Response to Submissions Report

SSD-10353: New Tweed Valley Hospital – Stage 2 (Main Works and Operation)

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Prepared for: Health Infrastructure

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Glossary of terms and acronyms

Term	*Description/Definition*
Aboriginal Heritage Information Management System (AHIMS)	This holds information about Aboriginal objects, Aboriginal places with special significance with respect to Aboriginal culture, and archaeological reports.
Acid Sulphate soils (ASS)	Naturally acid clays, mud and other sediments usually found in swamps and estuaries. They may become extremely acidic when drained and exposed to oxygen and may produce acidic leachate and runoff that can pollute receiving waters and liberate toxins. ASS are classified as materials which are above the groundwater, are undergoing oxidation and have a pH of less than 4.0.
Amenity	The degree of pleasantness of an area or place.
Annual average daily traffic (AADT)	The total traffic in both directions at a specified location calculated from mechanically obtained axle counts.
Annual Exceedance Probability (AEP)	The chance of a flood of a given size (or larger) occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 500 m^3/s has an AEP of 5%, it means that there is a 5% chance (i.e. a 1 in 20 chance) of a peak discharge of 500 m^3/s (or larger) occurring in any one year (see also Average Recurrence Interval).
Archaeological site	A site with any material evidence of past Aboriginal activity that remains within a context or place that can be reliably related to that activity.
Australian height datum (AHD)	The standard reference level used to express the relative height of various features. A height given in metres AHD is essentially the height above sea level.
BAM	Biodiversity Assessment Methodology
BC Act	NSW *Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
Catchment	The area drained by a stream or body of water, or the area of land from which water is collected.
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CIV	Capital investment value
Concept Development Application	A development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications.
Concept Proposal	Initial functional layout of a concept, such as a building, to provide a level of understanding to later establish detailed design parameters.
Council	Tweed Shire Council
CPTED	Crime Prevention Through Environmental Design Principles
CTMP	Construction Traffic Management Plan
Culvert	An enclosed channel for conveying a stream below a road.
dBA	Decibels using the A-weighted scale. Decibels are used to measure sound levels. dBA measures loudness according to the human perception of sound.
Decibel	Decibels are used to measure sound levels.
DPC	Department of Premier and Cabinet

Term	Description/Definition
DPIE	Department of Planning, Industry and Environment
Earthworks	The process of extracting, moving and depositing earth during construction.
Ecologically sustainable development (ESD)	Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased. ESD incorporates four key principles: ■ the precautionary principle ■ inter-generational equity ■ conservation of biological diversity and ecological integrity ■ improved valuation and pricing of environmental resources.
EDT	Estimated Driving Time
EIS	Environmental impact statement
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPI	Environmental Planning Instrument
Flood immunity	Relates to the level at which a particular structure would be clear of a certain flood event.
FSR	Floor Space Ratio
Geotechnical	Application of the methods of engineering and science to construction that involves natural soil and rock materials.
Grade/gradient	Slope or steepness
Habitat	The place where an organism lives. Habitats are measurable and can be described by their flora and physical components.
Health and Education Campus	A site that allows health and education providers to collaborate, share resources and grow to their mutual benefit and benefit the community.
HI	New South Wales Health Infrastructure
HLS	Helicopter Landing Site
IPU	Inpatient Unit
KLP	Kingscliff Locality Plan (exhibition draft)
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
Longitudinal section or 'long section'	The section drawn along the length of the route showing vertical elevation.
NCRP 2036	North Coast Regional Plan 2036
BCD	Biodiversity and Conservation Division of DPIE
Project	Development of a new hospital on a greenfield site in the Tweed, referred to as the Tweed Valley Hospital.
Project Site	The location of the Project, on land at 771 Cudgen Road, Cudgen, legally described as Lot 11 DP 1246853.
REDS	Regional Economic Development Strategy (referring specifically to the new Tweed Council doc)
RL	Reduced Level
RMS	Roads and Maritime Service (recently renamed to Transport for NSW)
SEIA	Social and Economic Impact Assessment
SEPP	State Environmental Planning Policy

Term	Description/Definition
SIDRA	Signalised and un-signalised Design and Research Aid
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SSDA	State Significant Development Application
SSF	State Significant Farmland
TfNSW	Transport for New South Wales
Threatened ecological community (TEC)	An ecological community identified by relevant legislation as having endangered status under the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*
Threatened species	Animals or plants listed as endangered or vulnerable under the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*
TLEP	Tweed Local Environmental Plan
TRAC Kingscliff	Tweed Regional Aquatic Centres (used to refer to the pool, particularly by Bitzios)
TRDS	Tweed Road Development Strategy
TSTM	Tweed Strategic Transport Model
TTH	The (existing) Tweed Hospital at 14-34 Powell Street (Lot 628 DP755740), Tweed Heads on the far north coast of NSW
VIA	Visual Impact Assessment
VSR	Visually Sensitive Receiver
WBD	Water by Design
WELS	Water Efficiency Labelling and Standards
WSUD	Water Sensitive Urban Design

1. Introduction

1.1 Purpose of the Report

This Response to Submissions Report (Submissions Report) has been prepared following the public exhibition of the State Significant Development Application (SSDA) number SSD-10353 for Stage 2 (Main Works and Operation) of new Tweed Valley Hospital, located at 771 Cudgen Road, Cudgen NSW (the Project). The land for the new Tweed Valley Hospital is formally described as Lot 11 DP1246853 (the Project Site). The Stage 2 SSDA, including the associated Environmental Impact Statement (EIS), was placed on public exhibition by the NSW Department of Planning, Industry and Environment (DPIE) from 10 October 2019 until 8 November 2019.

1.2 Summary of Public Submissions

The Stage 2 SSDA and supporting EIS received a total of:

- Twelve unique submissions from the public
- Three submissions were received from organisations, including two duplicates. For accuracy two submissions are reflected in the quantitative analysis
- One late submission was received; for completeness this submission has been included in this response, however not reflected in quantitative analysis or coding.

Based on the submissions received, 42 per cent of submissions supported the Stage 2 SSDA, 33 per cent provided comment, and 25 per cent objected to the proposal.

The key themes raised in submissions primarily related to:

- Transport and accessibility
- Built form and urban design.

Public submissions have been considered and addressed in **Section 3**.

1.3 Summary of Government Agency Submissions

Submissions on the Stage 2 SSDA were received from the following government agencies:

Federal Government

- Civil Aviation Safety Authority (CASA)
- Airservices Australia.

State Government

- Department of Primary Industries – Strategy and Policy
- Environment Protection Authority (EPA)
- Biodiversity Conservation Division (BCD) of DPIE (formerly Office of Environment and Heritage)
- Heritage Council of NSW
- Rural Fire Service (RFS)
- Roads and Maritime Service (RMS) (now TfNSW)
- Transport for New South Wales (TfNSW).

A Statement of Key Issues and requests for additional information were also received from DPIE.

Local Government and Other

- Tweed Shire Council (TSC).

Government agency submissions and the issues/matters raised by DPIE have been considered and addressed within **Section 4** of this Submissions Report.

1.4 Additional Consultation and Engagement

Following submission of the Stage 2 SSDA, additional consultation and community engagement has been undertaken by Health Infrastructure (HI). This consultation, along with the public and government agency submissions on the Stage 2 SSDA, has helped inform the responses and shaped any proposed revisions to the Stage 2 SSDA contained in this Submissions Report. HI will continue to consult with relevant government agencies, other stakeholder groups, and the community through the ongoing planning, development and construction of the Project.

Section 2 of this report outlines the engagement undertaken during the public exhibition of the Stage 2 SSDA.

1.5 Amendment to Stage 2 SSDA and Response to Submissions

Health Infrastructure and its consultants have reviewed and considered all of the issues raised within the public and government agency submissions on the Stage 2 SSDA, including matters raised through additional consultation on the Project. Some minor changes have also been made to the Project. These changes are a result of ongoing design refinement and in response to feedback received from government agencies and the community during the public exhibition and consultation phase of the Stage 2 SSDA (**Section 5** addresses the proposed changes in detail).

In accordance with clause 85A of the Environmental Planning and Assessment Regulation 2000 (NSW) (EP&A Regulation), this Submissions Report sets out the proponent's response to each of the issues raised in relation to the Project and amends/updates the Stage 2 SSDA and supporting documentation, where necessary.

1.6 Project Team Input

This Submissions Report has been prepared for HI with input and assistance from a comprehensive project team, where applicable. The project team and their responsibilities are outlined in **Table 1.1** below.

Table 1.1 Project Team and Responsibilities

Name	*Role/Responsibility*
Health Infrastructure (HI)	Proponent and Project Director
TSA Management	Project Manager
STH + Bates Smart	Architects
Turf Design	Landscape Architects
GeoLINK	Town Planner and Bush Fire Consultant

Name	*Role/Responsibility*
Blackett Maguire Goldsmith	BCA and DDA Consultant
Elton	Consultation and public submissions
Lendlease	Principal Contractor for Early and Enabling Works Contamination Geotech Surveyor
Robert Bird Group	Civil and Structural Engineers
LCI	Electrical, ICT, Security, Mechanical Engineering, ESD
JHA	Acoustics and Services
Altus Group	Cost Manager
Urbanite	Wayfinding and signage
ARC	Agronomist
Urbaine	Visual Impact Consultant
Avipro	Aviation Consultant
B&P Surveys	Surveyor
Bitzios	Traffic Engineers
BMT	Flooding Consultant
Greencap	Ecological Consultant
SMEC	Hydrology and wetland ecology
Niche	Heritage and Archaeology
SGS Economics & Planning	Social and Economic Assessment
Tim Fitzroy and Associates	Rural Land Use Conflict
Dr Stephanie Clark	Biodiversity Assessment and MNES (Mitchell's Rainforest Snail)

2. Summary of Engagement

Following submission of the Stage 2 SSDA, additional consultation and community engagement has been undertaken by HI. This consultation, along with the public and government agency submissions on the Stage 2 SSDA, has helped inform the responses and, where relevant, shaped proposed revisions to the Stage 2 SSDA contained in this Submissions Report. HI will continue to consult with relevant government agencies, other stakeholder groups, and the community through the ongoing planning, development and construction of the Project.

This section outlines the engagement undertaken during the statutory public exhibition of the Stage 2 SSDA.

2.1 Community Engagement

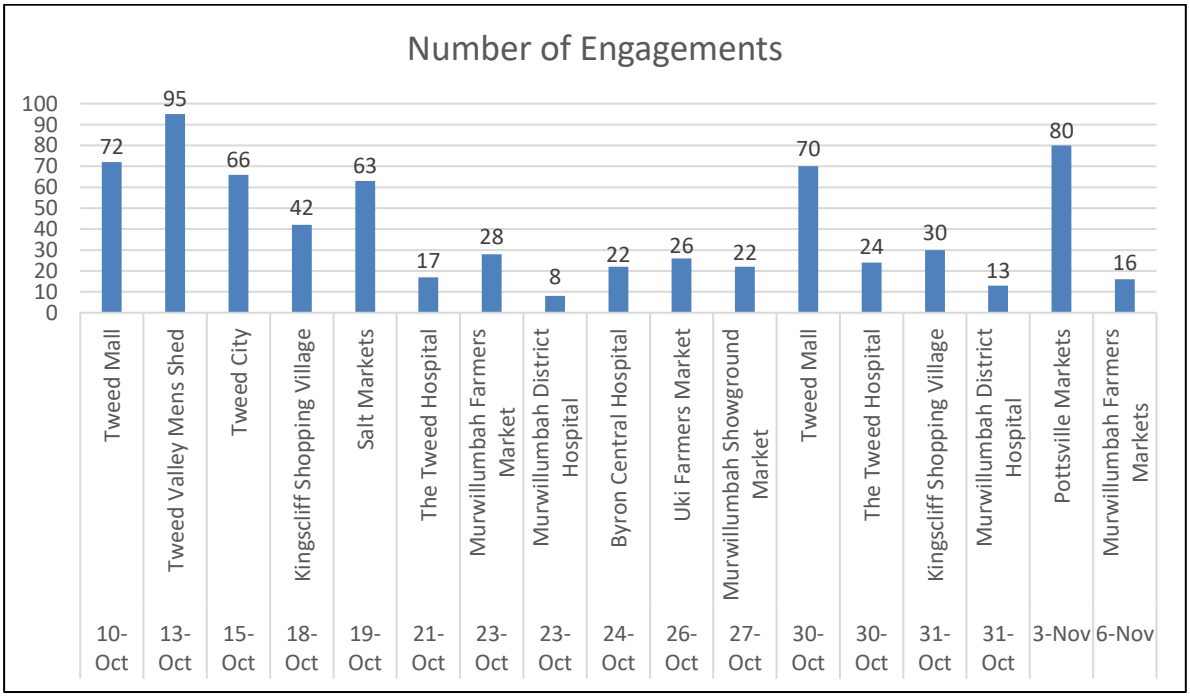
2.1.1 Scope

Face-to-face community engagement was undertaken through 17 pop-ups distributed across the region. Given the scope of the Stage 2 SSDA, being focused on the final built form outcomes, an emphasis was placed on locations to engage communities directly impacted by the Project, while also engaging at locations outside of the immediate catchment to ensure regional considerations were captured.

2.1.2 Number of People Engaged

A total of 694 people were engaged across the 17 pop-ups. **Figure 2.1** shows the distribution of pop-ups and engagement.

Figure 2.1 Engagements by Pop-up Date and Location



2.1.3 Sentiment

In general terms sentiment toward the hospital, including design, facilities and access arrangements was positive. There was also a high level of interest in the hospital project. Some comments relating to the original site selection process and the location of the hospital were received, with ongoing negative sentiment toward this resolved issue expressed.

2.1.4 Comments and Feedback Received

The following key themes/areas were raised through the engagement process:

Table 2.1 Key comments and feedback received through community engagement

Theme	*Comments*
Existing Tweed Hospital	■ What will happen to the old Tweed Hospital? ■ Will there be any health services left in Tweed Heads? ■ What will happen to the old building/site? Will it be sold? ■ An emergency department is needed in Tweed Heads – residents are particularly concerned about the risk of heart attack.
Design	■ The designs look great/so happy this is going ahead
Access and Traffic	■ Has traffic been considered? ■ Will Tweed Coast Road be widened to four lanes? ■ Will traffic increase on Cudgen Road? ■ How will the site be accessed? ■ What will the bus routes be like? I hope the frequency is increased. ■ There needs to be safe pedestrian access from the hospital to the TAFE
Parking	■ Will the parking be free? ■ How much parking will there be? ■ How will parking be accessed? ■ Concern that if parking is paid that the surrounding residential streets will be overcrowded with parked cars.
Ancillary Services	■ Will there be any aged care or childcare facilities on-site? ■ Will specialists have suites or a presence at the new hospital.
Clinical Services	■ How many beds will there be? ■ Will the same services currently offered at the Tweed Hospital continue to be provided? ■ Will there be maternity? ■ Will there be cancer care? ■ Will a PET Scanner be provided?
Timing	■ When will the hospital be open? ■ Has work already started?
Location	■ Where is it being built
Other	■ How do I get a job at the new hospital? ■ There needs to be better signage than at other hospitals for wayfinding. ■ The ambulance station in Tweed Heads should be retained to ensure access to ambulances for local residents.

The majority of these questions and comments are comprehensively addressed in existing Stage 2 SSDA documentation. Issues raised in written submissions have been addressed in this Submissions Report.

2.1.5 Future Engagement

Based on the responses received during this round of engagement, the following recommendations are made:

- While location of the hospital is known at a local level, there is uncertainty at a regional level as to the exact location and how the site will be accessed. In advance of opening, a concerted engagement and communications response should:
  - Explain the location of the hospital
  - Explain transport options (public transport, road access by private vehicle including trip planning) and parking
  - Explain opening date and process.
- A comprehensive education and communications process should be undertaken to outline which services will remain in Tweed Heads.

3. Public Submissions

All public submissions have been considered and the key issues raised in relation to Stage 2 of Project are summarised in this section of the Submissions Report.

3.1 Introduction

This section provides a response to the public submissions received in relation to the Stage 2 SSD-10353 application and supporting EIS.

An application for modification (SSD-9575-Mod-2) to the Concept Proposal and Stage 1 development consent (SSD 9575) was exhibited simultaneously, and a separate Response to Submissions report has been provided addressing submissions received to the modification application.

3.2 Number of submissions

The Stage 2 SSDA and supporting EIS received a total of:

- Twelve unique submissions from the public/community members
- Three submissions were received from organisations, including two duplicates. For accuracy two submissions are reflected in the quantitative analysis
- One late submission was received; for completeness this submission has been included in this response, however not reflected in quantitative analysis or coding.

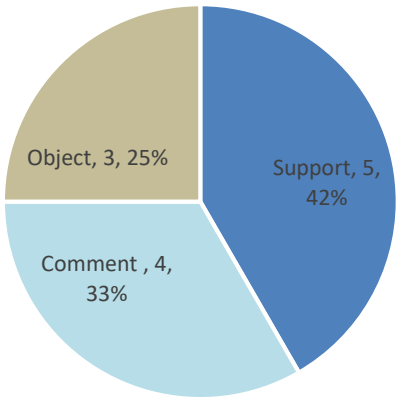
3.3 Feedback raised in submissions

All submissions were coded to consistently record and reflect views expressed, using the established coding framework (see **Appendix A**). This report makes reference to the number of submissions and the number of comments made on a particular issue. It is important to note that with regard to figures in this report, all submissions have the same weight.

3.3.1 Overall sentiment

Forty-two per cent of submissions supported the Stage 2 SSDA, 33 per cent provided comment and 25 per cent objected to it.

Figure 3.1 Submissions by sentiment



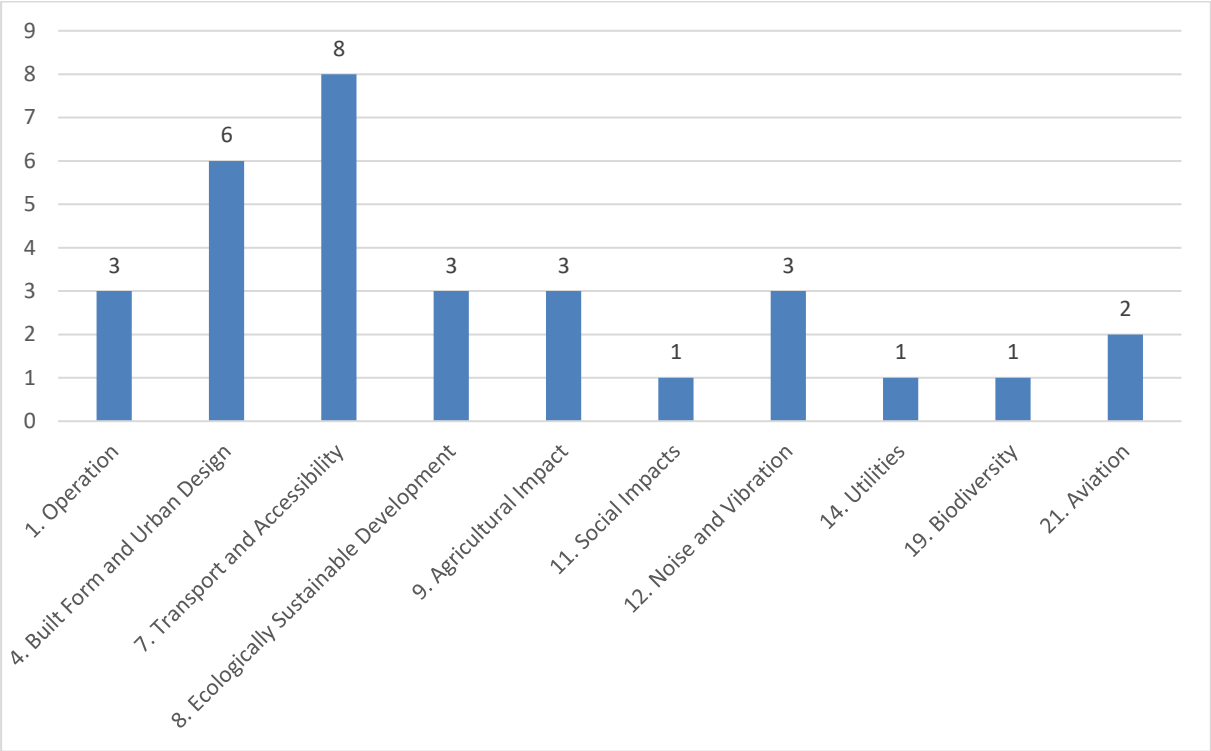
3.3.2 Key themes

The key themes raised in public submissions related to:

- Transport and accessibility
  - The hospital will increase traffic in the area, requiring upgrades to key intersections
  - Parking should be free to prevent impacts on surrounding residential areas (parking in residential streets)
  - The need to upgrade public transport, and how existing residents in Tweed will access the site.
- Built form and urban design
  - Suggestions and questions in relation to design, building colour and movement of people on-site
  - Visual impact – the building is not set into the site.

Figure 3.2 outlines the number of comments received in relation to the key issues/matters identified for assessment in the Secretary's Environmental Assessment Requirements (SEARs).

Figure 3.2 Comments received by SEAR key issues



3.3.3 Relationship to Stage 1 State Significant Development and Site Selection

A number of comments relate to aspects dealt with under the original SSD 9575 Concept Proposal and Stage 1 Works application, or through the site selection process. These are noted, however are considered to be resolved by virtue of the SSD 9575 Approval.

3.4 Response to community submissions

This section summarises submission comments received according to SEAR key issues and provides a project response.

3.4.1 SEAR 1: Statutory and strategic context

None noted.

3.4.2 SEAR 2: Policies

None noted.

3.4.3 SEAR 3: Operation

3.4.3.1 PET-CT Suite

The hospital should provide a PET Scanner as part of expanded cancer care.

Comment noted however this is not a planning matter for consideration in evaluation of the application. Inclusion of a PET Scanner is a health service planning decision.

The design of the hospital includes a range of future-proofing provisions, including the potential expansion of the medical imaging department to include a PET-CT suite. The exact imaging equipment to be included at the new hospital is yet to be determined. Approval of the Stage 2 SSD application would not preclude the incorporation of a PET-CT suite.

The works outlined in Section 3.1 of the Stage 2 EIS comprises five key components, which are subject to various funding allocations/sources and may be delivered concurrently or as separate construction packages.

Stage 2 has therefore been defined in the following sub-stages:

- Stage 2A – Main hospital building complete with supporting roads, services infrastructure and landscaping
- Stage 2B – Main hospital building incremental expansion areas
- Stage 2C – Health Hub
- Stage 2D – Tweed Valley Skills Centre
- Stage 2E – Multi-deck car park.

Development consent is sought for all components of Stage 2 under this SSD application.

3.4.3.2 Security and response times

The hospital location will result in increased ambulance response times.

The subject application does not propose amendments to the location of existing ambulance stations. Ambulance response times were addressed during the approval of the Concept Proposal (SSD 9575). No further changes are proposed.

There is no manned police station in Kingscliff. There is concern for operational staff security.

Security incidents will be managed under Northern New South Wales Local Health District (NNSW LHD) operational policies which follow a coordinated approach to ensure the safety of staff, patients and visitors. As documented in the EIS, the design has also considered crime prevention and security, as well as applying Crime Prevention Through Environmental Design (CPTED) principles.

It has been reported that a new fire station will be located on-site. There is no mention of this in the application.

The large size of the Tweed Valley Hospital site provides a range of future opportunities for co-locating complementary services, in addition to expansion and redevelopment of the hospital, without the need for additional land. The current application does not propose a new fire station. Future planning for any developments on the site, including any possibility of a fire station, would include community consultation and public exhibition of documentation explaining and providing details of each particular proposal. Any future development will be assessed on merit via the appropriate planning process.

3.4.4 SEAR 4: Built form and urban design

3.4.4.1 Building materials

The use of aggregated concrete is unsuitable for patients with feet problems. Concrete should have colour added into it to limit maintenance.

The design of the building, including building material selection, has been the subject of significant research and consultation through the Community Reference Panel. A comprehensive design report is appended to the EIS at Appendix C. Materials proposed are reflective of the natural context and are viewed as site appropriate. Durability and maintenance have also been considered in the material selection.

3.4.4.2 Colour and Design

The colour scheme is not suitable. Brighter colours should be used.

The design of the building, including colour selection, has been the subject of significant research and consultation through the Community Reference Panel.

The design, including colour is outlined in detail in the Architectural and Urban Design Report contained at Appendix C to the EIS, and which notes:

"The quadrant anchors are to be clad in a lightweight metal façade evoking an agrarian reference to the Australian Landscape. The rich directional texture of the material is utilised exploiting subtle light and shadow changes to create surface variation and interest. Profile depth variation will be utilised to express architectural hierarchies. Natural warm hue colouration will be adopted in subtle changes in shading applied to support the architectural language."

Further responses to comments about the appropriateness of the design and architectural merit have been provided in the architectural response at **Appendix C** of this report.

3.4.4.3 Visual impact

The architectural renders are misleading, and do not reflect the impact of a nine-storey building to the human eye.

