructure or their Agent.</p> <ul style="list-style-type: none"> <li>■ In the event that works causing ground disturbance are planned within the Environmental Area, consultation with the Registered Aboriginal Parties (RAPs) and a further cultural heritage survey with representatives of the RAPs will be required.</li> </ul>
Historical (Non-Aboriginal) Heritage	<p>If any unexpected item of historical heritage is discovered during works, work in the vicinity shall cease immediately, and the project heritage consultant or OEH be notified. Works would not recommence until clearance provided.</p> <p>The works would be in accordance with the recommendations of the Historical Heritage Report prepared by Niche (where applicable to the Stage 1 works), including:</p> <ul style="list-style-type: none"> <li>■ If the Stage 1 Works involve impact to Wall 1, an archival recording of the wall and the affected portion should be prepared before any alterations occur. Its former alignment can also be represented in a variation of the colour or surface treatment of the road. In addition, to offset the impact of demolition and obtain a positive community outcome, it is recommended that recording and reconstructing the remainder of the wall be undertaken to ensure its stabilisation and preservation for future generations, and appropriate interpretive signage be installed. This could be done in conjunction with engagement with the Australian South Sea Islander and wider community.</li> <li>■ Wall 2 and 5. Although these features sit outside the impact zone, future vegetation management might have a detrimental impact. Therefore, it is recommended that heritage considerations be incorporated into a vegetation management plan. Avoid removing trees and vegetation which may be supporting the walls.</li> <li>■ Wall 3. If possible, impact should be avoided through a redesign of the road that shifts it further north to avoid the wall. The wall should be temporarily barricaded during construction works and considered in future management policies. If impacts are unavoidable, the features should have an archival record prepared prior to commencement of works, and consideration be given to representing the demolished section within the new surfacing of the road (as part of any future development of the site).</li> <li>■ Wall 4. This feature currently sits within a proposed car park (including for construction purposes) and therefore is likely to be demolished. Consideration should be given to retaining it and incorporating it into the design of the car park to avoid impacts. If this is not possible, an archival recording of the feature should be prepared before demolition (include photographs, scale drawings, and surveying).</li> <li>■ Archaeological deposits. These are principally the rubbish areas and former house area where there is potential for materials relating to the early occupation and use of the Project Site. Such relics may be of local heritage significance. The former house area will be directly impacted by the</li> </ul>

Matter	Action/Measure
	<p>development while the rubbish deposits, although outside of the current footprint, may need to be removed during general site improvement works. Given the project's status as a SSD, permits to excavate or remove such relics would not be required under Section 139[1] of the Heritage Act 1977 as such approvals are exempted under SSD. However, it is recommended that should such relics be located during ground disturbance works, that they be managed appropriately and in accordance with best practice. A process for managing the discovery of any relics should be included in any environmental or other plans for the Project works.</p> <ul style="list-style-type: none"> <li>■ Hedgerows. These are not of heritage significance but remain items of interest reflecting the later development of the Project Site. An archival recording of the hedgerows should be prepared prior to impacting works.</li> <li>■ Interpretation. The presence of stone walls likely associated with the sugar industry and South Sea Islander labourers in that industry presents an opportunity for these aspects of the region's history to be interpreted. Those walls that will be retained in the development area should be included in an interpretation plan and/or strategy for the hospital precinct, as part of any future development of the site.</li> </ul>
Noise and Vibration	<p>The works would be in accordance with the recommendations of the Noise and Vibration Assessment and Addendum Noise and Vibration Impact Assessment (for additional Stage 1 Works) prepared by Acoustic Studio, including preparation of a Construction Noise and Vibration Management Plan (CNVMP) for Stage 1 Works and consideration of the following measures and those outlined in the preliminary CNVMP.</p> <p>Mitigation measures to be considered and incorporated where reasonable and feasible would include:</p> <ul style="list-style-type: none"> <li>■ Maintaining standard work hours</li> <li>■ Limiting more intensive works, such as excavator hammering to the least sensitive times of the day (i.e. avoid early morning, early evening where practical).</li> <li>■ Including Respite Periods where activities are found to exceed the 75 dB(A) Highly Affected Noise Level at receivers, such as 3 hours on 1 hour off.</li> <li>■ Consideration of localised screening or barriers for high noise level / isolated works.</li> <li>■ Apply best practice noise and vibration controls.</li> </ul> <p>If, during construction works, an item of equipment exceeds either the noise criteria at any location or the equipment noise level limits, the following noise control measures, together with construction best practices shall be considered to minimise the noise impacts on the neighbourhood:</p> <ul style="list-style-type: none"> <li>■ Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver. For example, avoiding works during "outside standard hours" at nearby residential receivers.</li> <li>■ Consider implementing equipment-specific temporary screening for noisy equipment, or other noise control measures recommended in Appendix E of AS2436. This is most likely to apply to noisier items such as jackhammers.</li> <li>■ For large work areas, solid screening or hoarding as part of the worksite perimeters would be beneficial.</li> <li>■ Locate specific activities such as carpentry areas (use of circular saws etc) to internal spaces or where shielding is provided by existing structures or temporary screening.</li> <li>■ Limit the number of trucks and heavy vehicles on site at any given time (through scheduling deliveries at different times).</li> <li>■ Unnecessary idling of vehicles and equipment is to be avoided.</li> <li>■ Traffic routes are to be prepared to minimise the noise impact on the community.</li> </ul>

Matter	Action/Measure
	<ul style="list-style-type: none"> <li>■ When loading and unloading trucks, adopt best practice noise management strategies to avoid materials being dropped from a height.</li> <li>■ Adopt quieter methodologies. For example, where possible, use concrete sawing and removal of sections as opposed to jackhammering.</li> <li>■ Ensure that any miscellaneous equipment (extraction fans, hand tools, etc), not specifically identified in this assessment, incorporates silencing/shielding equipment as required to meet the noise criteria.</li> </ul> <p>Best practice construction noise management strategies would include:</p> <ul style="list-style-type: none"> <li>■ Plant and equipment: <ul style="list-style-type: none"> <li>– Use quieter methods</li> <li>– Use quieter equipment</li> <li>– Operate plant in a quiet and effective manner</li> <li>– Where appropriate, limit the operating noise of equipment</li> <li>– Maintain equipment regularly</li> <li>– Where appropriate, obtain acoustic test certificates for equipment.</li> </ul> </li> <li>■ On-site noise management: <ul style="list-style-type: none"> <li>– Strategically locate equipment and plant</li> <li>– Avoid the use of reversing alarms or provide for alternative systems</li> <li>– Maximise shielding in the form of existing structures or temporary barriers</li> <li>– Schedule the construction of barriers and structures so they can be used as early as possible</li> <li>– Brief Project staff and workers on the noise sensitivity of the neighbours to the site, particularly the residents nearby. The staff and workers need to be mindful of the noise from their discussions and colour of the language, particularly in sensitive periods, for example, during the pre-start times or “toolbox talk” as they gather to commence for work in the morning.</li> </ul> </li> <li>■ Consultation, notification and complaints handling: <ul style="list-style-type: none"> <li>– Provide information to neighbours before and during construction</li> <li>– Maintain good communication between the community and Project staff</li> <li>– Have a documented complaints process and keep register of any complaints</li> <li>– Give complaints a fair hearing and provide for a quick response</li> <li>– Implement all feasible and reasonable measures to address the source of complaint.</li> </ul> </li> <li>■ Work scheduling: <ul style="list-style-type: none"> <li>– Schedule activities to minimise noise impacts</li> <li>– Ensure periods of respite are provided in the case of unavoidable maximum noise levels events</li> <li>– Keep truck drivers informed of designated routes, parking locations and delivery hours.</li> </ul> </li> <li>■ The contractor is to consider implementing environmental noise monitoring as recommended by the Noise and Vibration Assessments.</li> </ul> <p>The details of the vibration management controls required for the Stage 1 Works would be determined when the applicable CNVMP is prepared by the contractor, including the following considerations:</p> <ul style="list-style-type: none"> <li>■ The contractor shall carry out a vibration assessment at the commencement of operations for each vibration-generating-activity/ equipment to determine whether the existence of significant vibration levels justifies a more detailed investigation.</li> <li>■ If the assessment indicates that vibration levels might exceed the relevant criteria, then vibration mitigation measures will need to be put in place to</li> </ul>



Matter	Action/Measure