An independent Visual Impact Assessment (VIA) was undertaken by Urbaine, attached to the EIS as Appendix J, and an updated VIA has been attached to the response to submissions as **Appendix E**. The updated report includes additional photomontages outlining the visual impact of the development, including the multi-deck car park, benefit of substantial landscaping and night time photomontages.

There are no set guidelines within Australia regarding the methodology for visual impact assessment. The methodology used is considered by the New South Wales Land and Environment Court as the preferred methodology for assessing visual impact, and has been developed through consideration of the following key documents:

- Environmental Impact Assessment Practice Note, Guideline for Landscape Character and Visual Impact Assessment (EIA-N04) NSW RMS (2013)
- Visual Landscape Planning in Western Australia, A Manual for Evaluation, Assessment, Siting and Design, Western Australia Planning Commission (2007)
- Guidelines for Landscape and Visual Impact Assessment, (Wilson, 2002)
- Tweed Shire Scenic Landscape Evaluation Volumes 1 and 2 (1995)
- Visual Management System Tweed Pilot (2004) – Coastal Comprehensive Assessment
- Draft Kingscliff Locality Plan (2019)
- Draft Tweed Scenic Landscape Strategy (2019).

The VIA provides a comprehensive outline of the technical methodology used to ensure reasonable accuracy. The assessment results are considered accurate and appropriate representations of the visual impact.

The hospital is not set into the slope as committed to during previous consultation.

The subject application makes provision for a nine-storey building which, from Cudgen Road, will read as six storeys, plus plant and helipad. The existing site slope has been used as far as practicable, while accommodating clinical design requirements, to reduce the overall height of both the main hospital building and the proposed multi-deck parking structure.

The two lower levels have been built into the slope to minimise the visual impact from Cudgen Road, and maximise access through vehicular separation. The development has been suitably integrated into the site's topographic features and this would aid in reducing the perceived height from Cudgen Road and surrounds.

3.4.4.4 Site layout

Parking should be provided underground to improve aesthetics and ensure land remains available for future expansion.

The existing site slope has been utilised as far as possible to reduce the overall height of both the main hospital building and the proposed multi-deck parking structure.

A master plan has been prepared, confirming that the site can be optimally developed to accommodate future expansion, including the location of multi-deck car parking.

In accordance with government security recommendations, underground parking has not been adopted. Overall, an adequate supply of highly convenient and quality parking is provided on-site to cater for projected demands.

3.4.4.5 Building design

There should be separation of elevators for staff and visitors to improve efficiency.

Circulation paths and lifts have been designed to separate public and staff/clinical access.

A therapeutic pool should be provided.

It is noted that this is not a planning matter applicable to evaluation of the development application. The NNSW LHD is responsible for clinical services planning for the region. This planning has not identified a therapeutic pool as a requirement for the development as this stage and does not form part of the current application. The large size of the Tweed Valley Hospital site provides a range of future opportunities for co-locating complementary services, in addition to significant expansion and redevelopment of the hospital, without the need for additional land.

Future planning approvals for any developments on the site will include community consultation and public exhibition of documentation explaining and providing details of each particular proposal, as required. The approval of the subject application does not preclude the provision of a therapeutic pool as part of a future application.

Separate parts of the building should be set aside for different units.

The clinical design of the building has been the subject of extensive consultation with Project User Groups comprising clinical and operational staff and community representatives. The proposed hospital has been designed to meet best practice, including the location of, and functional relationship between, various units. Section 6 of the Architectural and Design report, Appendix C to the EIS outlines the design and designation of specific areas within the building for different units.

Play areas should be provided for children, both indoors and outdoors and for visitors and patients.

The subject application makes provision for a range of indoor and outdoor spaces for the use and enjoyment of staff, patients and visitors. In particular, the design report notes that the main lobby is intended to be a social and light filled place, where people are encouraged to rest and meet. A food and beverage zone is situated to the northern half of the main lobby, with direct access to a large public terrace overlooking the environment area.

Several outdoor courtyards are provided, including an area specific to paediatric inpatients.

A pedestrian and cycle path network is provided through the site.

These facilities are detailed in the Architectural and Urban Design Report attached to Appendix C of the EIS.

Internal design should include finishes that make cleaning and maintaining the hospital easier, while consideration should be given to the location of power points and light switches. The use of smart technology.

The clinical design of the building has been the subject of extensive consultation, including Project User Groups comprising clinical and operational staff. The proposed hospital has been designed to meet best practice, including cleaning, maintenance and whole of life costings.

A prototype and simulation suite will be constructed to ensure that a typical hospital environment, including location of power points and light switches, are tested before hospital fit-out commences.

Façade treatment should focus on energy efficiency, balancing glassed areas with views and environmental control, as well as cleaning.

A comprehensive Environmentally Sustainable Design Assessment was prepared as part of the current application. It is noted from this report that the design shall adopt passive cooling and heating design principles to reduce the building's reliance on mechanical Heating, Ventilation, and Air-conditioning (HVAC) system and artificial lighting; acting to reduce energy consumption. These include: orientation and form of the building suited for the sun path to avoid direct solar radiation in summer and to benefit from free source of heating during winter; implementation of external shading to limit solar penetration in summer but optimise passive heating in winter; limiting window-to-wall ratio (WWR) and the use of a high-performance prefabricated façade with improved thermal resistance.

The requirement for solar shading within the in-patient unit (IPU) levels has been reviewed. The building form and varying orientation of patient rooms assists in the reduction of rooms impacted by excessive solar ingress.

The extent of solar ingress to IPU rooms is limited, due to the limited glazing to solid wall percentage <25%. Solar gains will be managed with the adoption of high-performance double-glazing units. Glare management will be addressed in part within the performance characteristics of the glazing, complemented by adjustable room blinds, that cater for individual comfort.

The main public north viewing deck at ground level is recessive, set back 35 m between the quadrant anchor forms. The setback assists to provide shade at various times of the day. Landscaping will assist to provide shade to the seating area on the terrace.

Optimisation of access to views and natural light is a major design principle.

Consideration should be given to making internal access easy for staff, including the use of travelators and escalators.

A comprehensive Architectural and Urban Design Report is attached at Appendix C to the EIS. Section 6 outlines building use, providing floor plans that demonstrate circulation paths and key linkages aimed at ensuring ease of access and movement. This includes but is not limited to direct pedestrian access to both central lift cores, direct pedestrian access and sight lines to circulation stairs, as well as vertical circulation via both public lift cores, and both clinical/logistical lift cores.

3.4.5 SEAR 5: Environmental amenity

None noted.

3.4.6 SEAR 6: Staging

To achieve a sustainable development, the long-term strategic planning and operation of the hospital should be considered. An ultimate master plan of all future development stages/expansion/renewal and integration of this should be provided. The master plan should also consider the relocation/co-location of all allied health services.

The suitability of the site for the proposed hospital was addressed in the Concept Proposal and Stage 1 SSD application (SSD 9575). The approval of this application has confirmed the site is suitable from a planning perspective, subject to conditions of consent and a Stage 2 application.

Refer to previous responses for issues regarding additional master planning. The Concept Proposal and Stage 1 SSD application has confirmed/approved the general site layout for the proposed facilities of the new Tweed Valley Hospital and that application, as well as the Stage 2 application, have adequately demonstrated future expansion opportunities and ancillary development potential/site arrangements. For further detail refer to the previously submitted Stage 2 EIS and accompanying Architectural and Urban Design Report.

3.4.7 SEAR 7: Transport and accessibility

3.4.7.1 Parking

Car parking should be provided for free, based on

- ***Location – the site is remote***
- ***Impact on surrounding road network (parking in surrounding road networks)***
- ***Affordability.***

The Stage 2 SSD application seeks approval for over 1500 on-site car parking spaces, including multi-deck, at-grade and short-term parking facilities. There has been no final decision on parking fees and various options are being considered. It is noted that the option of paid parking contemplated by the application is in line with existing regional rates for NSW Health parking facilities. This includes paid parking up to a maximum of $8.60, with various concessions available. Overall, an adequate supply of highly convenient and quality parking is provided on-site to cater for projected demands. It is expected that hospital management will continue liaison with Council throughout the design, construction and operational phases of the project, including that related to potential off-site parking impacts.

Additional responses to parking matters are provided in **Section 4** in response to agency submissions.

Parking should be paid to ensure that parking is used by people visiting or attending the hospital, and not by other users from the area.

The Stage 2 SSD application seeks approval for over 1500 on-site car parking spaces, including multi-deck, at-grade and short-term parking facilities. There has been no final decision on parking fees and various options are being considered.

A parking management plan, including yellow lines or similar in surrounding residential areas would discourage people from parking in these streets.

The Stage 2 SSD application seeks approval for over 1500 on-site car parking spaces, including multi-deck, at-grade and short-term parking facilities. There has been no final decision on parking fees and various options are being considered. Overall, an adequate supply of highly convenient and quality parking is provided on-site to cater for projected demands. It is expected that hospital management will continue liaison with Council throughout the design, construction and operational phases of the project, including that related to potential off-site parking impacts on Council-managed roads.

Additional responses to parking matters are provided in **Section 4** in response to Council and agency submissions.

3.4.7.2 Traffic and proposed road modifications

The roundabout at Turnock Street/Cudgen Road is small and will not cope with an additional access road as proposed.

The Turnock Street roundabout upgrade was approved under the SSD 9575 Stage 1 Works approval, and s138 application. Works to improve the operation of the roundabout and site lines, to support the additional traffic movements were completed in December 2019. The Stage 2 Traffic Impact Assessment (TIA) confirms the acceptability of the development from a traffic and transport perspective, including the adequacy of road infrastructure and proposed upgrades.

The traffic signals at the intersection of Tweed Coast Road and Cudgen Road do not cope with existing traffic volumes.

The TIA identifies a range of upgrades to this intersection to improve the existing situation and accommodate the projected growth in traffic movements through this intersection associated with the hospital development. This includes the addition of dedicated turning lanes.

A second set of traffic lights on Cudgen Road, at the proposed entrance to the hospital, along with appropriate coordination of signal phasing, would support improved traffic movements and reduced waiting times at the Tweed Coast Road and Cudgen Road intersection.

The proposal provides 545 beds; however, the traffic impact assessment is based on 391 beds by 2023, and 499 by 2033. This is inconsistent. There is no reference in the Traffic Impact Assessment to the health hub, and movements associated with this facility.

As outlined in the EIS, the Stage 2 application proposes 545 hospital beds/treatment spaces (comprising 48-day beds, 451 IPU beds, and 46 emergency treatment spaces); inclusive of 56 IPU beds to be constructed as Stage 2B subject to demand and funding.

Section 5.7 of the EIS outlines that assessment (sensitivity testing) has been undertaken for Year 2033 with the inclusion of the additional 56 beds (499 overnight and day only bed scenario by Year 2033 – i.e. excluding the 46 emergency treatment spaces). The sensitivity test includes approximately 1330 staff on-site during the day shift in Year 2033.

It is explained in the TIA that the total number of beds/treatment spaces included in the Stage 2 application is 545, which, in addition to the abovementioned 499 overnight and day only beds, includes 46 emergency treatment spaces, emergency treatment spaces are typically a point of initial treatment, with patients then transferred to overnight or day only beds. On this basis, and consistent with the Concept Proposal and Stage 1 assessment, emergency treatment spaces have therefore not been included as part of the traffic assessment to avoid double counting.

People attending the Health Hub are captured in the overall traffic/parking calculations for the hospital. This is because traffic and parking associated with hospitals (being a health services facility) is calculated and assessed on a beds and staff numbers basis as per standard practice and TfNSW and Council requirements. This ratio/calculation accounts for ancillary uses that may be typically associated with a hospital and is therefore an appropriate method.

Traffic and parking have been thoroughly assessed in the Stage 2 TIA submitted with the EIS. Additional responses to traffic and parking matters raised by agencies and Council have been addressed in this Submissions Report (refer to **Section 4** and **Appendix O**).

Potential future development and consideration of master planning on the site has been adequately addressed previously, demonstrating capacity for future development as required, and informing a suitable development layout. The Concept Proposal and Stage 1 early works have been approved under SSD 9575. This approval (subject to the proposed minor modifications) confirms the hospital's development envelopes and associated infrastructure layouts, and these elements have been further defined and designed in the Stage 2 application. Any future development applications would integrate with the health campus and be required to consider all relevant design and environmental factors, including any additional traffic/parking impacts, and any required mitigation measures. Any future development applications would be assessed on their merits.

There is inconsistency in the number of staff numbers in the Traffic Impact Assessment. The assessment has not adequately considered traffic generation.

Section 3.18 of the EIS (and references in Appendix N – Social and Economic Assessment) outlines indicative estimates of job creation attributed to the Project based on a Full Time Equivalent (FTE) calculation. FTE is not a headcount of employees, but rather a benchmark/ratio used to measure all the work that is occurring (including by part-time employees), regardless of headcount. FTE includes work performed on a 24-hour basis over a seven-day roster. Therefore, Section 3.12 of the EIS and the TIA (Appendix K of the EIS) outline the approximate number of staff that would be on-site at any one time during the day shift in year 2023 and in year 2033. As outlined in the TIA, it is standard practice that traffic assessments therefore consider the number of staff likely to be on-site at any one time, not the entire employed workforce. On this basis the TIA has used an acceptable method.

The proposal should include the widening of Tweed Coast Road to four lanes.

The TIA concludes that the widening of Tweed Coast Road is not required to support the hospital development. Adequate road upgrades and traffic mitigation measures have been proposed to support the hospital, and this is commensurate with Council's ultimate planning for a four-lane upgrade of Tweed Coast Road in the future.

Turnock Street Roundabout is already a pinch point, caused by two lanes merging into one.

The TIA concludes that further upgrades to Turnock Street Roundabout are not required to support the hospital development. Relevant improvement works have been approved and completed as part of Stage 1 Works.

No further expropriation of land at Tweed Coast Road/Cudgen Road intersection should occur to facilitate the improved road upgrades.

All upgrades to the intersection of the Tweed Coast Road/Cudgen Road intersection will occur within the existing road reserve.

3.4.7.3 Agricultural traffic movements

The Traffic Impact Assessment does not consider the impact of slow-moving tractors and agricultural vehicles on ambulance movements. The TIA has not considered the safety relevant to heavy vehicle movements operating from the adjacent existing farming operations.

The issue of farm machinery using Cudgen Road was considered as part of the TIA and found to have no impacts.

More specifically, the assessment notes that:

"Agricultural vehicle movements on Cudgen Road are infrequent as confirmed during a number of site visits and drive-throughs on the surrounding road network. The demand for agricultural vehicles is driven by agricultural activity.

The Project site has been recently been rezoned from RU1 Primary Production to SP2 Tweed Valley Hospital Project Stage 2 Infrastructure and will no longer be used as farmland. This results in a reduction of agricultural activity on Cudgen Road to the east of Tweed Coast Road. Areas to the north, east and south are predominantly residential or special use land zonings (i.e. no agricultural activity).

Agricultural vehicles are subject to the permits and requirements of the National Heavy Vehicle Regulator. The National Heavy Vehicle Regulator dictates mitigation measures that must be implemented by agricultural vehicles including signage and warning lights that must be displayed. Implementation of further mitigation measures are not warranted."

This is further discussed in the response to government agency and Council submissions at **Section 4** and **Appendix O** of this report.

3.4.7.4 Public transport

The proposal does not consider elderly people on restricted driving licences, or those who do not have vehicles or able to utilise public transport. There is no definitive plan for public transport between Tweed Heads and Tweed Valley Hospital.

Public and community transport has been addressed in Section 5.7.5 of the EIS and in the TIA submitted with the application.

With the inclusion of the proposed new bus stop infrastructure on Cudgen Road and service/route improvements, the public transport network and infrastructure will suitably service the Tweed Valley Hospital and support the community in accessing the new facility.

Access for community and aged care transport vehicles has also been catered for and existing community transport organisations will continue to assist older people, people with a disability, their carers and others who have difficulty accessing public transport or are disadvantaged by the lack of transport options in their area.

Strategies for relocating existing community and aged-care transport from the existing hospital to the new hospital as well as provision of new services will be investigated as part of subsequent operational planning.

3.4.8 SEAR 8: Ecologically sustainable development

3.4.8.1 Electricity

Solar Power should be used as a source of power to support the hospital.

The proposal includes a range of energy conservation and efficiency measures, including the installation of rooftop solar photovoltaic arrays for on-site electricity generation.

Consideration should be given to a furnace for the burning of biohazard waste and non-recyclables to generate power.

An operational waste management plan has been provided as part of the Stage 2 EIS which outlines the waste management processes, equipment and construction requirements and identifies the various waste streams and volumes that are anticipated. The plan satisfies the requirements set out by the Tweed Shire Council (TSC) and the NSW Environmental Protection Authority (EPA).

3.4.8.2 Water

Rain water should be collected and stored for use on the site.

A waste water treatment plant should be incorporated into the design to treat waste water for re-use.

The current hydraulic services design implements a drainage capture and re-use strategy to reduce potable water consumption that will assist in combating extended drought periods. The design incorporates:

- A rainwater harvesting and re-use system that captures rainwater from the roof areas, discharge from air handling units (AHUs) and fan coil units (FCUs), and from Reverse Osmosis (RO) systems
- Reuse of this captured water for irrigation and cooling tower purposes.

In addition, strategies that assist water efficient design are being considered, subject to detailed design of the project. These include:

- Potable water using fixtures to be high efficiency and WELS rated as detailed below, unless otherwise required for clinical purposes. Specification of fittings will be confirmed in the detailed design:
  - Showerheads – 3 stars
  - Dishwashers, washing machines, toilets and urinals – 4 stars
  - Taps and flow controllers – 4.5 stars
- Potable water sub-metering to be connected to the building monitoring and control system (BMCS) to reduce wastage through identifying leaks, or poor operational performances

- Fire test water for recycling back into the fire services storage tank to be investigated
- High efficiency, gas-fired domestic hot water plant to be specified

3.4.8.3 Waste

The hospital should aim to reduce refuse waste.

An Operational Waste Management plan was prepared and included in the Stage 2 EIS at Appendix W. Section 3.2.4 of the Operational Waste Management plan addresses refuse minimisation, noting that refuse minimisation is an important part of any site operation.

Key refuse minimisation actions include:

- Regular review of material quantities to avoid overordering
- Consideration of secondary and recycled materials where possible
- Encouraging refuse minimisation through education and signage (see below)
- Reduce refuse through continuous monitoring and review.

The report suggests that refuse minimisation requires regular reviewing to ensure operational sustainability of refuse volumes, equipment and economic feasibility and recommends that refuse weights and movements are noted and reviewed. An external review is usually conducted 12 to 18 months after the implementation of the plan.

Extensive waste minimisation options and equipment are also included as an addendum to the report, covering options for:

- Food rescue
- Composting
- Food waste separation and collection
- Waste conversion
- Waste compaction
- Charity donations
- Container deposit schemes
- Glass crushing
- Baling.

These options will be considered as design and operational policies are further developed.

3.4.9 SEAR 9: Agricultural impact

3.4.9.1 Impact on existing agricultural uses

Concern that the hospital will affect existing farming operations adjacent, or in close proximity, to the site.

Tim Fitzroy & Associates prepared a Land Use Conflict Risk Assessment (LUCRA) for the Concept Proposal and have submitted an updated version (Appendix H) in support of Stage 2 and in response to SSD 9575 conditions of consent.

The LUCRA was prepared based on:

- a review of the Stage 2 proposal for the Tweed Valley Hospital
- discussions with TSA Management (including feedback from neighbouring residents/farms)
- site inspection
- review of surrounding land uses.

Overall the LUCRA has concluded that the Project Site is suitable for the proposed development subject to recommendations, which have been incorporated into the Stage 2 design, as exhibited.

The proposal does not consider the ongoing operation, and access to, the vegetable shop opposite the site.

The proposal, including road access changes, has considered the existing operation of the vegetable shop. No aspect of the development is envisaged to prevent the ongoing use and operation of the land opposite the Project Site.

The TVH project is adjacent to State Significant Farmland. Appropriate buffers are required to ensure existing and future farming activities are protected.

The Stage 2 EIS includes an updated Land Use Conflict Risk Assessment (LUCRA) (Appendix H) in support of Stage 2 and in response to SSD 9575 conditions of consent. Overall the LUCRA concludes that the Project Site is suitable for the proposed development subject to recommendations which have been incorporated into the Stage 2 design, including buffers. These measures will adequately address any potential land use conflict.

Additional consultation has been undertaken with farmers in the area. An updated Agricultural Offset Plan has been provided and is attached at **Appendix L** of this Submissions Report, having addressed matters raised in community and agency submissions.

3.4.10 SEAR 10: Heritage

None noted.

3.4.11 SEAR 11: Social impacts

3.4.11.1 Supporting accommodation

Affordable accommodation for people visiting patients should be provided. Staff accommodation should be provided, particularly to cater for major events.

The hospital design incorporates overnight and lounge facilities for on-call staff in accordance with relevant industrial instruments.

The provision of accommodation does not form part of the current application. The large size of the Tweed Valley Hospital site provides a range of future opportunities for co-locating complementary services, in addition to expansion and redevelopment of the hospital, without the need for additional land.

Future planning approvals for any developments on the site will include community consultation and public exhibition of documentation explaining and providing details of each particular proposal, as required by the relevant planning approval pathway.

3.4.11.2 Accessibility

The impacts of relocation of the existing hospital from Tweed Heads city centre on the Tweed Heads community and their ability to access services is not adequately addressed. There is no definitive plan for the provision of health services located in the Tweed Heads city centre post the relocation of the Tweed Heads Hospital.

The issue of relocation of the hospital was assessed in the Concept Proposal and Stage 1 EIS. Additional social and economic assessment, has been provided with the Stage 2 EIS, including hospital relocation mitigation measures. The EIS includes reference to the 2018 Service Statement prepared by the NNSW LHD. This service statement outlines the community health and other out-of-hospital services that will continue to be delivered in the Tweed Heads area, following the transfer of hospital services to the new Tweed Valley Hospital when complete. The Service Statement proposes a HealthOne model to deliver community health and hospital outreach services in Tweed Heads.

3.4.12 SEAR 12: Noise and vibration

3.4.12.1 Helicopter and ambulance movements

Has consideration been given to the impact of noise associated with helicopter movements? Emergencies requiring patient transfers happen at any time of day, it is therefore refuted that the impact is negligible.

Helicopter noise has been addressed in the Stage 2 EIS at Section 5.12.4.

Helicopter operations, including flight paths and frequency, have also been considered in the planning for the new development. The helipad will provide multiple options for approach and take-off, to help determine a safe flying path for each individual helicopter movement. Tweed Valley Hospital is not a tertiary trauma hospital, with helicopter movements limited to patient transfers only. Anticipated helicopter movements are estimated to be less than ten a month, with a typical expected average of six, supporting the classification of the impact as negligible.

Detailed information is provided at **Section 3.4.21** of this report, SEAR 21.

Ambulance sirens will impact on peace of the area.

Emergency ambulance noise has been addressed in the EIS at Section 5.12.4.

Reducing the unnecessary use of lights and sirens improves road safety for paramedics, patients and the community. NSW Ambulance only use lights and sirens during transport to hospital if the patient's condition is deemed as life-threatening or rapidly deteriorating.

3.4.12.2 Noise impacts on Cudgen Road

A noise and vibration study should be undertaken to determine impact on town houses located on John Robb Way.

A Noise and Vibration Impact Assessment was submitted with the Stage 2 EIS to ensure that any noise impacts comply with the Noise Policy for Industry (NSW EPA 2019) and the Interim Construction Noise Guidelines (DECC 2009). In addition, the Noise and Vibration Impact Assessment was conducted to ensure that noise from the hospital is minimised and sufficiently mitigated.

Potential noise sources identified and assessed include, but are not limited to:

- Hospital operations
- Aircraft (helicopter)
- Machinery
- Air conditioning
- Vehicles (staff, patients, visitors, deliveries, waste collection)
- Generators
- Night work.

The assessment determined that the Project would be acceptable and can satisfy noise requirements. Refer to Section 5.12 of the Stage 2 EIS for further detail and findings regarding noise and vibration.

The multi-level car park and generator on the western side of the hospital will impact on properties on John Rob Way.

As above, a Noise and Vibration Impact Assessment was submitted with the Stage 2 EIS. The assessment determined that the Project would be acceptable and can satisfy noise requirements. Refer to Section 5.12 of the Stage 2 EIS for further detailed assessment and findings regarding noise and vibration, including that associated with the multi-deck car park and back-up generators.

3.4.13 SEAR 13: Contamination

The Site Audit Statement and Site Audit Report does not make reference to a historic cattle dip. CAC-B34 has not been satisfied.

A Site Audit Statement and Site Audit Report has been completed and is attached at **Appendix M** of the response to submissions. It confirms the site is suitable for the proposed land use/development.

3.4.14 SEAR 14: Utilities

3.4.14.1 Electricity

Where will hospital power be sourced, and will there be backup power?