	<p>ensure vibration impacts are minimised using all reasonable and feasible measures.</p> <ul style="list-style-type: none"> <li>■ A more detailed investigation will involve methods of constraining activities generating high vibration levels. A method of monitoring vibration levels will then need to be put in place. An additional review of vibration mitigation measures and vibration criteria may then be necessary.</li> <li>■ All practical means are to be used to minimise impacts on the affected buildings and occupants from activities generating significant levels of vibration on-site.</li> <li>■ The following considerations shall be taken into account: <ul style="list-style-type: none"> <li>– Modifications to excavation and construction equipment used</li> <li>– Modifications to methods of excavation and construction</li> <li>– Rescheduling of activities to less sensitive times.</li> </ul> </li> <li>■ If the measures given above cannot be implemented or have no effect on vibration levels or impact generated, a review of the vibration criteria is to be undertaken and the vibration management strategy amended.</li> <li>■ Undertake vibration surveys and monitoring as required and recommended by the Noise and Vibration Assessments.</li> </ul>
Soils and Geotechnical	<ul style="list-style-type: none"> <li>■ The works would be in accordance with the recommendations of the Geotechnical Reports prepared by Morrison Geotechnics and any required further geotechnical investigations.</li> <li>■ Site remediation is to be in accordance with the <i>Remediation Action Plan Tweed Valley Hospital Site, 771 Cudgen Road Cudgen NSW</i> prepared by OCTIEF Pty Ltd and dated 1 February 2019 and the addenda Remediation Action Plans prepared by Cavvanba date 24 January 2019 as outlined in the Site Audit Statement.</li> <li>■ The CEMP will detail contingency measures to address unexpected finds of contaminated material.</li> </ul>
Services and Utilities	<ul style="list-style-type: none"> <li>■ The Project will be adequately serviced, and relevant services and utility works would be undertaken in accordance with the relevant infrastructure management plans prepared by ACOR and ARUP.</li> <li>■ The development will comply with the requirements of the relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction.</li> </ul>
Drainage, Stormwater and Water Resources	<ul style="list-style-type: none"> <li>■ The works would be undertaken in accordance with the stormwater assessment and a Soil and Water Management Plan prepared and implemented as part of the CEMP.</li> <li>■ The CEMP prepared by the contractor would include: <ul style="list-style-type: none"> <li>– Fuel and chemical storage requirements</li> <li>– Safety Data Sheet (SDS) register and requirements</li> <li>– Refuelling protocols</li> <li>– Spill management and response procedures.</li> </ul> </li> <li>■ All fuels, chemicals, and liquids will be stored at least 50 m away from any drainage line or waterways as far as is practicable and will be stored in an impervious bunded and covered area within the compound site.</li> <li>■ Visual monitoring of local water quality (i.e. turbidity, sheen, oil and grease) will be undertaken regularly to identify any potential water quality issues.</li> </ul>
Air Quality and Dust	<p>In order to manage air quality and dust related impacts mitigation measures such as the following would typically be contained within the site CEMP:</p> <ul style="list-style-type: none"> <li>■ All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should such visible dust emissions occur at any time, the contractor shall identify and implement all feasible and reasonable dust mitigation measures, including cessation of relevant works if no alternative available.</li> <li>■ Prior to construction activities, training will be provided to all project personnel, including relevant sub-contractors on sound air quality control</li> </ul>

Matter	Action/Measure
	<p>practices and the requirements of the relevant Air Quality / Dust Management Plan (to be prepared by the contractor prior to commencement) through inductions, toolboxes and targeted training.</p> <ul style="list-style-type: none"> <li>■ An Air Quality and Dust Management Plan as a sub-plan of the CEMP will be prepared by the contractor. The objective of the Management Plan would be to ensure that impacts on air quality are minimised. To achieve this objective, the following would be addressed: <ul style="list-style-type: none"> <li>– Ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise air quality impacts and potential adverse impacts to nearby sensitive receivers</li> <li>– Ensure appropriate measures are implemented to address the mitigation measures detailed in the EIS and applicable conditions of approval</li> <li>– Ensure appropriate measures are implemented to comply with relevant legislation and guidelines. Guidelines and standards relevant to air quality and also the development of an associated management plan include the following publications: <ul style="list-style-type: none"> <li>• National Environment Protection Council's (NEPC) – NEPM for Ambient Air Quality Guidelines</li> <li>• Protection of the Environment Operations (Clean Air) Regulation, 2002</li> <li>• AS 2922 Ambient Air Guide for Citing of Sampling Equipment</li> <li>• AS 3580.1.1-2007 Methods for Sampling and Analysis of Ambient Air – Guide to Siting Air Quality Monitoring Equipment</li> <li>• AS 3580.10.1-2003 Methods of Sampling Analysis of Ambient Air</li> <li>• Action for Air 2009 (NSW DEC)</li> <li>• Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales (DEC 2005)</li> <li>• Air Quality Monitoring Criteria for Deposited Dust (DEC Guideline).