The Infrastructure Management Plan provided at Appendix R of the EIS outlines the Project Infrastructure requirements, including how electricity will be provided and the inclusion of backup generators.

3.4.15 SEAR 15: Contributions

None noted.

3.4.16 SEAR 16: Drainage

The assessment does not adequately satisfy the proposed development will not significantly impact on the integrity of the wetlands or quantity and quality of surface and groundwater flows. Further assessment of surface and groundwater flows is needed due to altered hydrological regimes when the extent of impervious surface is considered. This may disrupt existing surface water flow characteristics to the wetlands, and its wetting/drying functions. Impeding existing groundwater recharge and hydrological regime will adversely impact on Acid Sulfate Soils (ASS) with the risk of increased oxidation of soils and leaching of acid/heavy metals into the wetlands and downstream waterways, and threatened species/habitat. Testing for iron has not occurred.

Development is permissible in the mapped proximity area for coastal wetlands. Detailed stormwater, hydrological and ecological assessments were submitted with the Stage 2 EIS. In response to agency and Council submissions, additional information has been provided (refer to **Section 4** and **Appendix G** and **H** of the Submissions Report) which confirm that there would be no significant adverse impact to the receiving wetland environment.

It was determined in the Concept Proposal/Stage 1 and Stage 2 EIS that there was no significant risk to ASS as a result of the proposed works. No Stage 2 construction works are proposed in the low-lying northern areas of the site and ASS management requirements have not been triggered, with the proposed hospital development occurring within Class 5 ASS mapping (ASS are not typically found in Class 5 areas). ASS has not been raised as an issue in Council or Agency feedback.

3.4.17 SEAR 17: Flooding

None noted.

3.4.18 SEAR 18: Bushfire

Part of the Tweed Valley Hospital building envelope and the associated infrastructure are to encroach Bushfire Prone Land (BPL) buffer zone.

The Bushfire Hazard Assessment submitted with the Stage 2 EIS has determined that the proposal generally conforms to the standards and specific objectives set out in PBP 2006/PBP Pre-release 2018 and complies with relevant provisions of the EP&A Act. Condition of consent (SSD 9575) Schedule 2 B19 of the Concept Proposal and Stage 1 approval has been satisfied noting this establishes a minimum Asset Protection Zone offset from the identified hazard that the building envelope needed to be sited behind.

3.4.19 SEAR 19: Biodiversity assessment

Potential adverse impacts and sustainability of key environmental values have not been adequately addressed, and there is a lack of strategies, management provisions and monitoring programs to assess the potential threats to the sustainability of the significant environmental values.

Greencap Pty Ltd (Greencap) prepared an updated Biodiversity Development Assessment Report (BDAR) for Stage 2 in accordance with the Biodiversity Assessment Method Order 2017 (Office of Environment and Heritage [OEH], 2017) (BAM), and to address more broadly the requirements in the Biodiversity Conservation Act 2016 (NSW) (BC Act). A Biodiversity Management Plan (BMP) was also prepared in accordance with recommendations of the BDAR and SSD 9575 conditions of consent. These have been prepared in consultation with BCD (formerly OEH). The BDAR and BMP outline a comprehensive assessment of biodiversity related matters, using accepted methods, and propose a range of management and mitigation measures to avoid, minimise or mitigate potential impacts. As outlined in the EIS, Stage 2 of the Project (Main Works and Operation) would not present a significant impact or risk to biodiversity, threatened species or sensitive receiving environments (e.g. the adjacent mapped Coastal Wetland) and the development is acceptable from an ecological perspective. Implementation of the BMP (which would be updated prior to the commencement of Stage 2 works to address any applicable conditions of consent) would enhance the environment and ensure appropriate protection and management of biodiversity values.

The assessment in relation to the Mitchell's Rainforest Snail is insufficient.

The report regarding Matters of National Environmental Significance (MNES) relevant to the Mitchell's Rainforest Snail (*Thersites mitchellae*) (Appendix CC of the Stage 2 EIS) needs to be read in conjunction with the submitted Stage 2 BDAR and BMP. As outlined in Section 5.1.6.4 of the Stage 2 EIS, the assessment undertaken for the Concept Proposal and Stage 1 Works EIS, including an assessment of MNES by Greencap, confirmed that there would be no significant impact to MNES or Commonwealth land as a result of the development.

The considerations relevant to MNES and Commonwealth land relevant to Stage 2 would not be dissimilar to that considered as part of the Concept Proposal and Stage 1 Works EIS. Stage 2 of the Project would be consistent with the assessment's findings. The main potential MNES identified in that assessment was with regard to the Mitchell's Rainforest Snail (*Thersites mitchellae*). An expert

assessment (by Invertebrate Identification Australasia) of the potential impacts to the Mitchell's Rainforest Snail was submitted during the previous stage (Concept Proposal and Stage 1 EIS) and this has been further investigated for Stage 2. This assessment confirms that no significant impact to MNES pertaining to the Mitchell's Rainforest Snail in relation to Stage 2 would result and the Project would enhance, not reduce, available habitat (refer to the submitted BDAR and BMP that outline a range of management measures, including those that would enhance the northern environmental area). As no significant impact to MNES is expected in relation to Stage 2, referral to the Federal Department of Environment and Energy is not required.

In addition to this, a Stormwater and Hydrology Assessment were submitted with the EIS and additional information has been included in this Submissions Report (**Appendix G** and **H**) to assess the impact of the Proposal's stormwater outflows on the adjoining Coastal Wetland. The increase in frequent flows from the Proposal can be mitigated and will have minimal ecological impact on the wetland. The improved water quality through reduction of sediment load and nutrients may be of ecological benefit to wetland species.

The requirement for Koala food trees has not been satisfied.

This has been addressed in the response to government agency and council submissions (refer to **Section 4** and **Appendix D** of the response to submissions).

Light pollution will impact fauna utilising the coastal wetland habitat on and adjacent to the TVH site.

The submitted BDAR and BMP (Appendix U of the Stage 2 EIS) assess potential light spill from a biodiversity perspective. The assessment outlines that light sensitive species are presumed unlikely to be present at the Site and impacts of light spill is likely to be negligible. With the implementation of mitigation measures, it is assessed that there is a very low risk of light spill and visual amenity impacts from an ecological perspective. Measures have been provided in the BDAR and BMP to avoid where possible and otherwise minimise the potential impact of light spill on sensitive environmental receivers.

The TVH site is subject to bushfire, agricultural, coastal wetland and threatened species/ habitat regulated protection zones, generally from 50-300m. Part of the TVH building envelope and associated infrastructure is to be constructed within recommended buffer zones.

All environmental constraints and buffers have been considered and addressed in both the Concept Proposal/Stage 1 and Stage 2 applications. Siting of the hospital building envelope and associated infrastructure was determined by the Concept Proposal application which has been approved. The proposed modifications to the Concept Proposal (subject to a separate application) are minor and do not adversely affect buffers or sensitive environmental areas. Where part of the building envelopes and/or infrastructure do overlap with mapped buffers, this is not prohibited, and the appropriate level of assessment has been undertaken to demonstrate that there would be acceptable outcomes and no significant environmental impact.

3.4.20 SEAR 20: Sediment, erosion and dust controls

None noted.

3.4.21 SEAR 21: Aviation

Impact of helicopter movements on flying foxes and other birds.

Avipro was appointed to prepare an aviation report to support the Stage 2 EIS (Appendix V of the EIS). An updated report has been prepared and is attached at **Appendix N** to the Submissions Report. The report has adequately considered flying foxes and other birds.

In relation to flying foxes, the report concludes that:

"NSW Ambulance has assessed that helicopter movements associated with the Tweed Valley Hospital would be less than ten a month, with a typical expected average of six. Most transfers will be outbound, usually planned and during daylight working hours. Most non-serious cases will arrive by road, but occasional non-serious inbound patients can be expected to arrive by helicopter where there is great urgency e.g. imminent birth. A Helicopter Operations Manual specifically for TVH will be developed as part of the HLS commissioning process. It will be developed in conjunction with expert clinical and security/HLS management staff to document the processes and practices that will be applied to the reception and preparation for departure of HEMS helicopters. HEMS helicopters will predominantly arrive and depart in accordance with the designed approach and departure paths which at present are planned to be aligned North-South (N-S). The primary determinant in good HLS design must always focus on safety – to the helicopter crew, to hospital occupants and to the surrounding community. The drivers for such design factors are airspace considerations, prevailing winds, the presence of obstacles including those on the hospital structure and the availability of suitable forced landing areas. In the case of TVH, the preferred (safest) N-S approach and departure directions accord very well with avoidance of sensitive areas and the one known area of significant biodiversity interest (flying fox camp).

Orientation towards NW-SE would incur more direct overflight of the Kingscliff TAFE and Kingscliff High School campuses.

Orientation towards NE-SW would result in flight closer to the flying fox camp. Orientation East – West (E-W) would result in overflight of the Cudgen enclave and the western part of Kingscliff including the Kingscliff High School. On exceptional occasions, HEMS helicopters will arrive and depart on alignments other than the N-S alignment, but this will be for operational (safety) reasons such as excessively strong winds that do not fit with the published approach and departure directions. While, or once, an aircraft has safe single-engine flying speed the pilot is at liberty to manoeuvre and turn (even up to 180°) to suit the prevailing wind conditions or to comply with any relevant "fly neighbourly" procedures; or to avoid known areas sensitive to aircraft noise and vibration. Increasing rates of climb and descent (increasing flight path steepness) can be utilised to attempt to insulate sensitive areas from noise and vibration. In reality, no two approaches or departures will ever be alike. The inherent flexibility of a helicopter allows it to accommodate various flight profile changes in response to changing circumstances and requirements. Nearer to HLS commissioning, helicopter operators will be apprised of the exact location of the flying fox camp and procedures will be developed in consultation to provide maximum clearance on each occasion a HEMS helicopter approaches or departs the hospital. The location of the sensitive areas may be advised to ASA for possible inclusion in relevant publications."

3.4.22 SEAR 22: Waste

None noted.

3.4.23 SEAR 23: Construction hours

None noted.

3.5 Other comments not related to a specific SEAR

3.5.1 Consultation

The SEARs emphasised the importance of effective and genuine community consultation where a comprehensive open and transparent community engagement process must be undertaken during the preparation of the EIS. The subsequent community consultation has been extremely limited with only a very small selected group. The TVH project has not satisfied Stage 1 Works Condition A24, with limited information and documents publicly available on its website.

Extensive agency, stakeholder and community consultation and engagement activities have been and continue to be undertaken for the Tweed Valley Hospital Project, including that specific to Stage 2 and preparation of the EIS. Section 4 in the Stage 2 EIS is a high-level overview of this consultation, with thorough documentation in Appendix G of the EIS (Consultation Report). Additional consultation has occurred since lodgement of the Stage 2 application and this is outlined in **Section 2** of this report.

Health Infrastructure take compliance with conditions of consent seriously. Condition 24 of Schedule 3, Part A (conditions of consent for Stage 1 Works) has been satisfied, with information kept-up-to date as required. The relevant documents are available on the Project website - www.tweedvalleyhospital.health.nsw.gov.au/delivery/early-works/early-works-documents

4. Government Submissions

4.1 Government Agency Submissions

All government agency submissions have been considered and the key issues raised in relation to the Project are addressed in **Section 4.3** to **4.5** of this Submissions Report. Supporting responses and additional detail from relevant Project specialist consultants are attached as appendices. It has been noted where agencies have made general comments that do not require a more detailed response.

4.2 Summary of Government Agency Submissions

Submissions were received from the following Government agencies:

Federal Government

- Civil Aviation Safety Authority (CASA)
- Airservices Australia.

State Government

- Department of Primary Industries – Strategy and Policy
- Environment Protection Authority (EPA)
- Biodiversity Conservation Division (BCD) of DPIE (formerly Office of Environment and Heritage)
- Heritage Council of NSW
- Rural Fire Service (RFS)
- Roads and Maritime Service (RMS) (recently changed to/incorporated into Transport for New South Wales)
- Transport for New South Wales (TfNSW).

A Statement of Key Issues and other matters (including requests for information) was also received from DPIE. These are also addressed at **Section 4.5**.

Local Government and Other

- Tweed Shire Council (TSC).

4.3 Response to Government Agency Submissions

Table 4.1 provides a summary of the State government agency submissions received, the issues or comments raised, and provides responses to these.

Table 4.1 Response to Government Agency Submissions

Agency	*Issue/Comment/Recommendation*	*Response*
Federal Agencies		
Civil Aviation Safety Authority (CASA)	*Comments* ■ CASA has reviewed the relevant aspects of the applications including the updated Aviation Report and CASA has no issues with the report and no objections to the project. ■ I am advised that the comments provided by CASA on SSD 9575 on 26 November 2018 remain extant and a copy is attached for your information.	Noted.
Airservices Australia	*Comments* Airservices previous assessment for this application is still applicable (key previous comments below). **Airspace Procedures** ■ The maximum height of the hospital will not affect any sector or circling altitude, nor any instrument approach or departure procedure at Gold Coast Airport. ■ The hospital development will not affect any RTCC. ■ Procedures not designed by Airservices at Gold Coast Airport were not considered in this assessment. **Communications/Navigation/Surveillance (CNS) Facilities** ■ This proposal for a property development at the maximum height of 67.1m (221 ft) AHD will not adversely impact the performance of any Airservices Precision/Non-Precision Nav Aids, Anemometers, HF/VHF/UHF Comms, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links.	Noted and agreed.

Agency	*Issue/Comment/Recommendation*	*Response*
State Government Agencies		
Department of Primary Industries – Strategy and Policy	*Comments* ■ The Agricultural Offset Plan submitted does not provide any committed agricultural offsets. The concept approval requires the strategy to include a program of physical works or an implementation program to offset agricultural impacts from the development. No agricultural offsets are committed to in the submitted Offset Plan. Formal consultation regarding the Offset Strategy has also not been finalised. Once the final community consultation meeting is completed on 12 November, the Offset Strategy should be updated to discuss the results of this consultation and identify agricultural offsets or an implementation plan for offsets. Any implementation plan will require key performance indicators, ongoing monitoring and validation by the local agricultural industry.	An updated Agricultural Offset Plan has been prepared and is attached at **Appendix L**. The measures provided in the Agricultural Offset Plan are considered to be practical, reasonable and adequate measures in response to the conditions of consent and also reflect the outcomes of consultation with the established Cross Government Agency/Working Group, local farmers and the broader community.
	Comments ■ The Offset Plan also does not include a local food procurement strategy as required by conditions. While it is acknowledged that State Procurement Guidelines must be complied with a commitment could be made to sourcing local produce where feasible. The document references a 'Buy Local' scheme but no detail is provided as to what this is, or how it could be or is proposed to be applied to the Tweed Hospital.	As above – refer to the updated Agricultural Offset Plan at **Appendix L**, which also addresses matters related to a local food procurement strategy. The position is considered to be acceptable and adequate.
	Comments ■ Concerns over the impact to truck movements associated with agricultural businesses opposite the hospital is evident from consultation processes identified in the EIS. The Land Use Conflict Risk Assessment indicates that this issue is addressed within the Traffic Impact Assessment however it is unclear from this assessment, what mitigation measures other than the provision/location of additional hospital access points have been provided. Further consultation with affected landowners should be	As outlined in the traffic and transport response at **Appendix O**, no infrastructure changes are proposed to the frontage of agricultural properties that would impact access/movement of vehicles. All existing residential and commercial accesses have been maintained. The proposed works, including kerb and channel upgrades to Cudgen Road on the southern side, terminate prior to any heavy vehicle accesses so as not to impact these properties. Further, no medians are located where they would restrict existing heavy vehicle/truck movements.

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	undertaken to ensure their concerns have been adequately addressed.	Trucks may experience minor additional delays at the new signalised access intersection, consistent with all traffic, however considering the extremely low volume of trucks and instances when this occurs, this does not warrant specific additional mitigation measures over that already provided. The frequency of truck movements to the limited number of commercial properties in proximity to the proposed hospital is low, and no significant impacts have been identified. Provision of additional mitigation measures outside those catered for in the design of Cudgen Road accesses is not warranted. Ongoing engagement and consultation continues to occur through door knocks, letter box drops with adjacent properties and regular catchups with Cudgen Produce Farms.
	Comments ■ The Traffic Assessment also indicates that agricultural vehicle movements on Cudgen Road are infrequent as confirmed during a number of site visits. This should be confirmed with local landowners as a number of rural properties have approvals to operate tractors and machinery on Cudgen Road and Tweed Coast Road and have genuine concerns over the potential impact that increased traffic will have on their ability to continue routine agricultural operations. Ongoing monitoring of the traffic impacts to tractor/machinery operations and truck movements within the vicinity of the development should be included as a consent condition. This will require ongoing consultation with affected landowners, RMS and Tweed Shire Council to identify and implement further mitigation measures should this be required.	Slow moving vehicles (e.g. tractors) may slow general traffic when travelling on Cudgen Road, however the frequency of agricultural vehicles is low, and there is limited primary production zoned land to the north-east of the hospital to attract or generate these vehicles. There are also opportunities for agricultural vehicles to move off the carriageway onto the verge due to the rural cross section of the road (e.g. west-bound to the west of the Project site), or for vehicles to pass (e.g. where additional stand-up lanes are provided at the Tweed Coast Road/Cudgen Road intersection, or new signalised site access). Council is aware of the existing agricultural vehicle operations and this has been considered through their design and planning for the upgrade of Tweed Coast Road to four-lanes. The hospital is one of many trip generators in the surrounding area, which is planned for significant urban development to the north (Gales Kingscliff) and south (Kings Forest). Agricultural vehicles are subject to the permits and requirements of the National Heavy Vehicle Regulator. The National Heavy Vehicle Regulator dictates mitigation

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		measures that must be implemented by agricultural vehicles including signage and warning lights that must be displayed. It is agreed that on-going monitoring of agricultural vehicles on the public road network is needed for the surrounding area. It is important to note that this would be required by Council, through the local traffic committee (which includes representatives from Transport for NSW and NSW Police) irrespective of the hospital development. Hospital representatives would be a stakeholder to any ongoing consultation.
	Comments ■ It is understood that a four-lane upgrade of Tweed Coast Road between the Pacific Highway and Casuarina is identified as part of the Tweed Shire Council's Transport Network Plan. Although this is potentially not a consideration for this development, the feasibility of an underpass or alternative measure to support agricultural machinery movements within the local area could be included as part of the Agricultural Offset Plan discussions.	Noted. Council has undertaken a series of design and planning investigations for the Tweed Coast Road upgrade, including consulting with adjacent landowners. Provision of an underpass for agricultural vehicles is a significant piece of infrastructure and would be reliant on a range of factors, including available road reserve, civil, and stormwater requirements etc. Irrespective, this is not the responsibility of Health Infrastructure.
NSW Environmental Protection Authority (EPA)	*Comments* The EPA has reviewed the following documents: ■ Environmental Impact Statement New Tweed Valley Hospital – Stage 2 (Main Works and Operation) (GeoLINK 24/09/2019) ■ Noise and Vibration Assessment for SSA – Tweed Valley Hospital (Revision F JOHA 19/09/19) ■ Contamination and Site Audit – Interim Audit Advice (0503-1914-002: 771 Cudgen Road, Cudgen NSW (JBS&G 30 August 2019) ■ Operational Waste Management Plan – Tweed Valley Hospital (ttm 23/09/2019) ■ Tweed Valley Hospital Preliminary Construction Environmental Management Plan – Main Works (Lendlease 19 September 2019)	Noted and agreed.

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	■ Tweed Valley Hospital – Stage 2 Construction Waste Management Sub Plan (Lendlease Building Pty Ltd 5/09/2019). In reviewing the above documents, the EPA is satisfied that the management and mitigation measures and conclusions detailed in the advice and plans referred to above are adequate to manage the environmental impacts of concern relation to the proposed Stage 2 Works.	
Biodiversity Conservation Division of DPIE (BCD - formerly part of OEH)	***1.*** Stormwater and impacts on coastal wetland **a.** Greater effort should be given to reducing the stormwater volumes entering the basins, such as including more storage and reuse of runoff and more use of swales and raingardens in suitable locations. **b.** The recommendations outlined in the SMEC report for refinements to the basin outflow design and for greater channel infiltration to ensure stormwater discharge is managed to reduce impacts on the wetland should be incorporated into final engineering designs and documentation. **c.** Following the above actions 1 (a) and 1 (b), the SMEC report should be revised to better demonstrate that the impact of more frequent wetting events will be negligible or can be satisfactorily mitigated. **d.** Regular routine maintenance of the bioretention systems and enviropods should be included in an operational procedures plan. **e.** A condition of consent be included to ensure there is an emergency procedure in place to prevent contamination spills (such as diesel or other fuels) entering the sensitive receiving environment.	**a.** As per SMEC recommendations, a 400KL rainwater reuse tank has been included in the model to collect and store rainwater from the hospital roof to use for irrigation and the cooling tower. The results show that reusing stormwater will reduce the total stormwater discharge by approximately by 17ML per year on average. Robert Bird Group (RBG) has considered and confirmed that the other SMEC recommendation for use of infiltration treatment devices such as infiltration trenches, swales, rain gardens and permeable pavements etc could not be implemented due to slope slip failure on the steep batters around the site due to waterlogged subsoil. Because of the geotechnical risks, additional infiltration devices are not feasible. Also, the recommendation to remove the basin liner will not be feasible due to the same geotechnical risks mentioned above. The stormwater volumes entering the basin will not be further reduced from the existing limitation stated above of 17ML per year. The geotechnical advice received confirms that to include more infiltration devices would increase the risk of slope slip failure on the steep batters around the site due to waterlogged subsoil. For this reason, additional infiltration devices will not be provided, and the bio-detention basins will have an impermeable liner. Refer to **Appendix G**, **H** and **I** for more detail, including the updated hydrology report.

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		b. The basins were designed to cater for the 1% AEP (100-year ARI) major event and 20% AEP (20-year ARI) minor event in accordance with the basin design criteria. As per section 2.4.1.3 of the Coastal Wetland Assessment in the Hydrology Report (**Appendix H** - SMEC, August 2019), SMEC carried out additional model runs for frequent events such as 1EY, 4EY and 50% AEP, and recommendations were provided to incorporate multiple outlets. However, as part of the assessment more frequent events were evaluated to quantify the impact of the increase in flows to the wetland. Section 3.3 of Coastal Wetland Assessment in the Hydrology Report (SMEC, August 2019) states that the development site has minimal impact on coastal wetland levels, and effectively only fills the local depressions. Therefore, refining the basin outflow design for the 1EY, 4EY and 50% AEP would have minimal benefit and is not necessary for the protection of the Wetland. Additionally, according to geotechnical advice at **Appendix I** (Morrison Geotech – Clarification on General Drainage Comments – Tweed Valley Hospital – Cudgen Road, Kingscliff), the groundwater in the existing condition is connected to the wetland and therefore adding infiltration provides limited practical benefit. SMEC has updated their report (refer to **Appendix H**) and the recommendations accordingly. **c.** SMEC has updated the Tweed Valley Hydrology Assessment (refer to **Appendix H**). In particular, based on the comments received, sections 2.2 MUSIC Model Review, 3.4 Groundwater and 3.4.1 Recommendation of the report have been updated. The report demonstrates that there would be no significant impact to the wetland from more frequent wetting events and appropriate measures have been put in place for acceptable stormwater management. **d.** Noted. **e.** Noted.

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	2. Biodiversity Management **a.** The Biodiversity Management Plan (BMP) should be amended to specify where the single stinking Cryptocarya Cryptocarya foetida plant (sapling) to be removed from along the Cudgen Road boundary windrow has, or will be, translocated to, including mapping this location in Figure 4. If it has already been translocated, then the Biodiversity Development Assessment Report (BDAR) should report on how successful the translocation has been. **b.** The BMP should be amended to remove the recommendation that duck weed, Lemna spp. or azolla Azalia filicu/oides be introduced to outcompete and potentially suppress the growth of salvinia. **c.** Section 3.5 of the BMP states that no pets are permitted in areas of 'environmental conservation' on-site. The section should define the environmental conservation areas and how pet access will be restricted from the area. **d.** The threatened species monitoring, and reporting requirements must include details on who will commission the ongoing long-term monitoring and reporting for the Mitchell's land snail, who the reports will be sent to and who needs to act on them if the results show the population is declining. **e.** Implementation of the threatened species monitoring program should be included as a condition of consent. **f.** The detailed procedure for fauna surveys, fauna rescues (if required) and rehabilitation details provided in the BMP should be adopted.	**a.** The Cryptocarya has yet to be translocated. The construction contractor (Lendlease) was in the process of engaging a specialist bush regeneration subcontractor to undertake the Cryptocarya foetida translocation at the time this response to submissions was prepared. Once awarded, this subcontractor will be responsible for selecting a suitable translocation area inside the site boundary. It is anticipated that the proposed location of the translocated Cryptocarya would be in close proximity to the retained sapling also along the southern of site frontage boarding Cudgen Road. It will be in a similar placement in terms of its depth into the buffer and distance from the road. However, as a bush land restoration contractor has yet to be awarded and the works complete, the final location of the Cryptocarya will be formalised upon their advice. Once the translocation has been undertaken, the Stage 2 BMP will be updated to include details of the new location as well as report on how successful the translocation has been. **b.** The Stage 2 BMP will be amended prior to commencement of works to remove the recommendation that duck weed, Lemma spp. or Azolla filiculoides can be introduced to suppress the growth of Salvinia. **c.** Pets will be allowed on-site; however, they will be restricted by on-leash control. **d.** Noted. Stage 2 BMP Section 3.2.2.2 and Mitigation Measures 33 to 36 outline the responsibilities regarding the monitoring and reporting on the Mitchell's Rainforest Snail. **e** and **f.** It is noted that implementation of the threatened species monitoring program should be included as a condition of consent and the detailed procedure for fauna surveys, rescues (if required) and rehabilitation provided in the BMP should be adopted. The Stage 2 BMP will be updated with all required changes prior to commencement of works and in response to any Stage 2 conditions of consent.