</li> </ul> </li> </ul> </li> </ul> <p>Additional measures to reduce air and dust impacts could include:</p> <ul style="list-style-type: none"> <li>■ Control measures including water carts, sprinklers, sprays, dust screens or the application of geo-binding agents will be utilised where applicable to control dust emissions. The frequency of use will be modified to accommodate prevailing conditions. Dust control equipment will be maintained to ensure its operability</li> <li>■ Construction activities will be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase dust generation</li> <li>■ Erosion control structures will be checked regularly for build-up of silt and other materials to ensure deposits do not become a dust source</li> <li>■ Waste will be segregated and collected on a regular basis</li> <li>■ No waste will be burnt on-site</li> <li>■ Stormwater, recycled water or other water sources shall be used, where feasible and reasonable, in preference to potable water for construction activities, including concrete mixing and dust control.</li> <li>■ Watercarts/water trucks will be in permanent use on-site during excavation and civil works.</li> <li>■ Temporary stockpiles that are not required for imminent use will be stabilised with spray grass or appropriate fabric.</li> <li>■ Continuous monitoring of weather forecast to stop dust generating activities in case that high winds are expected.</li> <li>■ Before extended breaks (e.g. Easter, Christmas), areas will be treated with spray grass.</li> </ul>



Matter	Action/Measure
	<ul style="list-style-type: none"> <li>■ Only those areas where immediate structures are to be built or works required will be stripped. Areas will be stripped at the latest possible date to comply with the program.</li> <li>■ Construction haul roads and temporary carparking will maximise the use of permanent infrastructure. These roads/carparks will have a sacrificial seal to minimise dust generation.</li> <li>■ Areas of disturbed material and access roads will be stabilised where possible using appropriate methods.</li> <li>■ Measures implemented to minimise dust, soil or mud from being deposited from vehicles on public roads. This will be achieved through rumble grids and large aggregate at entry/ exit points.</li> <li>■ Manual cleaning will also be carried out where appropriate. In the event of any spillage or tracking, the spilt material will be removed within 24 hours.</li> <li>■ Hardstand areas and surrounding public roads will be cleaned as required.</li> </ul> <p><u>Rock Crushing and Stockpiles</u></p> <p>While the type and size of rock crushers are yet to be determined the management plan for the site would typically include:</p> <ul style="list-style-type: none"> <li>■ Rock crushers will have a water attachment for dust suppression at the source. The water is sprayed at the face of the crusher before, during and after the crushing.</li> <li>■ Crushers will be located as far as practicable from Cudgen Road and immediate neighbours (i.e., on the north-west area of the site).</li> <li>■ All crushed rock suitable for re-use will be recycled on-site as fill, sediment control, pavements, hardstands, construction exits and pipe bedding materials.</li> <li>■ Where possible, the oversize material is also reused for vehicle entry shake downs, erosion control and retaining structures.</li> <li>■ Excavated surplus material will be temporarily stockpiled within the landscaped areas with appropriate dust, soil and water management controls. These controls will be further determined with the contractor (as they are dependent on proposed building methodology and staging) and comprehensively documented in the CEMP for the Project along the following principles:             <ul style="list-style-type: none"> <li>– Construction Traffic:                 <ul style="list-style-type: none"> <li>• The contractor will implement a truck movement assessment and devise a methodology that reduces the intensity and timing of the fill deliveries/movements. This will include an assessment of peak traffic times and options to spread out the number of truck movements over longer durations.</li> </ul> </li> <li>– Reduce volume of stockpiling:                 <ul style="list-style-type: none"> <li>• One approach to mitigate negative effects of stockpiling is to reduce the volume of stockpiling required in the first instance. An “only as required” approach to stockpiling will be implemented which will reduce the volume of stockpiling on site at any given time.</li> <li>• Stockpiles would be located in accordance with a Stockpile Management Protocol.</li> </ul> </li> <li>– Dust management:                 <ul style="list-style-type: none"> <li>• Appropriate dust control measures will be implemented for example wetting down with recycled water and any times stockpiles that are uncovered. Whenever practical, height of stockpile mounds to be reduced to mitigate impact of wind and run off water.</li> </ul> </li> <li>– Stormwater runoff management:                 <ul style="list-style-type: none"> <li>• Dependant on the duration of stockpile, the contractor would apply a combination hydro-mulch and or geo-textile wrap over any fill being</li> </ul> </li> </ul> </li> </ul>