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	3. Dam infill operation **a.** Include a requirement for the dam infill operations to be staged over a period of days to allow for adequate salvage of animals from the dam. **b.** Require the use of turtle/yabby nets to capture and relocate turtles, eels and yabbies that might have been missed through the electrofish/gill net operations. **c.** The capture method should employ not only opportunistic sweeps but systematic sweeps to hand net the decreasing sections of remaining water to capture any remaining fauna as it is incrementally infilled.	Noted. As per Stage 2 BMP Section 2.3.2.7, the dam infill operations are to be staged over a number of days to allow for adequate salvage of animals from the dam, additional methods will include the use of turtle/yabby nets along with electro fish/gill netting and systematic sweeps using hand nets. The Stage 2 BMP will be updated with all required changes prior to commencement of works and in response to any Stage 2 conditions of consent.
	4. Landscaping **a.** Consideration be given to opportunities to create more 'stepping stone' habitats throughout the lawn areas of the site and elsewhere if appropriate and expand landscaped areas in the south-west corner and along the perimeter road as they are not required to be managed for bushfire asset protection. **b.** The Turf report should provide details of how many koala food trees will be planted and the locations of these plantings. **c.** Consideration be given to planting koala food trees in the south west corner (Area 7 in the Landscape Zonal Plan (LZP)) and lawn area (labelled 10 in the LZP) along the northern boundary adjacent to the retained vegetation.	**a.** The current landscape design is based on a collaborative design process with the project ecologist. It has been advised by the project ecologist that “from a biodiversity/habitat connectivity perspective the bio-detention basins, vegetation buffers and garden bed plantings will contribute sufficiently to the stepping-stone habitat connectivity and ‘moist corridors’ across the site” (13 June 2019). Notwithstanding the above, additional landscaping to the base of tree clusters in Zone 10 will be provided for increased stepping stone habitat. This planting will: ■ Be of an area equal to the mature tree canopy spread for each cluster ■ Be locally indigenous native rainforest trees, shrubs and groundcovers ■ Consist of only species approved by the Bushfire consultant (within the APZ) ■ Include habitat features such as rocks that have been salvaged from other areas of the Site (cleared windrows) that will create habitat for ground dwelling species. **b.** A total of 42 koala food trees will be planted, evenly distributed within landscape zones 7 and 10. Refer to response (c) below for further details, and “Koala Food Trees

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		Markup" as part of the landscape response to submissions at **Appendix D**. **c.** Planting of Koala food trees has been considered in these areas, and the following approach is proposed: **LZP Zone 7:** Koala food tree species Tallowwood (*Eucalyptus microcorys*) and Small-fruited grey gum (*Eucalyptus propinqua*) will be included in the species mix for vegetated buffers. This is consistent with SSD2 EIS Landscape Report (S9.12 and Plant Schedules LS-SCH -90-001) and Stage 2 BMP (Appendix B). A total of 22 koala food trees (11 of each species) will be planted in locations as shown on the landscape zonal plan. This is considered to be the highest canopy tree density viable to simultaneously establish diverse, dense understorey planting in accordance with agricultural buffer requirements. **LZP Zone 10:** From a bushfire perspective, use of koala feed trees is possible within this area as long as they meet the landscaping requirements of PBP Pre-release 2018. Rather than including clusters of koala feed trees, these would need to be single trees (due to requirement for 2-5 m canopy separation). Koala feed trees within the Inner Protection Area (IPA) is not recommended. The Stage 2 BMP Appendix B recommended koala food tree species for Zone 10 are: *Primary food trees:* ■ Tallowwood Eucalyptus microcorys ■ Swamp Mahogany Eucalyptus robusta. *Secondary/supplementary food tree species:* ■ Small-fruited grey gum *Eucalyptus propinqua* A total of 20 Koala food trees (an even mix of available recommended species, evenly distributed throughout the zone) will be integrated into the existing tree planting general

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		arrangement, in accordance with the above canopy separation requirements. Refer “Koala Food Trees Markup” plan attached at **Appendix D**.
	5. Koala safety and fencing **a.** Koala crossing advisory signage should be installed on Turnock and Cudgen Road. **b.** A wildlife crossing to the north-east of the site where the Turnock Street roadway passes through the remnant vegetation between the two Turnock Street roundabouts should be established as per Mitigation Measure 34. **c.** A condition of consent be included to ensure that no boundary fencing will be in the retained vegetation. If any fencing is required, this should be installed in the lawn area and would also be a need to provide safe passage for koalas between the lawn area as it will contain koala food trees. Any fencing should be wildlife friendly and include a 'post and bridge' system or other koala friendly crossing in accordance with published guidelines (KRS 2009) to facilitate movement of koalas and other arboreal mammals.	**a.** Noted **b.** Noted **c.** Noted
	6. Aviation operations **a.** Revise the Avipro report to consider other potential locations for flying-fox camps, as identified in the Tweed and through discussions with Tweed Shire Council and any wildlife carer organisations operating in the region, such as the Elrond Drive, Chinderah flying-fox camp, be thoroughly investigated to ensure that if present the risks to these camps will also be a consideration for the helicopter operations. **b.** Require an Aviation Operations Manual to be prepared that includes: **i.** measures to reduce bird strike (including bats), **ii.** prescribes a planned approach and departure paths to the HLS that minimises impacts on environmentally sensitive areas, and	**a.** The Aviation Report (V1.4) has been amended to reflect known areas of sensitive fauna as per the Biodiversity Development Assessment Report (BDAR). Additional areas identified by AviPro from now on can be included in a final review of approach and departure paths prior to completion of HLS survey and commencement of HLS construction. Refer to **Appendix N.** **b.** Noted. It is recommended that this item be subject to detailed consultation between BCD and AviPro to ensure common understanding of aviation safety and helicopter operator legal/contractual limitations/requirements whilst maximising the preservation of fauna.

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	iii. requires documentation of all native fauna injuries and deaths in an incident register.	
	7. E2 zoning for retained vegetation **a.** Health Infrastructure to advise on progress to rezone the retained native vegetation in the northern part of the site to E2 Environmental Conservation.	It is understood that any such rezoning process, including Deferred Matter areas of the TLEP 2014, is related to Council processes. The site's previous rezoning to SP2 Infrastructure was undertaken by DPIE and approved by the Minister for Planning. Any further rezoning is outside the scope of and not applicable to this SSD application.
Heritage Council of NSW (Department of Premier and Cabinet)	*Comments* The subject site is not listed on the State Heritage Register (SHR), nor is it in the vicinity of any SHR items. The site also does not contain any known historical archaeological sites. Therefore, no further heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW. Please note that the Greater Sydney Planning Team within the Climate Change & Sustainability Division may provide separate comment in relation to Aboriginal cultural heritage.	Noted.
NSW Rural Fire Service	1. The development proposal is to comply with the Masterplan Plan-Concept Plan, prepared by STH Bates Smart for TSA Management numbered AR-SKE-10-006 revision 8 dated 11 September 2019.	Noted.
	2. At commencement of construction works and in perpetuity, the proposed asset protection zone (APZ), as identified in the Masterplan-Concept Plan shall be managed as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'. The APZ can generally be divided into a 47 m inner protection area (IPA) and 20 m outer protection area (OPA).	Noted.
	3. New construction shall comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959- 2009 'Construction of buildings in bushfire-prone areas' or NASH Standard (1.7.14 updated) 'National Standard Steel Framed Construction in Bushfire Areas - 2014' as	Noted.

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	appropriate and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection 2006'.	
	4. Water, electricity and gas supply services are to comply with Table 6.4c of PBP Pre-release 2018.	Noted.
	5. Landscaping is to be in accordance with Appendix 4 of PBP Pre-release 2018.	Noted.
	6. Access provisions are to comply with Table 6.4b of PBP Pre-release 2018.	Noted.
	7. An Emergency/Evacuation Plan is to be prepared consistent with the NSW Rural Fire Service document 'Guidelines for the Preparation of Emergency/Evacuation plans' and Australian Standard AS 3745 2010 'Planning for Emergencies in Facilities'. A copy of the emergency evacuation plan shall be provided to the consent authority and the Local Emergency Management Committee prior to commencement of the development.	Noted. This can be conditioned and prepared prior to commencement as per the RFS advice.
NSW Roads and Maritime Services (recently renamed and incorporated into Transport for NSW)	*Roads and Maritime Response* 1. The hospital is a major development, with the potential to have a significant impact on traffic and road users in the area. While the EIS has attempted to address the management of traffic to and from the hospital, as well the impact on general traffic using the same road network; we have identified some concerns with data provided and outcomes suggested. These are summarised below: ■ A new Traffic Impact Assessment (TIA) was not provided with Stage 2, although this was requested by Roads and Maritime and reflected in Stage 1 conditions. The document provided with Stage 2 has given some updated SIDRA outputs only, with no detail of the methodology used; for example, why different cycle times were used.	A detailed response from Bitzios to submission comments relating to traffic and transport has been provided at **Appendix O**. A new TIA was prepared for the Stage 2 EIS submission (specifically *P3378.006R Tweed Valley Hospital Project Stage 2 Traffic Impact Assessment* issued 23/09/2019). The TIA was prepared specifically for Stage 2 of the Tweed Valley Hospital application and incorporating the most recent and up-to-date development components, including assessment of traffic generation, parking demands and supply as well as more detailed internal layout designs.
	■ The tables in the body of the original (TIA) Version 5, dated October 2018 did not fully address the impacts of the development on the intersection of Tweed Coast and Cudgen Roads. The SIDRA	The road infrastructure works proposed as part of Stage 1 were appropriate to address the development's impacts (for the development yield proposed as part of Stage 1).

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	modelling used in Stage 1 was different to the modelling used for Stage 2, so comparisons were difficult to make between queue lengths, and the consequential impact on the intersection. The Level of Service (LOS), Degree of Saturation and queue lengths reflected significant differences between the two assessments (Stage 1 and Stage 2) and no detail was given to explain the changes.	Specifically, the most recent traffic modelling at the intersection of Tweed Coast Road/Cudgen Road demonstrates that the intersection operations are improved with the installation of the proposed upgrades and with design traffic volumes (i.e. forecast background traffic and development traffic) when compared to forecast background traffic with no intersection upgrades in place. The upgrades proposed as part of Stage 2 differed slightly to Stage 1. The Stage 2 assessment had higher traffic generation due to changes to staff and bed numbers. Results will therefore naturally differ between the two stages of assessment. SIDRA's Optimum Cycle time setting was used which changes cycle and phase times based on changes in demands to achieve the optimum delays and queuing and will therefore result in different results due to the change in demands. This is consistent with the adaptive design of on-site signal operator SCATS which constantly adjusts phase and cycle time based on demands.
	■ No indication was given with the current application as to where the data for the cycle times at the abovementioned intersection was sourced. Such data is typically available from Roads and Maritime, but no evidence was provided as to whether we were consulted to provide existing cycle lengths and phasing.	Section 3.7.4 of the Stage 2 TIA (version 6, issued 23 September 2019) identified that the phasing was adopted from the RMS (now TfNSW) Traffic Control Site (TCS) Plan. The TCS plan was obtained from RMS during the Stage 1 assessment process. It was also noted that the SIDRA optimum cycle time setting was used, given this is a future year assessment and is unlikely that the current phase or cycle times would be appropriate for future traffic demands. This is consistent with the adaptive design of SCATS which constantly adjusts phase and cycle time based on demands.
	■ Modelling was based on a future four lane upgrade of Tweed Coast Road being delivered but did not take a proposed future East/West Link into consideration (the exact alignment is yet to be determined). The timing of these road infrastructure projects is	Modelling was based on the current geometry with upgrades proposed to the current intersection form. It is noted Tweed Coast Road already has a four-lane form for the extent of the intersection. Ultimately the four-lane upgrade to Tweed Coast

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	unclear in relation to the hospital and no discussion was provided in respect to alternative solutions.	Road will tie-in on either side of the intersection. This was confirmed in consultation with Council during the meeting held on 31 July 2019. A conservative approach to traffic modelling was undertaken which assumed that the two planned east-west links to Kingscliff located to the north may not be constructed by the ultimate design year. Strategic modelling shows that once these new links are constructed, volumes on Cudgen Road intersection significantly reduce (as detailed in Section 3.7.4 of the Stage 2 TIA).
	■ Stage 1 consent condition B22 (c) requires plans for the upgrade for Tweed Coast Road/Cudgen Road intersection. The plans provided for Stage 2 have no dimensions and should be updated to include the additional lengthening of the Tweed Coast Road north-bound right-turn bay and left-turn deceleration lanes on Cudgen Road. No detailed plans were provided for the proposed traffic signals at the hospital entrance.	Updated plans (at **Appendix B**) have been prepared by Robert Bird Group (RBG) showing dimensions for the proposed intersection works (short lane lengths, tapers, lane widths etc.). Provision of detailed design drawings is not considered warranted for the purpose of planning development approval. It is recommended that provision of detailed design drawings for the proposed upgrades at the Tweed Coast Road/Cudgen Road intersection and signalised Site access to Cudgen Road be conditioned to be provided as part of the approval. Further to this it is noted that detailed design drawings will be required for the Section 138 applications to Council in order to undertake works. In addition, it is noted that the works involving traffic signal infrastructure will involve a Works Agreement Deed (WAD) with TfNSW and shall be conditioned accordingly.
	2. Observations taken from the EIS in regard to queue lengths, and our comments thereon are: ■ The SIDRA modelling estimated that the queue lengths on Cudgen Road were 202 m for left-turns and 289 m for right-turns. The eastern approach of Cudgen Road (E phase) provided only 35 seconds of green time. This will take at least two cycles (or more) too clear. Access to the left-turn lane will likely be blocked and west-bound through traffic will be delayed by the additional right-	The SIDRA modelling used the optimum time setting for the intersection, which aim to minimise delays and queues across the entire intersection. Increasing the E Phase split will result in additional delays and queuing on the other intersection approaches. It is noted that with the proposed upgrades, on the western approach the existing kerbside through lane will be changed to a right-through configuration. The purpose of this is to

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	turn traffic sharing the lane. It is suggested that this be given further consideration in line with clause 104(3) if the ISEPP to better understand the extent and duration of expected queuing during peak periods in the interests of identifying any measures required to accommodate forecast traffic demand.	increase the capacity of the east-bound right-turn movement from Cudgen Road to Tweed Coast Road. This right turn-movement is the dominant movement on this approach. It is re-iterated that the proposed upgrades, more than cater for the development's traffic impacts at the intersection as is demonstrated when comparing the operation performance between the existing geometrical layout (with background traffic volumes) to the proposed upgraded layout (with design traffic volumes).
	■ Left-turn lanes at the Tweed Coast Road/Cudgen Road at the access into the hospital should be designed in accordance with Austroads standards. They should be long enough to cater for deceleration and queued traffic due to pedestrian crossings or internal design. For a 60 km/h speed zoned area, this would require a minimum of 55 m plus queue length.	The only change to left-turn lanes at the Tweed Coast Road/ Cudgen Road is the proposed new left-turn lane on the northern leg of the intersection on Tweed Coast Road. The design provides a total length in the order of 200 m including the taper. This caters for left-turn queues at the year of opening (up to 180 m). The proposed turn lane adequately mitigates against the impacts of left-turning traffic associated with the proposed development and background traffic. The Auxiliary Left Lanes (AUL) proposed for entry at Access A and C have been designed in accordance with Austroads Guide to Road Design (ARGD) Part 4A. It is also noted that neither Access A nor C includes a stop condition. The proposed pedestrian crossings across each access are kerb ramps rather than zebra crossings, providing priority to vehicles. Access A is constrained by the subject site's western boundary, the adjacent driveway crossover of Lot 741 Cudgen Road and the heritage listed wall within the site. Access D is constrained by Access B, the proposed bus stops and the location of the TAFE access. Neither of these accesses can be extended, nor is it considered to be required. Furthermore, Access A and D form part of the approved Stage 1 Works.
	■ Modelling provided with the Stage 2 EIS has indicated that only 20 m storage was required for the east-bound left-turn deceleration lane. This should be lengthened to provide 55 m to cater for	SIDRA model results for the signalised Cudgen Road/Site access are presented in Section 5.4.4 of the TIA. The slip lane at the intersection is referred to in the results as Approach:

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	deceleration and queuing back from the hold line as only a single-entry lane is provided for both left and right turning entering traffic into the site. This change should also apply to the four other left-turn slip lanes (east-bound left-turn lane at Tweed Coast Road signals; and the three along the frontage of the site).	Southwest Cudgen Road (SW) and OD Movement: L2. The maximum 95th percentile queue length modelled in all scenarios was 2.4 m (i.e. less than one vehicle). The provision of a left slip lane (with a storage length of 20 m) was incorporated in the design to maximise the efficiency of the intersection operations. The provision of short left-slip lanes is common design practice, including at other intersections in the Tweed Shire. The design is also constrained by the requirement to provide a 30 m vegetated agricultural buffer between Cudgen Road and the main Hospital building.
	■ The existing left-turn slip lane for vehicles turning from the western approach to Cudgen Road into Tweed Coast Road has limited storage. SIDRA modelling indicates that this lane needs to provide more capacity. Any queuing will have a significant impact on through and right-turn traffic. It is noted that the northern side is constrained by existing residential. It is suggested that strategic drawings be provided to show queue lengths, and that Council/ State Government confirm that those lengths are acceptable and meet Austroads standards.	This is an existing intersection configuration and not the responsibility of Health Infrastructure, particularly given no development traffic is added to this left turn movement as a result of the proposed hospital.
	■ Lengthy delays at the Tweed Coast Road/Cudgen Road traffic signals may encourage traffic to seek other routes from the hospital. This has the potential to increase the existing left-turn demand at the hospital's traffic signals and at other local intersections to the east.	Forecast traffic distribution to the surrounding road network was based on distributions from the TSTM with the hospital located on the subject site as well as a first principle's assessment which considered the surrounding population centres and densities across the Tweed Shire. The majority of traffic will travel to and from the Pacific Motorway via Tweed Coast Road. In order to avoid the Tweed Coast Road/Cudgen Road intersection as suggested, traffic would need to detour via the local streets in Kingscliff, increasing both vehicle kilometres travelled (VKT) and vehicle hours travelled (VHT) which is undesirable for route choice selection.
	■ There is potential for conflict between exiting and queued merging traffic, on the internal road networks adjacent to the main entrance to the hospital, especially in the peak hours. It is suggested that the	The internal road layout has been designed with consideration to managing peak period traffic movements, most notably AM peak ingress movements and PM peak egress movements.

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	eastern left slip lane into the car park and the through merge should be separated to avoid such conflict. It is also suggested that bus bays be positioned on the departure sides of the traffic signals to avoid conflict.	Egress queuing capacity has been maximised through a double right turn in order to reduce queuing back into the site, along with a dedicated high angle left turn lane. The east-bound bus bay has been located on the departure side of the intersection. The west-bound bus stop has been located on the approach side to the intersection due to a number of constraints including, available road reserve, residential property access and widening works associated with the main access. While the TfNSW State Transit Bus Infrastructure Guide states it is 'often preferred' to locate bus stops on the departure side of the intersection, the guide acknowledges that the location needs to be considered on the individual characteristics of the site.
	3. The consent authority should be satisfied that adequate road infrastructure is in place with each stage of the development to cope with the capacity of traffic anticipated, and to guarantee the safety of the community and road users.	Noted.
	4. The positioning of the main access, bus bays and alternative ingress within close proximity to each other has the potential to compromise the ability to include any improvements in the future. This warrants further consideration at this time.	The main access design (including location) caters for traffic volumes in the 10-year design horizon. The intersection has also been designed to operate with some spare capacity to allow future increases in volumes and flexibility in the operation of the intersection.
	5. All regulatory signs, controls and traffic signal plans for internal and external roads should be referred to Tweed Shire Council's Traffic Committee for a recommendation. The internal roads are Road Related Areas and traffic regulations can be enforced.	Noted.
	6. It is noted that the western approach right-turn lane of the Turnock Street roundabout is also shared by the TAFE's access as an east-bound acceleration lane. The merge/diverge movements will have an impact on the efficient and safe operations of this approach lane. This should be noted and further considered.	The TAFE access and western approach to the Turnock Street/Cudgen Road roundabout is an existing arrangement. A range of changes were incorporated at the roundabout in consultation with Council to improve operations and safety, including widening of the roundabout where the new leg is proposed and reducing the number of movements through the

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		intersection, and simplifying the lane designations. These works have been approved as part of Stage 1 and the Section 138 application for construction is currently underway.
	7. The EIS mentioned provision of a Green Travel Plan (GTP), however little detail of content or actions was provided. The GTP should identify initiatives which can be undertaken to reduce the share of private vehicles used in trips to and from Hospital. These initiatives include encouraging use of the buses servicing the hospital, promoting car-pooling for staff; increasing active transport; and providing end-of-trip facilities. The GTP should include the following: ■ A detailed action plan comprising specific tasks needed to complete the proposed actions, the person/s responsible for completion of the task, completion date and anticipated costs. ■ Quantitative data and targets for appropriate sustainable transport mode share targets; ■ An implementation checklist to achieve the proposed initiatives; ■ Alternative actions to undertake where targets are not achieved; and ■ The set-up of a steering group or committee of relevant internal and external stakeholders to inform future targets and the ongoing monitoring and revision of the GTP for five years. It is requested that the Department consider the above points and include a condition to ensure the GTP is a relevant and useable document.	A draft Green Travel Plan (GTP) was prepared and included as Appendix F of the Stage 2 TIA, in support of the EIS. The GTP identified existing travel patterns and existing alternate public transport infrastructure and services. Specific targets were identified for public transport, walking and cycling mode shares, consistent with TfNSW's Regional NSW Services Infrastructure Plan. The Project is still in the planning and early construction phases. Preparing detailed action plans or commitments is not feasible at this early stage as numerous operational elements are still to be resolved in the lead up to opening in 2023. It is considered appropriate that a condition of the Stage 2 consent can require the Green Travel Plan to be finalised and submitted prior to occupation of the hospital, to the satisfaction of DPIE and TfNSW.
Transport for NSW	**Proposed new bus stops on Cudgen Road** *Recommendation* Details of the proposed new bus stops should be included in the drawings in support of the EIS documents to demonstrate the adequacy of the design and reference be made to the bus capable infrastructure guidelines and DDA compliance.	More detail of the proposed new bus stops (location, design and pedestrian access) has been provided with this Submissions Report (refer to plans STB-AR-DWG-PRW-1000012 and RBG-CV-DWG-RIE-87-301 at **Appendix B**). The level of detail is adequate for DA purposes and the bus stop design would satisfy infrastructure guidelines and DDA compliance, with detailed design to further address and demonstrate this.

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	It is recommended that the proponent be conditioned to undertake an independent Detailed Design Road Safety Audit (RSA, refer to NSW Centre for Road Safety Guidelines for Road Safety Audit Practices) of the proposed pedestrian facility improvements and bus stop arrangement on Cudgen Road, prior to issue of construction certificate. The proposed design shall address any deficiencies identified within the RSA.	In general, this second point is noted and agreed. This can be conditioned and addressed during detailed design, prior to issue of a construction certificate as indicated by TfNSW.
	Construction traffic impact *Recommendation* It is requested that the proponent must inform the local bus operator regarding proposed changes to traffic conditions during the course of the construction, particularly the upgrading works to the bus stops.	Noted and agreed.
	Preliminary Green Travel Plan *Recommendation* It is appreciated that not all of the above information may be immediately available, but that the proponent should ensure that the above items are considered/addressed and be included in the Green Travel Plan prior to occupation. It is also noted that there are proposed additional health, education, training and research facilities to be introduced to the site at a later date. It is therefore recommended that the Travel Plan identifies a process for including new precinct partners in the Travel Plan's initiatives, and access to its resources.	A preliminary GTP was prepared based on currently available information (as acknowledged by TfNSW) for the purpose of supporting the Stage 2 SSDA. During the detailed design phase and prior to the commissioning of the new hospital, more information, including staffing detail, will become available and the GTP will be updated and finalised. It is considered appropriate that a condition of the Stage 2 consent can require the GTP to be finalised and submitted prior to occupation of the hospital, to the satisfaction of DPIE and TfNSW.

4.4 Response to Tweed Shire Council Submission

Table 4.2 provides a summary of the Tweed Shire Council local government submission, the issues or comments raised, and provides responses to these.

Table 4.2 Response to Council Submission

Agency	*Issue/Comment/Recommendation*	*Response*
Local Government		
Tweed Shire Council *Note that the adjacent column lists Council's position and technical staff main comments/ recommendations. For full comments/detail refer to full submission letter from Council.*	*The matter was reported to the Planning Committee meeting of 7 November 2019 where the following was resolved:* *"RECOMMENDED that:* *1. Council in regard to Development Application DA19/0683 for the construction of the new Tweed Valley Hospital (NSW Planning & Environment App No. SSD 10353) and DA18/0685.01 Modification to the Concept Plan (NSW Planning & Environment App No. SSD 9575) at Lot 11 DP 1246853 No. 771 Cudgen Road, Cudgen endorses the Draft Council Submission at Attachment 1 with the following additions:* ***a.** Tweed Shire Council notes the commitment in February 2019 by NSW Deputy Premier John Barilaro and Member for Tweed, Geoff Provest that parking at the new Tweed Valley Hospital will remain free.* *https://www.tweeddailynews.com.au/news/tweed-heads-hospital-tobe-retained-for-medical-se/3643074/* ***b.** Council notes with grave concern recent media reports that this commitment may be abandoned by the NSW State Government and the Member for Tweed Geoff Provest.* ***c.** Council's requirement for Health Infrastructure to pay water and sewer developer contributions for this development based on their impact on Council's water and wastewater systems.* ***d.** An improved outcome for sustainability should be required over and above the proposed 4 Star Green rating as was achieved by the recently built 6 Star rated Sunshine Coast University Hospital, and the visual impact of the hospital building should be softened with living walls and a green roof in this highly prominent and visually sensitive site.*	Noted. Sustainability matters, traffic/parking and visual impact considerations/responses (amongst others) are provided in more detail throughout this table in response to specific recommendations identified in Council's submission.

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	2. *Council writes to the NSW Premier Gladys Berejiklian, NSW Deputy Premier John Barilaro and Member for Tweed Geoff Provest requesting on behalf of residents of the Tweed Shire that they keep their commitment for no paid parking at the new Tweed Valley Hospital."*	Noted.
	In regard to 1(c) of Council's position (above) in regard to water and wastewater headworks contributions was communicated to HI on 28 October 2019. The Council is of the opinion that contributions should be paid for water and wastewater headwork contributions. The alternative available to HI is payment of high consumption usage charge. HI previously made a decision to refer this matter to the Planning Secretary, however, Council would again stress a preference for the high consumption/usage charges which is outside the authority of the Planning Secretary. A copy of the letter dated 28 October 2019 can be provided to the Department upon request.	Noted and is currently being discussed/negotiated.
	Water & Sewer Infrastructure 1. Consistency across the documentation is sought regarding the beds in the proposed Hospital. The EIS document refers to 499 beds seeking an exemption of the additional 46 emergency treatment beds from loading calculations (transport and water and wastewater). However, Appendix R uses a figure of 545 beds. Please confirm and update with a consistent figure	A detailed response to water and sewer matters has been provided at **Appendix K**, with summarised responses provided as follows. Confirming that water and sewer demand calculations have been updated based on 499 overnight beds and 46 treatment beds, in line with the EIS. Refer to response letter at **Appendix K**.
	2. Despite loadings for the proposed Skills Centre being temporary, the water and wastewater loadings from this use shall be estimated. Further information is required to outline to Council how the developer proposes to discharge to Council's sewerage system during this staging/ construction period	Proposed water and sewer demands for the Skills Centre have been provided in the response letter at **Appendix K**.
	3. Errors have been made within the water and wastewater loading estimates in Appendix R. The EP to ET ratio has not been considered within the average dry weather flow (ADWF) calculations, which has led to an underestimation of flows provided within the report.	Updated, corrected wastewater figures have been provided in the response letter at **Appendix K**.
	4. Despite proposing a gravity sewerage system internally within the hospital lot, the developer has not provided peak wet weather flow	Noted – PWWF are considered negligible in this instance. Refer to response letter at **Appendix K**.

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	(PWWF) estimates. Industry and Council standards require that PWWF calculations are is provided as part of the assessment within Appendix R.	
	5. The 24-hour AWDF emergency storage of 200kL at the sewer pumping station outlined in Appendix R is insufficient due to the incorrect calculations outlined above.	The JHA response letter at **Appendix K** confirms that the 200kL emergency storage volume is adequately sized to cater for 24-hour emergency storage.
	6. The Water demand load estimate is incorrect. The EP to ET ratio has not been considered Appendix R and are underestimated – please update.	Confirming that the water demand estimates are correct and based on detailed analysis, as noted in response letter at **Appendix K**
	7. Water Storage tanks may be undersized as a result of the underestimated water demand and should be reviewed and updated in Appendix R.	Confirming that the water storage tanks are adequately sized for a three-hour period, as outlined in response letter at **Appendix K.**
	8. The Plans and Drawings in Appendix B (Part 5) shall update the connection shown to the Council sewer rising main to include a boundary kit at the hospital property boundary and a connection to Council standards within the road reserve.	Noted. An updated plan illustrating the boundary kit will be submitted to TSC for approval.
	9. As outlined within Stage 1 approvals, prior to any approval being issued for connection to Council's water and wastewater infrastructure, an agreement to provide services is to be in place. The agreement will address the conditions under which the applicant may connect to and use Council provided water supply and sewerage services and any fees to be paid by the proponent to Council or any works to be done by the proponent to satisfy Council's requirements. This requirement is recommended to stand as a condition of consent for Stage 2.	Noted.
	Parking & Traffic 10. The proposed road upgrades including existing and new intersection works, cater for the proposed development and all accesses and intersections operate within acceptable limits, with the exception of the Tweed Coast Road/Cudgen Road intersection. However, the proposed upgrades to this intersection are expected to improve current levels of service.	Noted and agreed.
	11. The increases in right turn traffic movements at the Cudgen Road/ Turnock Street roundabout, due to internal reconfiguration, has been modelled and does not significantly affect its level of service.	Noted and agreed.

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	12. The proposed upgrades to the Tweed Coast Road and Cudgen Road intersection are generally acceptable, given they were initially proposed as part of Council's Tweed Road Development Strategy.	Noted and agreed.
	13. At a meeting held between Council staff and the hospital project team on 21 October 2019, the potential to undertake additional infrastructure works at this intersection in conjunction with the hospital works was discussed. A 500mm sewer rising main is required through the intersection to connect the future Kings Forest development to the south to the Chinderah Waste Water Treatment Plant to the north. A significant upgrade to a transverse stormwater drain north of the intersection is also required and has been discussed with consultants for Gales Holdings to facilitate residential development in Cudgen/West Kingscliff. Council will continue to negotiate with Health Infrastructure on this matter.	Noted.
	14. While parking will be provided at a rate commensurate with Tweed DCP Section A2 – Car Parking and RMS guidelines, the implementation of a paid parking scheme may result in long term parkers, i.e. patients admitted for several days or months, parking on the adjacent street network. This may result in Council demands for timed parking on streets and public car parks in close proximity to the hospital.	Noted, however it is considered unlikely that long-term patients would leave vehicles parked in the surrounding streets for significant lengths of time rather than making alternate travel arrangements. It is expected that this will need to be monitored over time as part of site operations as well as periodical reviews of the hospitals Green Travel Plan (GTP). Further to this, HI provide the following responses: ■ While there is expected to be some impact to local roads, the new TVH facility will provide immediate and ongoing economic and social benefits for the community which will far outweigh any impact in this regard. ■ HI interact with Council in respect of their infrastructure projects in planning and delivery and put in strategies to mitigate the impact on surrounding roads. However, HI do not have jurisdiction over matters in respect of local streets/roads which would fall under the mandate, for instance, of Council. ■ HI allowed for gross projected visitors and staff parking for the future build requirements.

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		Accordingly, it is not expected that there will be any material impact on local streets. Whilst it is expected that there will be a proportion of visitors and staff who may park off-site, NSW Health will continue to work with Council in assessing local conditions once the hospital is commissioned in order to minimise impacts. ■ Parking impacts will also be mitigated through the implementation of demand management strategies (such as the GTP and end-of-trip facilities). ■ If parking fees are implemented, concessional parking will be available, with parking < 3 hours provided free of charge for eligible patients and their carers.
	15. Service Vehicle Access is considered appropriate and caters for the design vehicle.	Noted and agreed.
	16. Pedestrian access and alternate transport linkages are considered appropriate.	Noted and agreed.
	17. The following conditions of consent are specifically recommended for parking traffic: a. Any proposed paid parking scheme should be implemented in consultation with Tweed Shire Council to ensure that parking associated with the Tweed Valley Hospital does not adversely impact on adjacent residences or businesses.	Noted. Also refer to previous response to Council comment no.14 regarding parking and paid parking matters.
	b. All road works are subject to assessment and approval under s138 Roads Act and are to include street lighting plans complying with AS1158 V4 Category.	Noted.
	c. Applications shall be made to Tweed Shire Council under Section 138 of the Roads Act 1993 for any works pursuant to this consent located within the road reserve. Applications shall include (but not limited to) engineering plans and specifications undertaken in accordance with Council's Development Design and Construction Specifications for the following required works:	The statement requiring the upgrading of Cudgen Road to an Urban Road between Tweed Coast Road and Kingscliff TAFE is considered too broad. It is agreed that the hospital will undertake a series of works on Cudgen Road between Tweed Coast Road and the Kingscliff TAFE access, which will be to an

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	■ Cudgen Road is to be upgraded to an urban type road with kerb and gutter, street lighting, drainage, signage, line marking etc. from the existing kerb near the intersection of Tweed Coast Road/Cudgen Road to the existing kerb and gutter near the Kingscliff TAFE. ■ Two new bus bays to be provided on Cudgen Road to include all weather shelters and seating. A pedestrian refuge crossing to be provided near the bus stops including applicable footpath connections for pedestrians. ■ All intersection upgrade works including road works, stormwater, road furnishings, sediment and erosion control etc. ■ Relocation of existing services (i.e. relocation of electrical poles). ■ All Permanent site access provisions into the hospital site. ■ An ultimate urban road design shall be provided to cater for traffic volumes taking into consideration any future additions/extensions to the hospital. ■ The above-mentioned engineering plan submission must include copies of compliance certificates relied upon and details relevant to but not limited to the following: – Road works/furnishings – Stormwater drainage – Sediment and erosion control plans – Traffic Control Plan (as applicable) – A combined services plan indicating location of all new/existing service conduits (water, sewer, electricity supply, landscaping, gas and telecommunication infrastructure, as applicable). – Including submission of electrical reticulation plans clearly identifying the location of streetlights), underground cables and all other electrical infrastructure including transformers and substations. ■ Application for the Section 138 of the Roads Act 1993 shall be made to Tweed Shire Councils Development Engineering Unit where an invoice will be provided for assessment based on the rates contained in Council's current Fees and Charges at an hourly rate.	urban design standard. The extent of these works as presented in design plans prepared by Robert Bird Group (RBG) will incorporate the following: ■ on the northern side of Cudgen Road for the full site frontage ■ on the southern side of Cudgen Road generally for the extent of Access B connecting east to the existing kerb and channel at the TAFE access. Beyond this extent of works, the kerb and channel shall tie-back to the existing form. To the south west, the surrounding area remains rural and includes a number of rural/commercial accesses (i.e. “Mate and Matt’s Farm” at Lot 752 Cudgen Road). This configuration is consistent with Council’s previous road works in the area. The proposed extent of works also maintains the ability for agricultural vehicles to utilise the rural road shoulder on the southern side of the section of Cudgen Road west of the site. It is requested that conditions for road works on Cudgen Road incorporate wording as follows: ■ “All works for Cudgen Road as identified within plans prepared by Robert Bird Group shall be to an urban standard”.

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	Equal Access Issues 18. All drop off zones are to be conveniently located near necessary medical services.	Noted.
	19. These drop off zones are to have sufficient time restrictions to allow carers sufficient time to escort patients to the particular medical unit and return to the car for parking purposes.	Noted.
	20. Whilst it is practise to locate kerb ramps to the rear of shared zones of accessible parking spaces to allow to discharge and entry from the side of vehicles the discharge and entry from the rear of vehicles the area should be considered. Therefore, the rear of the accessible parking space is to be on grade or have a kerb ramp.	Noted.
	21. All accessible parking spaces are to be conveniently located near necessary medical services with a focus on reduced distance to medical services.	Noted.
	22. The internal road system is to be of sufficient dimension to allow the use of buses in the future access to convenient drop off locations to medical services.	Noted.
	23. Required Accessible parking spaces are prescribed in Part D3 of the BCA.	Noted. Accessible parking spaces would be provided in accordance with requirements.
	Stormwater Management 24. The SMEC Hydrology Assessment recommends various modifications to the Stormwater Management at the time of the report. The RBG SWMP appears to have been updated to incorporate the SMEC recommended modifications, but the design drawings pre-date the SMEC report. It is unclear if/when the SMEC recommendations are to be incorporated into the current design. Recommend this be conditioned with a typical condition referring to the SWMP and Hydrology Assessment.	The SMEC Hydrology Report, Section 2.4.1.3 states measures that could be implemented to more closely match pre-development flow rates in the very minor storm events (>1 event per year) under the title “Recommendation”, although SMEC have since clarified that there is negligible benefit to doing this in relation to the wetland ecology and the flows as shown in Table 7 are compliant with the standard TSC requirements. Furthermore, geotechnical advice has identified land slip constraints that prevent inclusion of additional infiltration. As such, it is not currently proposed to adopt these previously identified measures and the SMEC report has been updated accordingly. Refer to response letter from

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		RBG at **Appendix G** and the updated Hydrology Report at **Appendix H**.
	25. The SMEC report notes that: Capture and re-use of rainwater is proposed with roof runoff rainwater tanks (400ML) and recycling for on-site irrigation (14ML/yr). The JHA Integrated Water Management Plan outlines a basic plan to incorporate rainwater reuse for landscape irrigation and cooling tower uses. Recommend this be conditioned with a typical condition referring to the IWCMP.	Noted.
	26. The SWMP and associated Hydrologic Assessment do not provide any information on the changes to the Cudgen Road external catchments. Robert Bird Group drawings 350 and 351 show the catchments significantly reduced, however drawings 300-302 show increased impervious area. The impact of the development on stormwater discharges to adjacent private land must be quantified to confirm no worsening.	Noted. As outlined in the RBG letter at **Appendix G**, substantiation that stormwater flows will not be worsened by the development will be provided following completion of the detailed design of these areas. Based on initial assessment, controlling the stormwater discharge to ensure it is no worse than existing in the design storm events is expected to be readily achievable.
	27. The SMEC Hydrology Assessment notes that, whilst peak flow discharges can be mitigated to pre-development levels, the volumetric annual flow from the site will increase by over 50% (with mitigation) due to the development. Ultimately the consent authority must satisfy itself that the potential for stormwater nuisance has been reasonably mitigated (see Gales Holdings Pty Ltd vs Tweed Shire Council).	Noted.
	28. The SWMP and associated Hydrologic Assessment rely upon DRAINs and MUSIC software models. Only screenshots, not program files, have been provided with the submission and therefore these cannot be verified. Further information is required to verify the data.	This data has now been provided to DPIE.
	29. Catchment EX.1, from Cudgen Road, drains through the site via an open drain along the western boundary. As this is stormwater from public land draining through private (albeit Government), this should be formalised with an easement.	Noted.
	30. A condition should be applied requiring the stormwater treatment drain to be designed and constructed in accordance with the relevant Water by Design Guidelines. Suggested wording: “Bio-retention basins, or any other vegetated stormwater management measures, shall be designed,	Noted.

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	constructed and maintained in accordance with the relevant "Water by Design" guidelines (being a program of the South East Queensland Healthy Waterways Partnership).	
	Urban Design 32. Site Master Planning Recommendation (*note: refer to TSC full submission for preceding paragraphs that provide commentary that informed these recommendations*): a. That a holistic and hospital site master plan should be prepared which nominates future development stages and demonstrates how the overarching site configuration; b. Has been designed as an extension of the existing urban structure (rather than separate from) to consider ultimate road and pedestrian networks, development blocks, activity nodes, connections, areas of public domain, landscape corridors, legible access and egress points that will inform current and future stages of development across the site; c. Acknowledges the surrounding land use interfaces and nominate appropriate building form and envelopes which will be of a compatible scale with regard to character and view sharing; and d. Identifies opportunities for street edge and interface land uses which will have mutual benefits for the hospital and surrounding residential and education precinct catchment. This may include ease of access to small retail convenience stores, pharmacy, food and beverage outlets and public domain areas which may service hospital users as well as the TAFE and immediate residential areas within the hospital's walkable catchment.	Potential future development and consideration of master planning on the site has been adequately addressed previously, demonstrating capacity for future development as required, and informing a suitable development layout. The Concept Proposal and Stage 1 early works have been approved under SSD 9575. This approval (subject to the proposed minor modifications) confirms the hospital's development envelopes and associated road layouts, which have been further defined and designed in the Stage 2 application. Any future development applications would consider the broader hospital campus and land use context and be considered and assessed on their merits.
	38. Site planning and floor plate configuration recommendation (*note: refer to TSC full submission for preceding paragraphs that provide commentary that informed these recommendations*): a. Incorporation of additional opportunities to open up visual and physical connections across the site and buildings floor plates to the surrounding landscape and views in keeping with the original design intent. b. Create more legible east-west axis for pedestrian circulation considering width of circulation, height/volume, integration of landscape and natural light along its route(s).	A detailed architectural response is provided at **Appendix C**, with summarised responses below. a. Site planning allows for views and connection in a north-south and east-west orientation, reinforcing the key circulation axes which form the ordering principles of the building. Visual and physical permeability through the building has been consolidated to reinforce the reading of main entry points for visitors connecting the boulevard/site entry with the landscape to the north.

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	c. Consider the incorporation of a sky-bridge link between the car park and main hospital building. d. Review floor plate configurations to incorporate greater opportunities for courtyards and light wells which will draw in natural light and ventilation opportunities as well as open up more external and internal views. e. Review location of service plant areas which currently on some floors would occupy the best access to views and solar orientation.	b. The public entry corridor from the eastern entry and specialist drop off for Cancer and Renal services is not internalised and is reinforced by a 25 m north facing courtyard and voids connecting Lower Ground waiting areas. Clinical planning of the critical perioperative department has determined that the western courtyard is too great an impediment to patient and staff flows and was deleted for this reason only. c. The circulation path from the multi-deck car park to the hospital is covered and level and activated through high quality public space negating the need for an air bridge connection. The on-grade covered access to the lower ground level entry of the hospital by way of the landscaped 'green spine' should be considered high amenity and provide excellent accessibility and clear wayfinding. d. An optimal number of courtyards have been provided in line with the requirements of the Functional Brief. Strategic opportunities to provide access to external spaces and natural light could be achieved without compromising operational effectiveness. Advice from the agricultural consultant noted that courtyards and decks to the south of the Main Hospital were not recommended due to agricultural activity of adjacent farms and to minimise any potential for land use conflict. During extensive consultation with the NNSW LHD clinical staff, a number of layouts were tested for each of the departments. In particular, the Emergency Unit and the Integrated Perioperative Service underwent a number of iterative options to determine the "best fit" that would provide the necessary clinical flows and adjacencies to deliver optimal models of care. The inclusion of light voids and courtyards was considered within this process. A light void was contemplated within the Western podium occupied by the Emergency Unit and Perioperative Service.

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		Consultation with the clinical staff confirmed it increased critical travel distances between time sensitive clinical zones and was unable to provide the relevant clinical adjacencies for high acuity zones in these departments, thus providing a sub-optimal clinical outcome. It is noted that all other light wells and courtyards remain, in particular a number within the eastern podium which accommodate lower acuity clinical spaces such as Inpatient Units. e. The plant areas were positioned in response to the clinical planning requirements and demand for certain departments i.e. CSSD, Medical Imaging to be located as close to the clinical lifts as possible. The location of the plant was also considered in terms of vertical and horizontal proximity to the areas they are serving i.e. the demands of the Perioperative, Maternity and Emergency departments. These plant areas require high levels of air intake meaning they are required to be placed on the exterior of the building.
	45. Built Form and Design Response Recommendation (*note: refer to TSC full submission for preceding paragraphs that provide commentary that informed these recommendations*): There is an opportunity to explore architectural forms and material finishes to be more reflective of the Kingscliff coastal subtropical context. This could include: a. Greater diversity in elevation articulation and material finish. This could include more layered and or screened elevations relating to solar orientation aimed at reducing heat loads on elevations which would also introduce an additional layer of design detail. b. Exploration of a stronger horizontal rather than vertical elevation composition to further break down the buildings overall mass, scale and height and more fully explore the topographic and landscape relationship between the site and building. This could include cantilevering floor plate edges to create shaded overhangs and further articulation of the glazed facades transom and mullion configuration.	A detailed architectural response is provided at **Appendix C**. a. Glazing selection and specification will ensure the required performance requirements are met while providing a low maintenance façade which maximises views out to nature. b. The double-height expression which can vary between expressed levels results in a strong horizontal reading of stacked forms (refer to page 44 and 46 of the previously submitted Stage 2 Architectural and Urban Design Report). c. An optimal number of courtyards have been provided in line with the requirements of the Functional Brief. The position of these courtyards has taken into consideration the fire threat from the north and west, agricultural activity from the south and the downdraft from the

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	c. Revisiting previous ideas of integrating external landscape terrace and large balcony areas to upper floor areas to improve hospital user amenity and soften the buildings overall volumetric form and elevations. d. Updating photomontages with locational photographs to give a greater sense of scale and relationship between the building form, material finish, site and streetscape. e. Include a montage of the western approach to include the multi-story car park and any landscape screening proposed. f. Proposed Tweed Valley Hospital (below): Presents as a series of stacked volumes with strong vertical alignment of elevation and materials which accentuates overall height, mass and scale. This could be interpreted as having a 'heavy' visual presentation and not overly reflective of the subtropical coastal character. g. Reference Image (refer to TSC submission): Sunshine Coast Hospital – The layered and shaded elevations combined with stronger horizontal planes and floor plate overhangs, material diversity and use of colour presents as a more articulated building form with a sub-tropical character. h. Reference Images (refer to TSC submission): Northern Beaches Hospital – Montages presented as part of concept and development application stages alludes to a material diversity and strong integration of land scape (first image) however the built form outcome (second image) represents a departure from original material and building form concepts. It will be imperative to maintain design integrity of approved building materials and details of the Tweed Valley Hospital throughout the approvals and construction process.	helipad. These considerations have restricted the number of courtyards able to be included in the design. Additionally, IPUs will have high-quality panoramic views and will therefore offer high amenity and visual connection to the outside environment. d & e. These additional images have been included and an updated Visual Impact Assessment (VIA) prepared (refer to **Appendix E**). f. Noted. Refer to **Appendix C** for additional discussion regarding the design response. Overall, building forms diminish in size towards the periphery of the hospital, creating a collection of objects that move with and into the landscape, while a diverse material palette of earthy precast, lightweight metal cladding of varying scales and finishes continue a strong dialogue with the land. This comes together to create a calm and healing environment which is informed and inspired by the local agrarian context, resulting in a contemporary, functional and site-specific design response which reflects the community's relationship with the land. g. Noted. h. Noted.
	49. Pedestrian and cycle pathway recommendations (*note: refer to TSC full submission for preceding paragraphs that provide commentary that informed these recommendations*): a. That additional public domain areas be included within the site plan as high outdoor amenity areas of retreat and relaxation to enjoy the view and aspect. b. Consider all pathways linking car parks to the main building to be covered walkways. c. In addition to internal pedestrian and cycle routes, a pedestrian and cycle pathway should extend across the length of the sites Cudgen Road	a. The landscape design response provides a range of open spaces with high amenity – diverse in their scale, aspect, and intended use (responding to adjacent hospital program). Refer to the landscape architecture response for more detail at **Appendix D** (including Turf Design's response to TSC comment no. 47 previously). b. Covered awning walkways are located on the primary public entry points to the building and connections to key public transport hubs. Please refer to the diagram below in Fig.01 in **Appendix C**.