Matter	Action/Measure
	<p>stockpiled. These measures will also assist in stabilising the outlet layer of the stockpile and will control the creation of dust.</p> <ul style="list-style-type: none"> <li>• Stockpile locations will have temporary run off water channels connected to the site temporary stormwater system which is connected to sediment basins.</li> </ul> <p>– Truck movements and pedestrian safety:</p> <ul style="list-style-type: none"> <li>• Appropriate separation, access routes, pedestrian protection (i.e. water barriers and crossing points) will be implemented into the site traffic management plan to ensure safe pedestrian movements are maintained during stockpiling and material redistribution.</li> </ul>
Social and economic	<ul style="list-style-type: none"> <li>■ Implementation of other listed relevant measures to avoid, minimise or mitigate construction related impacts.</li> </ul>
Waste	<ul style="list-style-type: none"> <li>■ Waste management would be generally in accordance with the principles and recommendations of the preliminary Construction Waste Management Plan and additional waste management response provided as part of the RtS prepared by TSA Management. A detailed Construction Waste Management Plan will be prepared prior to the commencement of works. The Waste Management Plan will be prepared in accordance with the EPA's "Waste Classification Guidelines (2008)" and the <i>Protection of the Environment Operations Act 1997</i>.</li> <li>■ Resource management hierarchy principles would be followed.</li> <li>■ Working areas would be maintained, kept free of rubbish and cleaned up at the end of each working day.</li> </ul>
Cumulative Construction Impacts	<ul style="list-style-type: none"> <li>■ The CEMP would incorporate measures to manage potential cumulative construction impacts. The CEMP and relevant sub-plans would be reviewed and updated as required (such as when new work begins or if complaints are received) to incorporate potential cumulative impacts from surrounding development activities as they become known.</li> </ul>

**Table 0.2 Concept Proposal Preliminary Recommendations/ Measures for further Consideration and Implementation at Stage 2**

<b>Matter</b>	<b>Action/Measure</b>
Biodiversity	<ul style="list-style-type: none"> <li>■ Implement recommendations of the BDAR prepared by Greencap relevant to Stage 2 construction and operation.</li> </ul>
Agricultural Impact	<ul style="list-style-type: none"> <li>■ The Department of Premier and Cabinet (DPC), with the support of the Tweed Valley Hospital Cross Agency Planning Committee, including Health Infrastructure, is currently pursuing a collaborative opportunity with relevant agencies, outside of the Project, to support the agricultural industry in the region.</li> <li>■ Once operational, the hospital will be required to comply with State Purchasing Policies in terms of value for money, and competitive procurement. During operational commissioning, Northern NSW businesses will be supported through the Industry Capability Network in the same manner proposed to promote local industry participation in construction. Further to this, initiatives such as The Buy Local Project Northern Rivers, an existing partnership between Lismore City Council, Northern NSW Local Health District (NNSW LHD) and University Centre for Rural Health are being considered for development with Tweed Shire Council and other interested parties to encourage further local business participation.</li> <li>■ Opportunities for incorporating edible plant varieties within the landscape design will be considered as part of the landscape design development process, which subject to feasibility will be detailed and submitted as part of the Stage 2 planning submission.</li> </ul>
Rural land use conflict	<p>Implementation of the recommendations of the Rural Land Use Conflict Risk Assessment prepared by Tim Fitzroy and Associates, including:</p> <ul style="list-style-type: none"> <li>■ A 30 m wide vegetated buffer is to be installed on the Project Site along the southern boundary.</li> <li>■ Should intensification of agricultural activity occur on the adjacent lot to the west, the masterplan has capacity to accommodate the widening of the vegetated buffer from 10m to a maximum width range of 22-30m, as required.</li> <li>■ Supplementary plantings are to be installed between the existing row of mixed trees and shrubs on the western and south-western boundary of the Project Site for a minimum width of 10 m.</li> <li>■ Hospital operations; machinery, air conditioning, aircraft (helicopter), vehicles (staff, patients, visitors, deliveries, waste collection), generators, night work, from the Tweed Valley Hospital are to be addressed in the Noise and Vibration Assessment to ensure that any noise impacts are sufficiently attenuated so as to comply with the Noise Policy for Industry (NSW EPA 2017) and the Interim Construction Noise Guidelines (DECC, 2009).</li> <li>■ Preparation and implementation of a Soil and Water Management Plan for construction phases and a Stormwater Management Strategy for the operational phase of the development.</li> <li>■ Implementation of the recommendations in the Traffic Impact Assessment, including suitable access arrangements.</li> </ul>