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	and in part Turnock Street frontage. This would then connect the hospital's passive movement network into Council's broader pathway network thereby linking the hospital site with the existing town centre. This is a key strategy within the draft Kingscliff Locality Plan and Development Control Plan.	c. The proposal includes retention of the existing shared pathway facility on the site's Cudgen Road frontage. The path is proposed to be reconstructed in sections at each of the four site accesses, and a Reconfiguration of Lot (ROL) will be required at various. Specific details around the footpath design at Access A and D were included in the associated Section 138 application. A new pathway has not been proposed for the full length of the Turnock Street frontage as this would not provide connection to the external network, instead a section of pathway has been proposed in conjunction with a new refuge crossing on the northern side of the Cudgen Road/Turnock Street, providing connection to the existing pathway on the eastern side of Turnock Street.
	Visual Impact Assessment (VIA) 59. Council is recommending that (*note: refer to TSC full submission for preceding paragraphs that provide commentary that informed these recommendations*): a. More detailed consideration of the key landscape character elements of each viewing location and qualitative discussion around the visual impact on those elements from each of the identified viewing locations. b. Consideration of light pollution and visual impact on night time views. c. Incorporation of green elements into the building design, on the vertical planes, such as landscaped terraces, vertical gardens or other elements that soften the appearance of the overall development and are more aligned with the subtropical architectural designs expected in this area. d. Consideration of the visual impact on views from intersections on Kingscliff Hill where vehicles are stopped at give way or stop signs and have full view of the development sit. These are key publicly accessible and moderately trafficked viewing locations with significant and highly valued views of Wollumbin (Mt Warning). e. Engage with affected viewers to consult on their visual quality values and identify their preferences for specific visual elements as seen in the existing view and the conceptual view including the proposed development. This should comprise the following matters:	An updated Visual Impact Assessment (VIA) (refer to **Appendix E**) has been prepared in response to the submissions received and requests from DPIE for additional information. The updated VIA provides more consideration of landscape character and qualitative discussion of impacts and scenic landscape values, including priority views identified in the draft Tweed Scenic Landscape Strategy. Night views and lighting have been addressed, supported by night photomontages. No significant or unreasonable impact is expected. Landscaping has been depicted and incorporated into additional landscape photomontages that have been included in Appendix B of the VIA. These demonstrate that the proposed landscaping strategy would be of substantial benefit to softening the appearance of the development and supporting its integration into the site and landscape. The visual impact on views from key roads/locations on Kingscliff Hill have been satisfactorily considered in the VIA.

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	f. Information sessions and discussion of the development site/area and the nature of the proposal with affected landholders and community g. Confirmation of which viewpoints are considered important by affected viewers and validation of their viewsheds; h. Capture community values about scenic qualities – that is, the landscape features and visual elements that viewers prefer (like/dislike); and i. Provision of photomontages generated from each viewing point to facilitate an understanding and discussion of potential visual impacts of the proposed development.	Consultation regarding the design and appearance, including visual impact of the hospital and scenic values of the locality, has occurred throughout the process and helped inform the assessment. This has been clarified/documented in the previously submitted consultation report and the attached updated VIA. Additional photomontages have been provided. Overall, the VIA is comprehensive in the number of viewpoints considered and provides an acceptable level of assessment. It demonstrates that the development is appropriate from a visual amenity perspective. The design response, high quality architectural merit, articulation and other design/mitigation measures reasonably integrate and soften the development's appearance in the landscape. Refer to **Appendix E** for the updated VIA.
	Heritage Impact 68. The following recommendations are made: a. Dry stone Wall 1 be retained insitu and made sound with extracted dry-stone wall material from walls 3 and 4 and that any new retaining wall is constructed behind the dry-stone wall. Note: Since originally writing this recommendation Dry Stone Wall 1 has now been demolished. b. Local South Sea Islander artists be engaged to assist in the development of the interpretation material in a culturally appropriate manner. c. All copies of Heritage Assessments and the Archival Recording be provided to the South Sea Islander Community representative groups and copies provided to the Tweed Regional Museum.	Noted.
	Agricultural Offset Plan B28 69. The proponent is required to provide an Agricultural Offset Plan with the Stage 2 application. The Agricultural Offset Plan is meant to include a strategy of physical works and/or implementation plans and programmes addressing how the development will offset the adverse agricultural	An Agricultural Offset Plan was submitted; however, an updated version has been prepared and is attached at **Appendix L**. The measures provided in the Plan are practical, reasonable and adequate measures in response to the conditions of consent and also reflect

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	impacts on the State Significant Farmland (SSF) of Cudgen Plateau and the land use risks associated with the siting of the hospital adjoining the agricultural uses (as identified in the Land Use Conflict Assessment Report prepared by Tim Fitzroy and Associates dated 18 October 2018).	the outcomes of consultation with the established Cross Government Agency/Working Group, local farmers and the community. Appropriate consideration has been given to land use risks.
	70. The Plan includes no work program or commitment to do anything. No strategy or plan of implementation has been specified apart from referencing the objectives of the Tweed Productive Land Use Working Group.	See above comment.
	71. It is noted that the Tweed Productive Land Use Working Group was established by the interagency committee in response to the need to address concerns about the loss of agricultural land and impacts on agriculture from the development and to focus on opportunities to support growth of local industries. Whilst the proponent is involved in the Working Group, it is chaired by Regional NSW with strong involvement from Tweed Shire Council and NSW DPI staff. In meetings of the Working Group, Health Infrastructure representatives have indicated that the purpose of the working is not to inform development of the Agricultural Offset Plan, despite the Agricultural Offset Plan indicating that this plan 'is a dynamic document that will be updated following consultation programme through the Productive Land Use Project sub-committee' (p.5).	Noted. Whilst the Tweed Valley Hospital Project may have been a catalyst for establishing the Tweed Valley Productive Land Use Sub-Committee/Working Group, it is important to note that it is part of a broader government initiative to support agriculture in the region. The Agricultural Offset Plan (at **Appendix L**) is specific to the Tweed Valley Hospital Project and not a document of the Cross-agency Committee or the Tweed Valley Productive Land Use Sub-Committee, however it refers to these groups/committees and associated consultation and initiatives as applicable.
	72. No adequate consultation has occurred with local farmers during development of the Offset Plan as required by condition B28(a). Appendix G – Consultation report includes reference to a discussion with a single farmer in close proximity to the development site. The Plan has not been informed by any consultation with local farmers or farm industry groups.	Consultation has occurred (including additional post-lodgement consultation) and the Agricultural Offset Plan has been updated accordingly, documenting this consultation and how it has further informed the plan (refer to **Appendix L**).
	73. The Plan provides no commitment to develop a local procurement strategy to supply fresh food to the hospital or provide a commitment to review and change any relevant State Purchasing policies to accommodate this new supply chain.	The updated Agricultural Offset Plan at **Appendix L** addresses the matter of a local food procurement strategy. The position posed is considered to be acceptable and adequate.
	74. Support to improve the production capacity of underutilised land in the Cudgen Plateau has not been considered or committed to as required by B28(h).	Such support is the aim of the Tweed Productive Land Use Working Group as part of a broader government initiative to support agriculture in the region, including on

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		underutilised land. The updated Agricultural Offset Plan satisfactorily addresses the relevant conditions.
	75. Council is unsure of the way forward with this. Perhaps a new condition to require the Agricultural Offset Plan to be rewritten to include an agricultural offset work plan including implementation plan, detailing who is responsible for what and by when.	The updated Agricultural Offset Plan satisfies the conditions of consent.
	Condition B7 76. Condition B7 states *"The site plan and the landscape master plan for the Stage 2 application must include the following as identified in the approved Landscape Zonal Plan prepared by Turf Design Studio dated 03/05/2019:* *(i) details of 'Koala food trees' to be planted in proximity to the identified potential koala habitat locations in vegetation Zone 6 of the Biodiversity Development Assessment Report prepared by Greencap dated January 2019."* 77. This condition is not clearly addressed. Koala food trees appear in broad planting species lists, but the Landscape Plans and BMP do not provide specific detail or direction on the use of these trees in the location required by this condition. It is suggested that the relevant plans are revised to provide this detail.	A total of 20 koala food trees are incorporated into the adjacent Zone 10 planting area (refer landscape zonal plan), spacing in accordance with canopy separation requirements for APZ. In addition to this, 22 Koala food trees are proposed in Zone 7, adjacent to Zone 10. For specific details of proposed locations for Koala food trees, please refer to "Koala Food Trees Markup" plan and the response from Turf Design at **Appendix D**.
	Acid Sulfate Soils 78. The hospital footprint and infrastructure is located within Class 5 acid sulfate soil on planning maps. Disturbance is not expected.	Noted and agreed.
	Aircraft Noise 79. Aviation Report (AviPro, 12/9/19) addresses aircraft noise during the operation of the hospital. The report addresses potential noise and vibration impact on sensitive neighbouring land uses in particular avoiding built-up and sensitive areas. Noted.	Noted and agreed.
	Air Pollution 80. Preliminary Stage 2 Construction Air Quality and Dust Management Plan (Lendlease Building Management System, 12/9/19 Revision 4.0) addresses strategies and mitigation measures to minimise and control the	Noted.

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	generation of dust, odour and emissions during construction of the Stage 2. 81. Recommendation - It is noted that dust monitors will be installed for Stage 2 if required. It is recommended that air quality monitoring systems are installed for the duration of Stage 2 to monitor key air quality parameters as outlined in the National Environment Protection (Ambient Air Quality) Measure including particulates (PM10 and PM2.5).	
	Contaminated Land 82. The applicant has engaged NSW EPA Accredited Site Auditor Andrew Lau of JBS&G Australia Pty Ltd to address contaminated land matters for the site. An Interim Audit Advice (0503-1914-002) dated 30/8/19 has been provided that includes remedial and validation strategies. Following completion of remediation and validation works, a Site Audit Statement will be provided certifying suitability for the proposed use. Noted. 83. The Infrastructure Master Plan (LCI Consultants, 12 September 2019 Revision SSD2) confirms underground petroleum storage systems (UPSS) are proposed including diesel fuel storage (for generators) in accordance with AS 1692 (double walled tank with leak detection). Above-ground fuel storage will be in accordance with AS 1940. 84. This was discussed with James Allen of NSW EPA 02 9995 5510 who confirmed the Appropriate Regulatory Authority (ARA) for UPSS on this site (public utility) will be NSW EPA. It is also noted that there is an exemption for complying with the Protection of the Environment (Underground Petroleum Storage Systems) Regulation 2019 for storage systems that are only used as a back-up generator in commercial or residential premises until 31 August 2021.	Noted.
	Food Premises 85. Although limited information has been provided with respect to the preparation of food, hospitals typically have both retail sale of food (Council regulated) and kitchens for the preparation of food for patients (NSW Food Authority regulated). 86. Plans for food areas are assessed and approved by Council (Application fees apply – See Council's Fees and Charges).	Noted.

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	87. Recommendation - Discussion with Julie Crawford, Audit and Verification Officer of Department of Primary Industry (NSW Food Authority) confirmed that she is available to review and comment on plans in the food preparation areas that will require a licence from NSW Food Authority. Julie can be contacted on 0429 410 022 or juliecrawford@dpi.nsw.gov.au. 88. The following food premises conditions shall apply: a. Prior to the construction certificate being issued for Stage 2, plans drawn to a scale of 1:50 detailing the following with regards to all food related areas shall be provided to Council for assessment and approval, accompanied by a completed Application for Approval of Food Premise Fit out and the adopted fee in Council's Fees and Charges. Evidence of the plans being approved shall be provided prior to release of the construction certificate: i. Floor plan and elevations; ii. Layout of kitchens and all equipment; iii. All internal finish details including floors, wall, ceiling and lighting; iv. Hydraulic design in particular method of disposal of trade waste; and v. Mechanical exhaust ventilation as per the requirements of AS1668 Pts 1 & 2. b. All walls in the food preparation and storage areas shall be of solid construction. For this purpose, walls in such areas may be of masonry or stud wall construction. If stud wall construction is used, then the wall shall be lined as a minimum with high impact resistant material e.g. Villaboard or Versilux lining or other suitable material(s) approved by Council's Environmental Health Officer and tiled to a height of at least two metres. Masonry walls where not tiled may be cement rendered to provide a smooth faced impervious finish up to the underside of the ceiling. Metal stud wall framing in lieu of timber framing shall be used in areas where the walls and floor surfaces will be subjected to high levels of moisture or alternatively as directed by Council's Environmental Health Officer.	

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	All penetrations of the wall surface in food preparation areas shall be effectively sealed to the satisfaction of Council's Environmental Health Officer. c. All flooring materials in the food preparation and storage areas are to be impervious, non-slip, non-abrasive and capable of withstanding heavy-duty operation. Where tiling is to be used, epoxy grout finished flush with the floor surface is to be used in joints or alternatively all tiles are to be butt joined and free of cracks or crevices. d. Windows and doors opening into food handling, preparation and storage areas shall be pest proofed in accordance with the provisions of Food Safety Standard 3.2.3. e. Separate hand washing facilities must be provided with warm water and located in a position where it can be easily accessed by food handlers and be of a size that allows easy and effective hand washing to the satisfaction of Council's Environmental Health Officer. f. A floor waste connected to the drainage system shall be provided within 1.5 m of the opening of each cool room. g. During the course of the construction and fit out of the kitchen/food premises periodic inspections must be arranged with Council's Environmental Health Officer to ensure compliance with all health-related conditions of approval and respective legislation. h. Prior to commencement of operations and on completion of fit out an inspection is to be arranged with Council's Environmental Health Officer for final approval. i. The proprietor of retail food premises shall provide appropriate notification to Council prior to commencement of operations by completing the "Food Premises Registration" form at www.tweed.nsw.gov.au or alternatively by contacting Council on 02 6670 2400. j. Facilities that provide food services to vulnerable persons shall provide appropriate notification to the NSW Food Authority prior to commencement of operations on 1300 552 406. k. The premises is to be treated on completion of fit out and prior to commencement of trading and thereafter on a regular basis by a Licensed Pest Control Operator. A certificate of treatment is to be made available for Council inspection on request.	

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	l. Any premises used for the storage, preparation or sale of food shall comply with the Food Act 2003, FSANZ Food Safety Standards, AS 4674, AS 1668, and requirements of the NSW Food Authority and Council's Environmental Health Officer.	
	Land-use conflict 89. A Land Use Conflict Risk Assessment (Tim Fitzroy & Associates, 23 September 2019) addresses proposed mitigation measures including vegetated buffers, supplementary plantings, orientation of hospital buildings, open spaces, and restrictions on the use of roof water, pest and vermin management, and recommendations for traffic and access, noise impacts and stormwater management in association with various consultant reports. Noted.	Noted and agreed.
	Lighting 90. An External Lighting Strategy Report (LCI Consultants, 12/9/19 Revision P5) has been prepared. Light spill to adjacent areas will be minimised with the use of directional fittings and shielding to direct light to appropriate locations. Helipad lighting will include red flashing aviation warning lighting. Noted.	Noted and agreed.
	Mosquito and Biting Midge 91. Design consideration has been given to minimise the impacts of mosquito (including mosquito breeding) and biting insects on the users of the hospital including earth works and landscaping affecting ground water drainage, landscape design proposals, the planning and design of usable outdoor space. 92. As mechanical ventilation is required; the provision of openable windows will be limited. Where opening windows will occur, integration of a fine meshed fly screen will be provided. At operational stage the hospital will need to implement a range of maintenance and control procedures to safeguard the wellbeing of all its users. 93. The following condition shall apply: a. Mosquito and biting insect's management measures shall be incorporated into the final development in accordance with the Tweed Shire Development Control Plan - Section A6 – Biting Midge and Mosquito Controls.	Noted.

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	Noise 94. Stage 2 Construction Noise and Vibration Management Plan (Lendlease Building, 20/919 Revision 3.0) and Stage 2 Noise and Vibration Impact Assessment (JHA Services, 19/9/19 Revision F) is noted. The reports establish relevant noise criteria, predicted noise impacts on nearest sensitive receivers, and construction and operational noise mitigation measures. Noise levels are expected to meet the criteria for construction, operation, and road traffic noise. Noted.	Noted and agreed.
	Onsite Sewage Management 95. The sewer pump unit and rising mains for the development will be owned, maintained and operated by the property owner. 96. The design of sewer pumping station shall comply with the Water Services Association (WSA) standards WSA02-2002-2.3 or WSA07-2007 for Pressure Sewerage. 97. The sewer pumping station is to be constructed in a flood proof well with electrical equipment located above 1 in 100 ARI. Pumps should be designed to pump a minimum of less than every eight hours to reduce septicity in the pump well and rising mains. Pump system shall be sized for industrial/commercial and not domestic requirements. 98. At least 24 hours emergency storage capacity shall be provided within the sewer pump system, or hours of storage equivalent to the operating hours of the commercial property per day. 99. The maximum flow rate discharge from the sewage pump station shall not exceed 5 L/sec. 100. The following conditions shall apply: a. Prior to the issue of any Construction Certificate for Stage 2 the applicant shall provide a hydraulic design report certified by a qualified hydraulic engineer. The report should include but not be limited to: i. detailed hydraulic drawings; ii. design specifications including the maximum flow rate of discharge from the pump station; iii. the retention holding capacity of the pump-well; and iv. details of operation and maintenance.	Noted: 96 – Sewer pumping station to be designed in accordance with AS/NZS 3500.2. 99 – 5.0 l/s has been confirmed by TSC as being a misprint. 35.0 l/s has been confirmed by TSC as being the correct maximum allowable pump out rate.

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	b. Prior to the issue of any Construction Certificate for Stage 2, the applicant is required to obtain approval to install a private sewage ejection pump station under Section 68 of the *Local Government Act 1993*. c. Prior to the occupation of any building and prior to the issue of any occupation certificate approval to operate the on-site sewage management facility under Section 68 of the Local Government Act 1993 shall be obtained from Council.	
	Public Health - Microbial Control 101. Four cooling towers are proposed at the site and it is anticipated that many warm-water systems will also be required. Water cooling systems and warm water systems require registration with Council and compliance with the Public Health Act 2010 and Public Health Regulation 2012. 102. The following conditions shall apply: a. Any 'regulated system' as defined in Section 26 of the *Public Health Act 2010* shall be installed, operated and maintained in accordance with the Public Health Regulation 2012. b. Within one month of installation and prior to the systems operating, all cooling water systems and warm-water systems shall be registered with Council using Approved Form 6 available at https://www.health.nsw.gov.au/environment/legionellacontrol/Pages/legionella-protocols.aspx. c. A Risk Management Plan for each cooling water system must be completed prior to the cooling water system operating. The Risk Management Plan and Certificate of Risk Management Plan Completion shall be prepared using Approved Form 1 available at https://www.health.nsw.gov.au/environment/legionellacontrol/Pages/legionella-protocols.aspx and submitted to Council within seven (7) days of completion.	Noted.
	Waste – Including spoil (VENM + ENM) 103. An Operational Waste Management Plan (TTM, 23 September 2019 Revision RP01_04) confirms that all waste will be collected via the dirty loading dock on the western side at basement level. 104. Cut and fill is also proposed for the site where the applicant will be required to address the NSW EPA Waste Classification Guidelines.	Noted.

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	Water Supply The Integrated Water Management Plan (JHA Services, 20 September 2019 Revision F) confirms that potable water for human consumptions, hygiene purposes, cistern flushing, and process equipment will be supplied from Council's reticulated water supply. Non-potable water will be used for supplementary landscape irrigation and cooling tower makeup water. Noted.	Noted.
	Static Water Supply (Water Tank) For Fire Fighting Purposes 105. The static water supply (water tank) required for firefighting purposes was previously identified on previous site plans. 106. The applicant confirmed the capacity of the combined fire hydrant/ sprinkler tank located in the Central Energy plant is 424 kilolitres. The Department will need to assure themselves that such storage is sufficient.	Noted.
	Building Code of Australia & Certification Requirements 107. A construction certificate is not required for Crown building work which Section 6.7 of the EP&AA 1979 No 203 which requires building work to be certified to comply with the Building Code of Australia. However, the Crown is not exempt from inspections under the *Plumbing and Drainage Act 2011* and accordingly the following conditions are recommended: GENERAL a. The issue of this Development Consent does not certify compliance with the relevant provisions of the Building Code of Australia. b. Approval is given subject to the location of, protection of, and/or any necessary approved modifications to any existing public utilities situated within or adjacent to the subject property. Any necessary adjustment or modification of existing services is to be undertaken in accordance with the requirements of the relevant authority, at the Developer's expense. c. An application (Application for Approval of Plumbing and Drainage Work on Private Land or Crown Land) shall be lodged together with hydraulic drainage and water supply details and any prescribed fees including inspection fees and approved by Tweed Shire Council under Section 68 of the Local Government Act for any water, sewerage, on-site	Noted.

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	sewerage management system prior to works commencing including temporary structures containing sanitary facilities.	
	PRIOR TO COMMENCEMENT OF WORK d. A temporary builder's toilet is to be provided prior to commencement of work at the rate of one closet for every 15 persons or part of 15 persons employed at the site. Each toilet provided must be: i. a standard flushing toilet connected to a public sewer, or ii. if that is not practicable, an accredited sewage management facility approved by the council e. Please note that while the proposal, subject to the conditions of approval, may comply with the provisions of the Building Code of Australia for persons with disabilities your attention is drawn to the Disability Discrimination Act which may contain requirements in excess of those under the Building Code of Australia. It is therefore recommended that these provisions be investigated prior to start of works to determine the necessity for them to be incorporated within the design.	Noted.
	DURING CONSTRUCTION f. All proposed works are to be carried out in accordance with the conditions of development consent, any approved Management Plans, approved Construction Certificate, drawings and specifications. g. During construction, all works required by other conditions or approved management plans or the like shall be installed and operated in accordance with those conditions or plans. h. Should any Aboriginal object or cultural heritage (including human remains) be discovered all site works must cease immediately and the Tweed Byron Local Aboriginal Land Council (TBLALC) Aboriginal Sites Officer (on 07 5536 1763) are to be notified. The find is to be reported to the Biodiversity and Conservation Division of the NSW Department of Planning, Industry and Environment. No works or development may be undertaken until the required investigations have been completed and any permits or approvals obtained, where required, in accordance with the *National Parks and Wildlife Act 1974*. i. Commencement of work, including the switching on and operation of plant, machinery and vehicles is limited to the following hours, unless otherwise permitted by Council:	Noted.

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	i. Monday to Saturday from 7:00 am to 6:00 pm ii. No work to be carried out on Sundays or Public Holidays j. The proponent is responsible to instruct and control subcontractors regarding hours of work. k. All building work (other than work relating to the erection of a temporary building) must be carried out in accordance with the requirements of the Building Code of Australia as required by Part 6 Division 6.3 Section 6.7 of the Environmental Planning and Assessment Act 1979 No 203. l. Provision shall be made for the collection of builder's solid waste in accordance with the following requirements: i. A temporary builder's waste chute is to be erected to vertically convey builder's debris to a bulk container. ii. The chute shall be located in a position approved by the Principal Certifying Authority. iii. A canopy shall be provided to the chute outlet and container to reduce the spillage of materials and nuisance caused by dust. m. Building materials used in the construction of the building are not to be deposited or stored on Council's footpath or road reserve, unless prior approval is obtained from Council. n. It is the responsibility of the applicant to restrict public access to the construction works site, construction works or materials or equipment on the site when construction work is not in progress or the site is otherwise unoccupied in accordance with WorkCover NSW requirements and Work Health and Safety Regulation 2017. o. Excavation: i. All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with WorkCover 2000 Regulations. ii. All excavations associated with the erection or demolition of a building must be properly guarded and protected to prevent them from being dangerous to life or property.	

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	p. If the work involved in the erection or demolition of a building: ■ is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient; or ■ building involves the enclosure of a public place; a hoarding or fence must be erected between the work site and the public place in accordance with the WorkCover Authority of NSW Code of Practice and relevant Australian Standards. Where necessary the provision for lighting in accordance with AS 1158 - Road lighting and provision for vehicular and pedestrian traffic in accordance with AS 1742 shall be provided. Any such hoarding, fence or awning is to be removed prior to the issue of an occupation certificate/subdivision certificate. Application shall be made to Tweed Shire Council including associated fees for approval prior to any structure being erected within Councils road reserve. q. All work associated with this approval is to be carried out so as not to impact on the neighbourhood, adjacent premises or the environment. All necessary precautions, covering and protection shall be taken to minimise impact from: ■ Noise, water or air pollution ■ Dust during filling operations and also from construction vehicles ■ Material removed from the site by wind. r. Pursuant to the provisions of the *Disability Discrimination Act 1992* (Commonwealth) the design of the proposed development shall facilitate access for the disabled in accordance with the relevant provisions of AS1428- Design for Access and Mobility. s. The builder must provide an adequate trade waste service to ensure that all waste material is suitably contained and secured within an area on the site and removed from the site at regular intervals for the period of construction/demolition to ensure no material is capable of being washed or blown from the site.	

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	t. Council is to be given 24 hours' notice for any of the following inspections prior to the next stage of construction: ■ internal drainage, prior to slab preparation ■ water plumbing rough in, and/or stack work prior to the erection of brick work or any wall sheeting ■ external drainage prior to backfilling ■ completion of work and prior to occupation of the building. u. Plumbing: ■ A plumbing permit is to be obtained from Council prior to commencement of any plumbing and drainage work. ■ The whole of the plumbing and drainage work is to be completed in accordance with the requirements of the Plumbing Code of Australia and AS/NZS 3500. v. Back flow prevention devices shall be installed wherever cross connection occurs or is likely to occur. The type of device shall be determined in accordance with AS 3500.1 and shall be maintained in working order and inspected for operational function at intervals not exceeding 12 months in accordance with Section 4.7.2 of this Standard. w. Overflow relief gully is to be located clear of the building and at a level not less than 150 mm below the lowest fixture within the building and 75 mm above finished ground level. x. All new hot water installations shall deliver hot water at the outlet of sanitary fixtures used primarily for personal hygiene purposes at a temperature not exceeding: ■ 45ºC for childhood centres, primary and secondary schools and nursing homes or similar facilities for aged, sick or disabled persons ■ 50ºC in all other classes of buildings. A certificate certifying compliance with the above is to be submitted by the licensed plumber on completion of works.	

4.5 Department of Planning, Industry and Environment Statement of Key Issues and Requested Additional Information Applicable to Stage 2

The Department of Planning, Industry and Environment (DPIE) required Health Infrastructure to respond to a number of matters to assist it in its assessment of the Stage 2 SSDA. These matters are identified as key issues and requests for additional information. The Project team's response is provided below.

4.5.1 Key Issues

4.5.1.1 Built form and landscaping

Issue

The design of the proposed hospital building requires further refinements to improve the visual impact of the development on the surrounding areas and the internal amenity of the patients/visitors/staff.

Response

STH and Bates Smart Architects (STH+BS) have provided a detailed Architectural and Urban Design Response at **Appendix C**. This response covers design, amenity and visual impact matters raised by TSC and DPIE.

STH Bates Smart Architects outline that the hospital form has been conceived as a collection of objects in the landscape, incorporating a distinct hierarchy to differentiate built form and aid with wayfinding (refer to pages 41-52 of the previously submitted Stage 2 Architectural and Urban Design Report).

The tallest L-shaped in-patient units form a quadrant, setting up a clear and intuitive wayfinding strategy and two very clear east-west and north-south axes from which to enter the building (Page 45 and 50). The quadrant anchor form facades in the 'east-west' axis take on a secondary patchwork expression with lightweight metal cladding applied in both a horizontal and vertical direction. The double-height expression which can vary between expressed levels results in a strong horizontal reading of stacked forms (refer to page 44 and 46 of the Stage 2 Architectural and Urban Design Report).

The lower levels of the hospital are expressed as smaller scale granular forms, establishing a streetscape rhythm and employing a palette of earthy pigmented concrete, separated by recessive breaks to create a more human scale interface which avoids long continuous expanses of façade (page 49 of the Stage 2 Architectural and Urban Design Report).

Overall, building forms diminish in size towards the periphery of the hospital, creating a collection of objects that move with and into the landscape (page 55 of the Stage 2 Architectural and Urban Design Report), while a diverse material palette of earthy precast, lightweight metal cladding of varying scales and finishes continue a strong dialogue with the land (Page 52). This comes together to create a calm and healing environment which is informed and inspired by the local agrarian context, resulting in a contemporary, functional and site-specific design response which reflects the community's relationship with the land.

The current design of the proposed hospital building responds to functionality, the clinical needs, the site, and maximises access to the exceptional views. The building fabric is of high quality and the conceptual strategy and design outcome has had continued support from the local community through the numerous reference group workshops conducted throughout the concept and schematic design phase.

As outlined in Section 5.4 of the Stage 2 EIS, the proposed built form massing is the result of extensive design analysis undertaken by HI and STH+BS, including detailed consideration of feedback from four State Design Review Panels (SDRPs) and the Government Architect of NSW (GA NSW). This is documented in the Stage 2 Architectural and Urban Design Report at Appendix C of the EIS. The proposed design achieves an optimum urban design outcome for the site, with regard to a range of complex variables, environmental considerations and stakeholder requirements. The height, density, bulk and scale of the building, including the setback and position of the hospital are considered to be acceptable and account for clinical needs and visual amenity considerations, amongst other things.

Whilst the hospital building and multi-deck car park are taller than surrounding development, the main built form massing and density is located centrally within the site and away from more sensitive uses. The Health Hub buildings present as an ensemble of human scale pavilions that interface with Cudgen Road and the main site entry point. They provide a locally recognisable built form scale and effective scale transition between the streetscape and the site.

The Project represents high quality architectural design, featuring materials and finishes that reflect the locality and are responsive to the landscape setting. The buildings, complemented by the landscape design and range of proposed plantings (as depicted in the additional landscape photomontages contained within the updated VIA at **Appendix E**), provide a contemporary architectural response to the site's history and context, including references to agricultural land uses and the Australian landscape. The landscape design response is comprehensive, effective and suitable for the proposed land use. The additional photomontages demonstrate the substantial benefit of the proposed landscaping/vegetation in helping to integrate the development into the site and filter/ soften its appearance from surrounds. A detailed urban design analysis, including consideration of design quality, site layout, streetscape, façade, material expression, form, and master planning, is provided by the Architectural and Urban Design Report at Appendix C of the EIS.

As outlined in the EIS (Section 5.5.10), the following aspects of the design response support high levels of internal amenity and comfort:

- Interior materiality and comfort
- Solar access and natural daylight penetration
- Passive ventilation within the Health Hub
- Acoustic separation of plant and spaces, along with acoustic insulation to minimise noise intrusion and disturbance
- Visual and physical access to the outdoor landscape and outside spaces from the main circulation spaces
- IPUs have been designed to have high quality outlook, including the experience of panoramic views to the surrounding environment
- Solar orientation and glare management to reduce heat gain and adverse glare.

The new Tweed Valley Hospital would deliver a high standard of internal amenity for patients, visitors and staff, and promote wellbeing.

On the basis of the response from STH+BS, and the supporting information in the EIS and this Submissions Report, including the overall architectural merit of the proposal, additional design refinements are not considered necessary as the proposal achieves an acceptable internal and external amenity outcome.

Issue

The proposed landscaping on the site should also address the amenity of the users and improve the legibility of the "Green Spine" within the building as well as the car parks, consistent with the Concept Proposal.

Response

The landscaping, which integrates with the design of the building and the Green Spine is a key design element. The east-west orientation of this axis through the hospital street continues as a tree-lined footpath offering views, sheltered seating, and amenity. This has been highlighted in the Stage 2 Architectural and Urban Design Report lodged with the EIS (Section 4.2) and should be read in conjunction with landscape design response.

The current proposal includes internal landscaped courtyards that continue the green spine through built form, and car park concept includes vertical greening of the car park facade, as recommended.

The landscape master plan provides a range of open spaces – diverse in their scale, aspect, and intended use (responding to adjacent hospital program).

For clarification, design intent for the range of spaces is provided below:

- **Green Spine:** is considered an important public domain place in its own right. In addition to its important function as a connector between car parks and hospital buildings, it is a gently grading pathway connection to a range of open space assets – including the Village Green, Aboriginal Courtyard (intimate space adjacent western lobby entry), and a series of 'pause points' along the eastern green spine that take advantage of elevated landscape views to the north. The location of these important destinations along primary movement paths is considered essential for their ongoing activation and for optimal CPTED outcomes.
- **Health Hub**: similarly, to the Green Spine, this zone of the site provides a combination of open areas and more intimate spaces with varying microclimates. The main entry from Cudgen Road bus stop features a small tree grove and lawn with feature tree and opens out to the north with open lawns framed by seating walls and generous planting to the roadway edge. These lawns allow flexible use of the space for social activities and events. Places of retreat in this area include the smaller scaled lawn and seating node between the two buildings, and the Aboriginal Courtyard breaking out from the building on the far eastern edge.
- **Internal Courtyards**: range in scale and purpose – from outlook amenity to physical connection with landscape and blue sky. Their distribution throughout the building maximises opportunities for engagement with landscape.
- **Cudgen Road Pocket Park**: the proposed pocket park immediately west of the main roadway entry provides an informal public open space that is offline from the hospital environment. We see this as an important place for those who wish to temporarily disengage from the hospital environment, and also as an offering to the surrounding neighbourhood/TAFE (as mentioned in the comments).

Based on the response from STH+BS and Turf Design, the landscape design response and built form integration adequately addresses the amenity of the hospital's users and supports legibility of the "Green Spine" throughout the site, including its connection with the main hospital building and multi-deck car park. Therefore, no further changes are proposed.

Issue

Having regard to the above, the Department considers that the internal layout of the hospital building should be amended to address the following concerns that were raised by the State Design Review Panel, prior to the lodgement of the application:

- *absence of courtyard at the Basement Level.*
- *absence of an internal courtyard on the north-western side of the Lower Ground Floor.*
- *absence of light voids on the Ground Level and Level 1.*
- *overly long and narrow corridors on the Lower Ground Floor and Ground Floor with no provisions for natural light.*
- *inadequate size of the internal courtyard on the north-eastern side of the Lower Ground Floor.*
- *no presence and legibility of the 'Green Spine' within the building.*

Response

Architectural, urban design and landscape architecture responses have been provided by the design consultants at **Appendix C** and **D**, with an outline of the relevant responses provided below.

The inclusion of a light well on the western side of the hospital was deemed not feasible due to the need for a continuous floorplate to accommodate the Level 01 Perioperative Department workflows. To mitigate this loss of amenity, the western entry corridor will be improved providing a wider and better alignment to the major stair to improve intuitive wayfinding, connect spatially to Level Ground by way of a series of voids, alleviating the 'corridor' effect and enhance the reading of public place with opportunities to rest and pause. The length of the corridor has not changed since the Concept Proposal.

The main hospital building has incorporated courtyards where operationally and clinically appropriate. The resultant access to natural light has always been the intent but impacts of helicopter downdraft from above, agriculture impacts from the south and bushfire impacts from the north and west and the restriction of critical clinical travel distances internally have resulted in the designed outcome.

The public entry corridor which connects the main lobby and the eastern entry, serving the specialist drop off for Cancer and Renal services, is reinforced by an adjoining 25 m north-facing landscaped courtyard and additional voids connecting Level Ground to Mental Health waiting areas on Lower Ground.

The public entry on the Lower Ground western entry has been widened and the corridor broken down to a series of episodic journeys interspersed with areas to rest and gather outside key community-based departments.

Whilst it is noted that the opportunity does exist for a sky bridge to be incorporated in the future, reinforcing the on-grade connection to the hospital entry at lower ground with quality landscaping and providing high quality public realm was agreed to be the preferred direction.

The on-grade covered access to the lower ground level entry of the hospital by way of the landscaped 'green spine' is considered to be high amenity and provides excellent accessibility and clear wayfinding. The current proposal continues the green spine through the built form, and car parks (including vertical greening of the multi-deck car park façade), as recommended. The submitted Architectural and Urban Design and Landscape Architecture responses demonstrate this connectedness and legible presence of the green spine.

Issue

The proposed multi-decked car park should introduce further articulation through changes in massing, greater variation in materials and/or additional use of green walls.

Response

The current car park concept includes vertical greening of the car park façade via climbing plants, as recommended and depicted on the plans at **Appendix B** and photomontages at **Appendix E**. Refer to item 2.1.3 in the architectural response at **Appendix C** for more detail on the irrigated in-ground planting to the screened sections of the car park.

In addition, the intent of the proposed multi-deck car park façade is to retain the solid elements and metal façade/mesh compositions which borrow from the language of the main building. The colours of the hospital have been selected to mirror and portray an earthy and durable materials palette that references the site. Refer to Section 4.4 of the Stage 2 Architectural and Urban Design report for details on materiality selection, distinction between elements, granular forms and finishes. The response from STH+BS and the supporting EIS material confirm that the material and texture variation, combined with vertical greening, provides for an appropriate and consistent architectural language, assists with visual break-up, and creates visual interest to deliver an acceptable built form outcome.

Issue

As recommended by the State Design Review Panel, the Department considers that the following elements should be introduced to connect the building with outdoor spaces and contribute towards a landscaped appearance of the building:

- *sky gardens to the north-west/north-east of the shared administration area on Level 2.*
- *increase in the size of the Level 2 sky gardens catering for the 'Child & Adolescent' and 'Older Persons' in-patient units (a minimum of 50% increase above the proposed size).*
- *sky gardens to the north-west of the shared administration zone on Level 3.*
- *multiple sky gardens on Levels 4 and 5.*
- *use of shared stairs between floor levels in lieu of the current emphasis on lifts.*

Response

Additional sky/roof gardens have not been proposed due to the following constraints/reasons:

- Bushfire advice (refer to **Appendix F**) has confirmed that:
  - A sky/rooftop garden would need to be managed as an Inner Protection Area (IPA) and meet the landscaping requirements of Appendix 5 of Planning for Bushfire Protection (PBP) 2006 and Appendix 4 of PBP 2018. Technically, a rooftop garden does not meet these requirements as an IPA is required to be separated/not connected to the building.

- Sky/roof gardens pose an additional risk of bushfire as they provide a fuel source/potential ignition and a potential entry point for embers directly from the roof to the building. This is especially the case with ember attack from potential bushfires that are in proximity to the hospital.
- In order to therefore achieve separation and to validate to the NSW Rural Fire Service (RFS) that the heightened risk of bushfire from rooftop gardens has been adequately addressed, would require demonstration that there is no connectivity between the roof and the building. Incorporation of rooftop gardens would need increased construction standards to ensure that embers landing on the rooftop gardens are of no threat to the building. This could be via higher construction standards and additional design elements, such as double automatic doors, to prevent embers entering the building which would be an additional cost.

In this instance, Health Infrastructure has sought to minimise the potential for additional bushfire risk to the new hospital and, coupled with the additional technical design/construction standards and associated costs that would be required, have made the informed decision to no longer propose such features as part of the Project.

With regard to the use of shared stairs between floor levels, STH+BS have confirmed that central circulation stairs have been provided between the Lower Ground, Ground and Level 01 floors, and those in central workspace. These provide for shared central circulation.

Issue Continued:

- *additional planting/canopy trees and landscaped elements to offset and mitigate the visual impacts of the hospital building, roads and car parks.*
- *additional landscaping at the ground level improved outdoor amenity areas for patients, staff and visitors.*
- *a feasible walking loop within the site.*

Response

STH+BS, in consultation with Turf Design (landscape architecture consultant), have confirmed that additional landscaping at the ground level is not proposed as there needs to be a balance between the visibility of the main entries, signage, and coordinated landscaping. A response from Turf Design is attached at **Appendix D**. The following outlines the response provided in relation to the landscaped and vegetated elements on the site, which are considered to be adequate, effective, and well-resolved.

Retained vegetation along the northern and eastern boundaries will mitigate visual impacts of the new development. Proposed vegetated buffers to the Western boundary (10 m wide) and Cudgen Road (30 m wide) will significantly mitigate visual impacts of the hospital from the West and South.

Canopy tree planting and landscaped elements within the APZ (generally zones north of the building) is currently proposed to the maximum extent that complies with APZ requirements.

Canopy tree planting and other landscape elements throughout the site are proposed to maximise greenery and shade, whilst ensuring appropriate sight lines are maintained for safety and legibility.

The following component of this response overlaps with similar comments addressed previously in the response to Government Agency and Council submissions.

The landscape master plan provides a range of open spaces – diverse in their scale, aspect, and intended use (responding to adjacent hospital program).

The updated VIA at **Appendix E**, has included a number of additional photomontages that depict the proposed landscape design strategy and associated vegetation. These demonstrate that, as the vegetation and landscaping matures, the landscaped elements and associated vegetation will offer substantial visual amenity and help to integrate and soften the appearance of the development in the surrounding landscape. Refer to the updated VIA and the images/plates in **Section 4.5.1.7** to see these additional landscape photomontages and how the proposed landscaping and vegetation will benefit the development and result in an acceptable outcome.

For clarification, design intent for the range of spaces is provided below:

- Green Spine: is considered an important public domain place in its own right. In addition to its important function as a connector between car parks and hospital buildings, it is a gently grading pathway connection to a range of open space assets – including the Village Green, Aboriginal Courtyard (intimate space adjacent western lobby entry), and a series of 'pause points' along the eastern green spine that take advantage of elevated landscape views to the north. The location of these important destinations along primary movement paths is considered essential for their ongoing activation and for optimal CPTED outcomes.
- Health Hub: similarly, to the Green Spine, this zone of the site provides a combination of open areas and more intimate spaces with varying microclimates. The main entry from Cudgen Road bus stop features a small tree grove and lawn with feature tree and opens out to the north with open lawns framed by seating walls and generous planting to the roadway edge. These lawns allow flexible use of the space for social activities and events. Places of retreat in this area include the smaller scaled lawn and seating node between the two buildings, and the Aboriginal Courtyard breaking out from the building on the far eastern edge.
- Internal Courtyards: range in scale and purpose – from outlook amenity to physical connection with landscape and blue sky. Their distribution throughout the building maximises opportunities for engagement with landscape. Furthermore, the IPUs has been designed to have access to high-quality panoramic views and provide for high internal amenity and a connection to the surrounding environment.
- Cudgen Road Pocket Park: the proposed pocket park immediately west of the main roadway entry provides an informal public open space that is offline from the hospital environment. We see this as an important place for those who wish to temporarily disengage from the hospital environment, and also as an offering to the surrounding neighbourhood/TAFE (as mentioned in the comments).

A range of walking routes/loops have been provided – refer to the landscape design report (page 35) submitted with the EIS. The pathways and covered ways within the site have been defined and support walkability within and through the site.

4.5.1.2 Traffic Impacts

Issue

The submitted Traffic Impact Assessment Report (TIA) should be amended to further improve the intersection design, phasing and resulting levels of service at the Cudgen Road/Tweed Coast Road intersection, having regard to the comments from Transport for NSW (Roads and Maritime Services) (RMS). In this regard, the Department recommends that consultation be undertaken with RMS and Tweed Shire Council (Council) to resolve the design of the key intersections near the site to the satisfaction of the public authorities.

Response

A detailed traffic and transport response prepared by Bitzios is attached at **Appendix O**. The TIA report is considered appropriate and identifies sufficient infrastructure upgrades to mitigate against the hospital's traffic impacts. This has been specifically noted in Council's submission. A detailed response to each of the RMS (now TfNSW) items has been provided in **Section 4.3** and **Appendix O**.

Issue

The TIA should include background traffic volumes for the Cudgen Road/Tweed Coast Road intersection (without the hospital development) for 2033 so that a comparison of the background data and the traffic modelling with the hospital, can be undertaken.

Response

A detailed traffic and transport response prepared by Bitzios is attached at **Appendix O**. The 2033 background volumes are presented in the Network Diagrams (included as Appendix B of the submitted TIA). These volumes are consistent with Council's most recent Tweed Road Development Strategy forecast, in which RMS was a stakeholder in the development of the model and report.

SIDRA modelling of the existing intersection form with 2033 background traffic modelling was not undertaken as part of the Stage 2 TIA. This is due to Health Infrastructure's commitment to upgrade the intersection prior to commencement of operations in 2023 and consultation between the project team, Council, and RMS (now TfNSW) in which it was confirmed that the proposed upgrades mitigate against the hospital's traffic impacts at the intersection and that the proposed upgrades are commensurate with Council's ultimate planning for Tweed Coast Road. Comparison of operations can be made between the 2023 background modelling and 2023 design modelling.

Issue

A confirmation from Council on timing for delivery of the Tweed Coast Road four lane upgrade should be provided to the Department. If Council cannot confirm delivery of the Tweed Coast Road four lane upgrade by 2033, additional modelling without this upgrade should be provided and alternative solutions considered to improve the level of service at the key intersections and this road.

Response

A detailed traffic and transport response prepared by Bitzios is attached at **Appendix O**. The four-lane upgrade of Tweed Coast Road is nominated in Council's Tweed Road Development Strategy (TRDS) and the Tweed Road Contributions Plan (TRCP). Council has undertaken a series of design investigations of the upgrade, with funding subject to Council's S94 Contribution priorities and other funding sources available to Council.

While the proposed upgrades are commensurate with the hospital's traffic impacts, it is in the interest of the hospital that major access road such as Tweed Coast Road are of adequate capacity for future years. As such, Health Infrastructure will continue to work with Council and TfNSW) representatives in expediting planned road upgrades through available funding sources.

Issue

Further consideration should be given to left turn/deceleration lane lengths and designs to address the concerns raised by RMS.

Response

The comments raised by RMS (now TfNSW) in their submissions have been considered and responded to by Bitzios (refer to **Section 4.3** and **Appendix O**). The asset owner (Council) have been consulted throughout the design and assessment process regarding the proposed works and design components.

The change to left-turn lanes at the Tweed Coast Road/Cudgen Road is the proposed new left-turn lane on the northern leg of the intersection on Tweed Coast Road. The design provides a total length in the order of 200 m including the taper. This caters for left-turn queues at the year of opening (up to 180 m). The proposed turn lane adequately mitigates against the impacts of left-turning traffic associated with the proposed development and background traffic. It is understood that further extension of this lane would have impacts to the verge and would result in significant additional cost due to the verge profile. Reference is made to Items 10 and 12 of Council's response as detailed previously.

The Auxiliary Left Lanes (AUL) proposed for entry at Access A and C have been designed in accordance with Austroads Guide to Road Design (ARGD) Part 4A. The diverge length for an AUL (including taper) as detailed in Table 5.4 of ARGD is 55 m for a design speed of 70 km/h (60 km/h posted speed) for a stop condition. The proposed diverge length is in the order of 70 m for the AUL at Access A and Access C exceeding the requirements of AGRD. It is also noted that neither Access A nor C includes a stop condition. Both designs include an 'exit curve' into the site rather than a control point requiring vehicles to stop. The proposed pedestrian crossings across each access are also kerb ramps rather than zebra crossings, providing priority to vehicles (i.e. no significant queuing expected).

Access A is constrained by the subject site's western boundary, the adjacent driveway crossover of Lot 741 Cudgen Road and the dry-stone wall within the site that has heritage significance. Access D is constrained by Access B, the proposed bus stops and the location of the TAFE access. Neither of these accesses can be extended, nor is it considered to be required.

In addition to the above, the access arrangements are consistent with the approved Concept Proposal and Stage 1 Early and Enabling Works. Further, Council has granted approval for the Section 138 Application of Access A and this is currently under construction. Council's response also noted that access arrangements operate within acceptable limits.

Issue

As required by the Concept Proposal conditions, the following details should be provided:

- *additional details of the proposed bus stops (design, location and associated pedestrian access).*
- *assessment of impacts of agricultural vehicle movements on the hospital traffic including the frequency of the movements (in consultation with the surrounding community) and the mitigation measures to minimise the identified impacts.*

Response

Amended plans have been provided showing additional details (location, design and pedestrian access) for the bus stop infrastructure (refer to plans STB-AR-DWG-PRW-1000012 and RBG-CV-DWG-RIE-87-301 at **Appendix B**). These provide adequate detail for development application purposes and demonstrate an acceptable design response and arrangement that would satisfy relevant requirements and guidelines. Further detailed design would occur at the construction certificate/section 138 application stage.

Agricultural vehicle movements on Cudgen Road are infrequent as confirmed during a number of site visits and assessments on the surrounding road network. The demand for agricultural vehicles is driven by agricultural activity. The Project site has been rezoned from RU1 Primary Production to SP2 Infrastructure and will no longer be used as farmland. This results in a reduction of agricultural activity on Cudgen Road to the east of Tweed Coast Road. Areas to the north, east and south are predominantly residential or special use land zonings (i.e. no agricultural activity).

Slow moving vehicles (e.g. tractors) may slow general traffic when travelling on Cudgen Road, however the frequency of agricultural vehicles is low, and there is limited primary production zoned land to the north-east of the hospital to attract or generate these vehicles. There are also opportunities for agricultural vehicles to move off the carriageway onto the verge due to the rural nature of the road (e.g. west-bound to the west of the Project site), or for vehicles to pass (e.g. where additional stand-up lanes are provided at the Tweed Coast Road/Cudgen Road intersection, or new signalised site access).

Agricultural vehicles are subject to the permits and requirements of the National Heavy Vehicle Regulator. The National Heavy Vehicle Regulator dictates mitigation measures that must be implemented by agricultural vehicles including signage and warning lights that must be displayed.

Council through its design of upgrades to Tweed Coast Road and planning for future development of large-scale urban growth areas at Gales Kingscliff and Kings Forest are expected to undertake further investigations into management of agricultural vehicle movements in the surrounding area. Implementation of further mitigation measures solely as a result of the hospital are not warranted. However, Hospital management will be a stakeholder in these discussions moving forward.

4.5.1.3 Agricultural Offset

Issue

The Concept Proposal conditions required that an Agricultural Offset Plan be provided including evidence of consultation with the relevant stakeholders. However, the submitted Agricultural Offset Plan submitted with the Stage 2 application does not address the requirements of the conditions of consent satisfactorily.

Response

An updated Agricultural Offset Plan has been provided at **Appendix L**. Additional detail regarding consultation, including that which has occurred prior to and following lodgement, has also been included and the updated plan demonstrates that the conditions have been satisfied.