Environmental Amenity	<ul style="list-style-type: none"> <li>■ Adequate setbacks from residential areas are provided to avoid or minimise amenity related impacts.</li> <li>■ Stage 2 design to consider appropriate design response and selection of materials and finishes.</li> <li>■ Implementation of measures related to noise and visual amenity (commented on elsewhere).</li> </ul>

<b>Matter</b>	<b>Action/Measure</b>
Landscape character and visual amenity	<ul style="list-style-type: none"> <li>■ The Concept Proposal and identified planning envelope has been sited/ arranged to balance the impact of height and bulk with the clinical and functional requirements of a hospital. There are substantial setbacks from surrounding receivers.</li> <li>■ Stage 2 design will develop a design response appropriate to the site context and operational needs.</li> <li>■ Implement recommendations of the Visual Impact Assessment based on the Concept Proposal. To be assessed further at Stage 2.</li> </ul>
Transport and Accessibility	<ul style="list-style-type: none"> <li>■ Implement recommendations of the Traffic Impact Assessment prepared by Bitzios, including: <ul style="list-style-type: none"> <li>– Provision of adequate access and performing intersections, including upgrades.</li> <li>– Provision of adequate car parking on the Project Site.</li> </ul> </li> <li>■ A Transport, Access and Parking (TAP) working group would review and develop a range of transport strategies and measures for the Project, including car parking.</li> </ul>
Ecologically Sustainable Development (ESD)	<ul style="list-style-type: none"> <li>■ ESD measures to be developed and incorporated into the design of the built form and construction methodologies, using principles identified in the ESD report prepared by Steensen Varming.</li> </ul>
Aboriginal Heritage	<ul style="list-style-type: none"> <li>■ The Project would be in accordance with the recommendations of the Aboriginal Cultural Heritage and Archaeological Report prepared by Niche.</li> </ul>
Historical (Non-Aboriginal) Heritage	<ul style="list-style-type: none"> <li>■ Implement recommendations of the Historical Heritage Report and Statement of Heritage Impact prepared by Niche, including interpretation of the history of the Project Site in the new development where appropriate.</li> </ul>
Noise and Vibration	<ul style="list-style-type: none"> <li>■ The Project would be in accordance with the recommendations of the Noise and Vibration Assessment prepared by Acoustic Studio and further assessment is to occur in Stage 2 for main works and operation.</li> </ul>
Soils and Geotechnical	<ul style="list-style-type: none"> <li>■ The Project would be in accordance with the recommendations of the Geotechnical Reports prepared by Morrison Geotechnics and any further investigations.</li> <li>■ The Project would be undertaken in accordance with stormwater and civil and structural design assessments, including relevant standards.</li> </ul>
Services and Utilities	<ul style="list-style-type: none"> <li>■ The Project would be undertaken in accordance with infrastructure management plans, to be prepared for and informed by Stage 2 detailed design.</li> </ul>
Bush fire	<ul style="list-style-type: none"> <li>■ An adequate APZ provided and relevant bush fire protection measures are to be adopted and implemented as per the Bush Fire Assessment prepared by Land and Fire Assessments. Further assessment to occur at Stage 2 detailed design.</li> </ul>
Drainage, Stormwater and Water Resources	<ul style="list-style-type: none"> <li>■ The Project would be undertaken generally in accordance with the concept assessment and supplementary information prepared as part of the Civil and Structural Design and Water Sources assessments and informed by / subject to further assessment and detailed design at Stage 2, including development of final drainage and stormwater management measures.</li> </ul>
Social and economic	Implementation of relevant measures from the Social and Economic Assessments prepared by SGS Economics and Planning, including:

<b>Matter</b>	<b>Action/Measure</b>
	<ul style="list-style-type: none"> <li>■ Further consideration of measures regarding management of community needs and expectations during the transition phase of hospital relocation. The project will develop a targeted communications strategy. Community engagement will be ongoing through all phases of the Project.</li> <li>■ Northern NSW Local Health District (NNSWLHD) is planning the establishment of a HealthOne facility in the Tweed Heads, with services that will complement those at the Tweed Valley Hospital</li> <li>■ A Transport, Access and Parking (TAP) working group would review and develop a range of transport strategies and measures for the Project, including car parking.</li> <li>■ The design of the hospital would consider and incorporate Crime Prevention Through Environmental Design (CPTED) principles.</li> </ul>
Aviation	<ul style="list-style-type: none"> <li>■ The Project to be in accordance with the advice from AviPro regarding aviation considerations and applicable guidelines.</li> </ul>