Issue

Having regard to the above, the Department considers that the Agricultural Offset Plan is required to be amended to include:

- *a clear outline of implementation plans and programs and/or physical works.*
- *commitments to undertake the physical works.*
- *details to demonstrate how those proposed plans/works will offset the adverse agricultural impacts on State Significant Farmland as a result of the development.*
- *an updated 'Offset Strategy' to discuss the results of community consultation.*
- *a local food procurement strategy or a commitment to review and change any relevant State Purchasing policies to accommodate this requirement.*

Response

An updated Agricultural Offset Plan that adequately addresses the above requirements has been provided at **Appendix L**. As outlined in the Agricultural Offset Plan, it is also important to note that the State government as part of a broader initiative has also established the Tweed Valley Hospital Cross Agency Coordination Committee which is committed to undertaking meaningful consultation and developing initiatives to support/improve agricultural production in the Tweed Valley.

4.5.1.4 Biodiversity Management

Issue

The submitted landscape plans should be updated to include:

- *details of all proposed koala food trees, including location, species and number of plantings.*
- *the mitigation measures outlined in the Concept Proposal Biodiversity Assessment Report including new and additional stepping stone habitats for the fauna in the locality, in the form of raingardens within the cleared areas of the site.*

Department of Planning, Industry and Environment also requested that reference be made to the new State Environmental Planning Policy (SEPP) (Koala Habitat Protection) 2019 and that any transitional arrangements be identified/addressed.

Response

Refer to responses provided in **Section 4.3** (Table 4.1) regarding landscaping comments from BCD, and the "Koala Food Trees Markup" plan attached at **Appendix B** and **D**. Details of proposed koala food trees have been provided, and it has been advised by the project ecologist that from a biodiversity/habitat connectivity perspective the bio-detention basins, vegetation buffers and garden bed plantings will contribute sufficiently to the stepping-stone habitat connectivity and 'moist corridors' across the site.

It is noted that SEPP Koala Habitat Protection 2019 commenced on 1 March 2020 and replaces the former SEPP 44 – Koala Habitat Protection. However, savings and transitional arrangements are in place. Pursuant to clause 15 of SEPP Koala Habitat Protection 2019, *a development application made, but not finally determined, before the commencement of this Policy in relation to land to which this Policy applies must be determined as if this Policy had not commenced.* Given the Stage 2 SSD application (SSD-10353) was lodged before 1 March 2020, SEPP Koala Habitat Protection 2019 does not apply. SEPP 44 has been addressed in the Stage 2 EIS and no further consideration is required.

Issue

The submitted Biodiversity Management Plan should be amended to:

- *provide details of tree translocation.*
- *remove the recommendation that Duckweed and Azolla can be introduced to supress the growth of Salvinia.*
- *define areas of environmental concerns in relation to pet restrictions.*
- *provide details of the responsibilities for long term monitoring of the Mitchell's land snail.*

Response

A detailed biodiversity response from Greencap has been provided at **Appendix J**. The following specific responses are provided:

- The construction contractor (Lendlease) was in the process of engaging a specialist bush regeneration subcontractor to undertake the *Cryptocarya foetida* translocation at the time this response to submission was prepared. Once awarded, this subcontractor will be responsible for selecting a suitable translocation area inside the site boundary. Once the translocation has been undertaken, the Stage 2 BMP will be updated to include details of the new location as well as report on how successful the translocation has been.
- The Stage 2 BMP will be amended to remove the recommendation that duck weed, *Lemma spp.* or *Azolla filiculoides* can be introduced to suppress the growth of Salvinia.
- Pets will be allowed on-site; however, they will be restricted by on-leash control. Areas of 'environmental conservation' include the 'retained undisturbed forest' - Stage 2 BMP Vegetation Management Zones 1.1 to 1.6.
- Stage 2 BMP Section 3.2.2.2 and Mitigation Measures 33 to 36 outline the responsibilities regarding the monitoring and reporting on the Mitchell's Rainforest Snail.

The stage 2 BMP will be updated with all required changes prior to commencement of works and in response to any Stage 2 conditions of consent.

Issue

The proposed dam infill operations should be staged to ensure adequate salvage of animals during the infill works.

Response

A detailed biodiversity response by Greencap has been provided at **Appendix J**. As per Stage 2 BMP Section 2.3.2.7, the dam infill operations are to be staged over a number of days to allow for adequate salvage of animals from the dam, additional methods will include the use of turtle/yabby nets along with electro fish/gill netting and systematic sweeps using hand nets. The stage 2 BMP will be updated with all required changes prior to commencement of works and in response to any stage 2 conditions of consent.

4.5.1.5 Aviation Report

Issue

The submitted Aviation assessment must be updated to consider the impacts of the helicopter movements on potential locations for flying fox camps surrounding the site.

Response

The Aviation Report (V1.4) by Avipro has been amended (refer to **Appendix N** of the Submissions Report) to reflect known areas of sensitive fauna as per the Biodiversity Development Assessment Report (BDAR). Additional areas identified to AviPro from now on can be included in a final review of approach and departure paths prior to completion of HLS survey and commencement of HLS construction.

If required, the Stage 2 BMP will be updated to align with any pending revisions of the Avipro report regarding impacts of the helicopter movements on potential flying fox camps surrounding the site. Known flying fox camps surrounding the site are presented in in the Stage 2 BDAR Figure I-1 as described in Section 3.2.2.

4.5.1.6 Visual Impact Assessment

Issue

The submitted Visual Impact Assessment Report (VIA) should be updated to include the recommended amendments to the building design and landscaping.

Response

As outlined previously and at **Appendix C**, STH Bates Smart Architects have provided justification for the design response and architectural merit of the Project, as well as clinical needs, demonstrating that additional design changes are not considered necessary.

As outlined in the following sections, with example images at **Plates 4.1** to **4.7**, the VIA has been updated to depict landscaping and demonstrate its beneficial effect for visual amenity. The proposed landscaping has been depicted and incorporated into additional photomontages that are included in Appendix B of the VIA (the VIA is attached at **Appendix E**).

Issue

The VIA should be updated having regard to the recommendations made by Council including more detailed consideration of key landscape character elements and qualitative discussion of impacts on those elements, consideration of light pollution and night time views and consideration of impacts from additional identified locations on Kingscliff Hill.

Response

An updated VIA prepared by Urbaine, with supporting additional day and night photomontages and qualitative discussion/assessment, has been provided at **Appendix E**.

The updated VIA provides more consideration of landscape character and qualitative discussion of impacts and scenic landscape values, including priority views identified in the draft Tweed Scenic Landscape Strategy. Night views and lighting have been addressed, supported by night photomontages and qualitative assessment as requested. No significant or unreasonable impact is expected.

Landscaping has also been depicted and incorporated into additional landscape photomontages that have been included in Appendix B of the VIA. These demonstrate that the proposed landscaping strategy would be of substantial benefit to softening the appearance of the development and supporting its integration into the site and landscape.

The visual impact on views from key locations on Kingscliff Hill, including from residential areas and roadways, have been satisfactorily considered in the VIA.

Consultation regarding the design and appearance, including visual impact of the hospital and scenic values of the locality, has occurred throughout the process and helped informed the assessment. This has been clarified/documented in the updated VIA and was referenced in the Consultation Report submitted with the EIS.

The requested additional photomontages have been provided; they demonstrate the reasonableness and acceptability of the proposal and the merit of the design/landscape response.

Overall, the VIA is comprehensive in the number of varied viewpoints considered and provides an adequate level of assessment that demonstrates that the development is acceptable from a visual amenity perspective and that appropriate and effective design measures have been included to reasonably integrate and soften its appearance in the landscape, notwithstanding the clinical and functional requirements of the development. Refer to **Appendix E** for detail.

4.5.1.7 Photomontage

Issue

An additional photomontage with the view of the building and the car park from the western side of the site should be submitted for assessments.

Response

Additional photomontages, including the view of the building and the multi-deck car park from the western side of the site, have been provided, along with an updated VIA (refer to **Appendix E**). Photomontages inclusive of the proposed landscaping strategy and those representing night views have also been provided.

The photomontages demonstrate that the proposal suitably integrates into the site and that the visual impact is not expected to be significant, particularly given the physical separation distance of the development from potential surrounding sensitive viewpoints and the proposed landscaping/vegetated elements. A set of additional photomontages have also been included with the VIA to depict the landscaping response (these are found in Appendix B of the VIA). The following images are examples taken from the set of the additional photomontages that have been prepared to show the positive effect of the proposed landscaping (refer to **Appendix E** for the full set of photomontages). These demonstrate that the landscaping, as it matures, will be of substantial benefit to visual amenity and would filter and soften views of the built form, whilst enhancing the appearance of the site from internal and external viewpoints. The outcome shown is of an acceptable visual amenity standard.

Plate 4.1 Photomontage from the west along Tweed Coast Road with vegetation shown

Plate 4.2 Photomontage from the west along Tweed Coast Road with landscaping and vegetation included

Plate 4.3 Photomontage from existing farm opposite Cudgen Road frontage with landscaping/vegetated buffer shown

Plate 4.4 Photomontage from Turnock Street (east) without proposed landscaping

Plate 4.5 Photomontage from Turnock Street (east) with proposed landscaping/vegetation

Plate 4.6 Photomontage from Cudgen Road behind Swimming Centre without landscaping

Plate 4.7 Photomontage from Cudgen Road behind Swimming Centre with landscaping

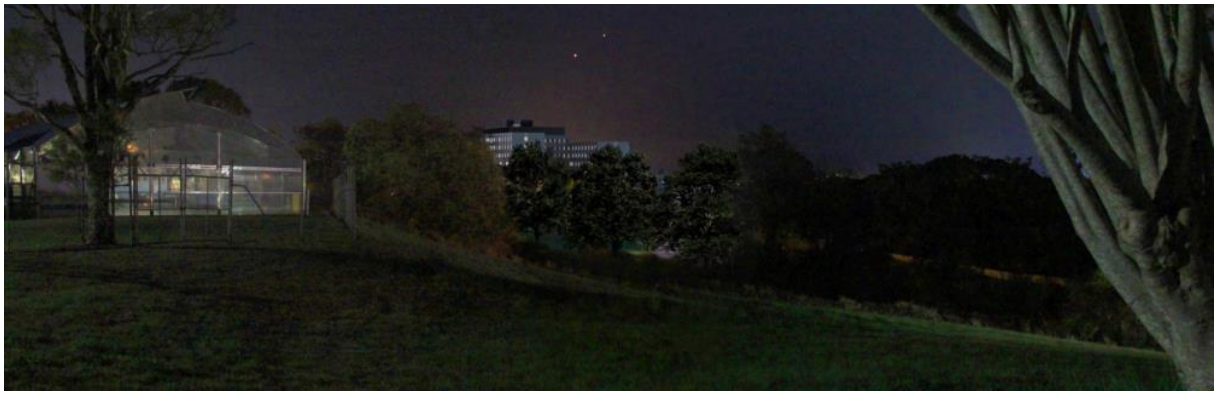

Plate 4.8 Night photomontage from Cudgen Road behind Aquatic Centre with landscaping

Plate 4.9 Night photomontage from McPhail Ave with landscaping

4.5.2 DPIE Request for Further Information

4.5.2.1 Stormwater Drainage Information Request/Review (requested 25/11/2019)

***Targets** – It is unclear what water quality targets have been adopted by Robert Bird Group (RBG) for the development. RBG has indicated that WSUD measures have been provided to comply with OEH's target of 'no increase in the natural annual average load of nutrients and sediments' but no estimate of natural loads has been completed or comparison provided. Comparisons are currently made with Council's load-based targets and a 'no increase over pre-development conditions' target.*

Response

A civil and stormwater management response by Robert Bird Group (RBG) is attached at **Appendix G**. The MUSIC model has been updated and a natural (bush/forest) sub-model has been created as well as the pre-development and post-development sub-models. It has also been updated to include the proposed 400KL rainwater reuse tank.

The following results have been obtained from the updated models.

Table 4.3 Updated MUSIC Model Results (RBG)

Mean Annual Load	***Natural state (bush/forest)***	***Pre-development (agriculture)***	***Post Development (without treatment)***	***Post Development (with treatment)***
Flow (ml/yr)	63.7	69.6	113	99.6
Total Suspended Solids (kg/yr)	3,750	19,000	25,000	2,880
Total Phosphorus (kg/yr)	4.23	21.7	58.6	13.7
Total Nitrogen (kg/yr)	48.4	127	355	134
Gross Pollutants >5mm (kg/yr)	0	388	2080	0.033

The music model demonstrates compliance with the TSC development control plan requirement to reduce the post development flows by the following reduction targets (compared with post development loads without treatment). Suspended solids 80 per cent, Phosphorus 60 per cent, Nitrogen 45 per cent, gross pollutants 90 per cent. It also demonstrates a significant overall improvement in water quality compared with the modelled pre-development state (other than a very small increase in nitrogen). We note that the MUSIC model has only accounted for a reduction in total flows of approx. 11ML for the rainwater tank (compared to the 17ML calculated by the project hydraulic engineer).

***Flow regime analysis** – SMEC has estimated impacts from discrete storm events on the wetland only. The consent conditions require consideration of changes to flow regimes over a much longer time period to include consideration of seasonal changes to wetland hydrology (and wetland ecology). We understand that the consent authority (and other government agencies) is interested in how the additional estimated 36 ML/yr (50 – 14 ML/yr harvested) of additional runoff volume is distributed into*

the wetland over the year. Based on estimates by SMEC, an individual 4 EY event would only contribute approximately 0.2 ML/yr of additional inflow (i.e. approximately 0.5% of the total estimated increase).

Response

SMEC has provided a response to submissions and queries from DPIE at **Appendix H**, including provision of an updated hydrology assessment. The above flow regime analysis matter has been specifically addressed in the SMEC response letter included at **Appendix H**. In summary, the existing, long established, coastal wetland area has proved resilient throughout numerous inundation event well in excess of anything likely to result from the inflows from the proposed development. Therefore, it is unlikely to result in any significant structural change to the coastal wetland (dominant floristics of this community) due to annual flow increase of 36ML/yr.

***Rainfall-runoff modelling** – The commercial land-use rainfall-runoff parameters adopted from the 2018 WBD guidelines appear to be erroneous. The 2018 WBD guidelines recommend a field capacity parameter value of 80mm which exceeds the soil storage capacity of 18mm. The field capacity value should always be significantly lower than soil storage capacity. In addition, the recommended daily recharge rate is zero. This parameter value should be greater than zero to enable shallow groundwater recharge to occur. It is expected that adoption of these parameters for all pervious surfaces is likely to be resulting in a significant over-estimate of runoff volumes from pervious surfaces with the site. It is recommended that rainfall-runoff parameters outlined in the 2015 NSW MUSIC modelling guidelines be adopted for this site rather than the WBD parameters. The MUSIC rainfall-runoff parameters are primarily influenced by the characteristics of the soils within a site (as outlined in the 2015 NSW guidelines) rather than the land use (WBD guidelines).*

Response

The MUSIC model has been updated by RBG to use the parameters of the 2015 NSW guidelines (WBD parameters had originally been adopted as required by the TSC development control plan). Please refer to the above results table (**Table 4.3**).

***MUSIC models** – Review of the MUSIC models would be required to comment further on the modelling approach and model outcomes. The following MUSIC models would be required to complete our review:*

- Robert Bird Group models – Pre-development and post development MUSIC models that the results presented in Table 5.2 in Section 6.4 of their report 19005-RBG-ZZ-XX-RP-CV-87-001 (Issue E, 19/9/19) are based on.
- SMEC models - Pre-development and post development MUSIC models that the results presented in Figure 2 and Table 11 of their report 3002721 (Rev 2 dated 15/8/19) are based on.

Response

A copy of the updated MUSIC models/data have been provided to DPIE for review.

5. Changes to the Project (Stage 2)

Department of Planning, Industry and Environment has provided correspondence to HI as the applicant confirming the receipt of submissions and that, in accordance with clause 85A(2) of the EP&A Regulations 2000, the Secretary (DPIE) requires the applicant to respond to all issues raised in these submissions and Government agency advice, and where necessary revise documentation. In addition, DPIE have undertaken a preliminary assessment of the Stage 2 EIS and, in addition to matters raised by agencies, require a number of issues to be addressed (refer to **Section 4.5**). On this basis, and to facilitate some design refinements, a number of changes have been made to the Stage 2 Project Plans and revised/supporting documentation is provided in response the DPIE request and public and government agency submissions. This includes design refinement and additional information.

An amended Stage 2 plan package has been prepared and is provided at **Appendix B**. A summary of the main changes in response to submissions and design refinement include:

- Additional bus stop infrastructure detail (as requested by DPIE and addressed in **Section 4**).
- Minor amendment to bio-detention basin drawing (RBG-CV-DWG-RIE-86-310), including: adjustment to inlets, and retention of existing impermeable basin liners due to geotechnical advice which confirms the need to minimise the potential for waterlogged subsoil that could influence slope slip risk (refer to **Appendix G** and **I**).
- Minor adjustment to location and configuration of sewer pump station.
- Relevant plans applicable to Stage 2 that show final landform contours have been updated to reflect the changes made to cut and fill on-site as part of the Response to Submissions report for SSD-9575-Mod-2.
- Minor amendment to the landscape zonal plan and strategy to remove the community garden opportunity (previously identified as 12b on the plan).

5.1 Nature of Changes

The changes described above and shown in the revised plan package (**Appendix B**) are refinements and as a result of responding to submissions, addressing matters raised by DPIE and associated design progression. This is in accordance with clause 85A of the EP&A Regulations 2000 and the letter from DPIE that outlines that the Secretary requires the applicant to respond to the matters raised in the submissions, Government agency advice and key issues raised by DPIE, and where necessary revise documentation. On this basis, the previously described changes have been made and revised/ supporting documentation provided in response.

The changes do not introduce any significant new elements or amendments that would notably alter the impact assessment undertaken as part of the Stage 2 EIS. Overall, the changes do not amount to a significant change to the Project and are considered to be consistent with the application as submitted for following reasons:

- The changes respond to government agency and public submissions and are as a result of associated design refinement and further consultant analysis post exhibition. They remain generally consistent with the overall proposal presented and assessed in the Stage 2 EIS.
- The changes are generally limited in scope and in the context of the overall Project involve minor alterations and refinement.

- The proposed changes would not result in additional significant impacts. The assessment and findings presented in the Stage 2 EIS remain valid, supported by further information and assessment as presented in this Submissions Report and requested by DPIE.

5.2 Assessment of Changes

This section provides an assessment of the main design/plan changes. None of the changes would result in a transformation of the proposal and the development remains substantially the same, with no new or additional significant impacts created as a result of the changes.

5.2.1 Bio-detention Basins

The bio-detention basin drawing (RBG-CV-DWG-RIE-86-310) has been subject to a minor amendment, including adjustment to inlets, and retention of existing impermeable basin liners (compared to the previous plans that showed the basins would be punctured to allow a level of infiltration). This is primarily due to geotechnical advice (refer to **Appendix G** and **I**) that confirms that increased infiltration on the site would increase the risk of slope slip failure on the steep batters around the site due to waterlogged subsoil. For this reason, additional infiltration devices will not be provided, and the bio-detention basins will have an impermeable liner. Stormwater modelling has been updated and MUSIC model data provided to DPIE (refer to **Section 4.5.2** and **Appendix G**). The modelling has taken into account the changes to the Project, including stormwater storage/reuse, and demonstrates an acceptable outcome for the site and receiving environment.

5.2.2 Minor Adjustment to Location and Configuration of Sewer Pump Station

The changes to the proposed sewer pump station and associated holding tank are documented in the updated hydraulic services plan at **Appendix B**.

There are often changes and refinements made to the design of a development during the approvals and construction process. The proposed changes are minor refinements and are as a result of further services design analysis.

The main potential impacts that could be associated with changes to the sewer pump station and holding tank include encroachment on sensitive environmental areas, including mapped Coastal Wetland, and visual impact. The changes result in a minor reconfiguration of the sewer pump station/ holding tank footprint that see it shifted a short distance to the north, with the location remaining in the general vicinity of the previously submitted design. Despite the changes, the sewer pump station/ holding tank would continue to be sited at the north-west (rear) side of the hospital, facing towards land that will not be visible from public areas. This location would also be screened by vegetation to the west. Spatially, both in terms of footprint size and location, the changes are not significant. Consequently, it is considered that the proposed changes will not have any additional adverse visual impacts.

The previously submitted location of the sewer pump station/holding tank was situated adjacent to the mapped Coastal Wetland area, within an area identified as a “proximity area for coastal wetlands” pursuant to the State Environmental Planning Policy (Coastal Management) 2018 (CM SEPP). The revised location continues to be within the identified “proximity area for coastal wetlands” and is consistent with the original assessment undertaken for such environmental contexts. Importantly, the changes do not affect land mapped/identified as Coastal Wetland.

Based on mapping, the revised location remains outside of the Probable Maximum Flood (PMF) inundation area, and within the same (Class 5) Acid Sulfate Soils risk area. The changes are therefore not expected to have any further influence upon other environmental considerations or result in any additional environmental or amenity related impacts.

5.2.3 Update of Landform Contours on Applicable Stage 2 Plans to be Consistent with Modification no.2 to SSD-9575 (Concept Proposal and Stage 1 Works)

Relevant plans applicable to the Stage 2 SSD application that show the final landform/contours have been updated to reflect the changes made to cut and fill on-site as part of the Response to Submissions report for SSD-9575-Mod-2. The changes to cut and fill and final landform have been addressed as part of the separate Response to Submissions report concurrently submitted for SSD-9575-Mod-2. This is because bulk earthworks changes are applicable to that application. The Stage 2 plans have been updated for consistency and do not result in further impacts.

5.2.4 Amended Landscape Zonal Plan to Delete the Community Garden Opportunity

An opportunity for a community garden was identified in the Stage 2 Landscape Design Report and Plans contained within the Stage 2 EIS as Appendix B and D. The development of a community garden opportunity on the Project Site was contingent on the identification of a suitable community organisation and establishment of a licence agreement and general support from the community, including local farmers.

The community garden opportunity (previously identified as 12b on the landscape zonal plan submitted with the EIS) was identified as a small area/plot located adjacent to the at-grade car park. Consultation has confirmed that the local farming community does not support the community garden proposal and would prefer that it not be included. Furthermore, there were unresolved maintenance and management issues associated with this feature. Following this further analysis and consultation, it has been decided to remove this element from the plan.

The Agricultural Offset Plan at **Appendix L** and the landscape zonal plan prepared by Turf Design have been amended accordingly following further consideration and taking in account the consultation with local farmers and the established agricultural working group (refer to LS-DWG-10-1003 Rev 10 attached at **Appendix B**).

Nonetheless, to continue to satisfy the conditions of consent from SSD 9575 and as detailed in the Agricultural Offset Plan at **Appendix L**, the landscape zonal plan shows that the existing orchard would be retained, edible plant varieties would be included in the hospital landscape where appropriate, and there is opportunity for a therapy garden depicted on the site, conveniently located proximal to the hospital building. As originally described, the planting palette would incorporate species with sensory values, and culinary uses to encourage meaningful engagement with the landscape. Edible plant varieties are proposed for inclusion in various areas of the hospital. Options range from a diverse mix of seasonal species and herbs, to native bush tucker plantings focused around key outdoor Aboriginal meeting places (species palettes would be developed in consultation with the Indigenous community). Edible plants will also be integrated into the courtyards where appropriate.

All these features adequately contribute to providing a practical and meaningful reference to the past agricultural land use, complement the healing environment to be fostered at the Tweed Valley Hospital, and support the range of actions that comprise the Agricultural Offset Plan. On this basis, deletion of the previously proposed community garden opportunity is necessary and acceptable.

6. Other Matters

6.1 Contamination: Site Audit Statement and Report

A Site Audit Statement (SAS) and accompanying Site Audit Report (SAR) has been issued by JBS&G for the Project Site and is attached at **Appendix M**. The SAS and SAR confirm remediation has occurred in accordance with the relevant Remediation Action Plans (RAP) and the site is suitable for the use as a hospital, in accordance with conditions of consent and regulatory requirements/ guidelines, including the *Contaminated Land Management Act 1997*.

The suitability of the site for the identified uses is not dependent on any ongoing management of contamination. However, as part of the normal process of construction management, should any unexpected finds be encountered during the development works, these should be addressed in accordance with the unexpected finds protocols documented in RAP (OCTIEF 2019) and subsequent RAP addenda (Cavvanba 2019b, 2019d and 2019i).

Refer to **Appendix M** for full details and certification.

Copyright and Usage

Appendix A

Public Submissions Coding Framework

Appendix B

Updated Stage 2 Project Plans

Appendix C

Architectural and Urban Design Response

Appendix D

Landscape Architecture Response

Appendix E

Updated Visual Impact Assessment

Appendix F

Bushfire Advice: Rooftop Gardens

Appendix G

Civil and Stormwater Response

Appendix H

Updated Hydrology Report and Response

Appendix I

Geotechnical Advice

Appendix J

Biodiversity Response

Appendix K

Water and Sewer Services Response

Appendix L

Updated Agricultural Offset Plan

Appendix M

Contamination – Site Audit Statement & Report

Appendix N

Updated Aviation Report and Response

Appendix O

Traffic and Transport Response