Bega Valley Health Service Development - Bega

Environmental Impact Statement

September 2012

urbis

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Stephen White
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Report Number	Final

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TABLE OF CONTENTS

TABLE OF CONTENTS

FIGURES:

PICTURES:

TABLES:

Statement of Validity

Submission of Environment Assessment:

Prepared in accordance with Schedule 6A of the *Environmental Planning and Assessment Act 1979.*

Environmental Impact Statement prepared by:

Names:	Danielle Pinkerton, Associate Director and Angus Halligan. Consultant.
Address:	Urbis Pty Ltd Level 23, Tower 2 201 Sussex Street Sydney NSW 2000
In respect of:	Bega Valley Health Services Redevelopment (SSD 5307-2012)

Applicant and Land Details

Applicant:	Health Infrastructure NSW
Applicant Address:	Level 8, 77 Pacific Highway, North Sydney
Land to be Redeveloped:	Tathra Road, Bega
Lot and DP	Lot 1 in Deposited Plan 1176012
Project	**Staged Development Application** that sets out the concept proposal for the site, including site layout and building envelopes. **Stage 1 Construction Enabling Works** including bulk earthworks, piling and foundations, services location and reticulation, internal and external road works, car parking and other civil infrastructure.

Declaration:

I certify that the contents of the Environmental Impact Statement to the best of my knowledge, has been prepared as follows:

- In accordance with *Schedule 2* of the *Environmental Planning and Assessment Regulations 2000*.
- The statement contains all available information that is relevant to the environmental assessment of the proposed development, and
- To the best of my knowledge the information contained in this report is neither false nor misleading.

Name:	Danielle Pinkerton, Associate Director MURP, University of Sydney	Angus Halligan, Consultant BTP, University of New South Wales
Signature:		
Date:	5 September 2012	5 September 2012

Executive Summary

This Environmental Impact Statement (EIS) relates to the proposed development of the Bega Valley Health Services (Hospital) at Tathra Road, South Bega. The hospital development is proposed as a Staged Development under *Section 83B* of the *Environmental Planning and Assessment Act 1979.*

The EIS was prepared in accordance with Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979*, Schedule 2 Part 3 of the *Environmental Planning and Assessment Regulations 2000* and *SEPP (State and Regional Development) 2011*.

The EIS has been prepared in response to the modified Environmental Assessment Requirements issued by the Department of Planning and Infrastructure on 10 August 2012 for the State Significant Development (SSD 5307-2012).

THE SITE

The project area comprises the land legally described as Lot 1 in Deposited Plan 1176012, and located at 1614 Tathra Road, Bega in the Bega Valley Local Government Area (LGA). The site has an area of approximately 17.5ha.

The Bega Valley Health Services Hospital (BVHS Hospital) site is approximately 2km outside the Bega Town Centre on land identified by the *Bega Valley Shire Council DCP 2009* as *'Important public open space & private rural landscape'*.

The site therefore has limited urban relationship to the urban forms of the Bega Town Centre, but nonetheless occupies an important public site as an edge to the town's development and the Bega River floodplain, and a potential 'gateway' for those arriving at Bega along Tathra Road.

DEVELOPMENT PROPOSAL

The proposed development of the BVHS Hospital will involve two separate stages of construction.

- **Stage 1**: Construction enabling works consisting of:
  - Bulk earthworks.
  - Piling and foundations.
  - Services location and reticulation.
  - Internal and external road works.
  - Car Parking and other civil infrastructure.
- **Stage 2**: Main construction works consisting of:
  - Construction of a new 3- storey hospital building of approximately 26,000m².
  - Car parking.
  - Associated Landscaping.

This application deals specifically with the concept approval (Staged-DA) for the hospital and the Stage 1 – Construction Enabling Works. The Stage 2 Main Construction works will be the subject of a subsequent separate application.

PROJECT OBJECTIVE

The overall objective of the proposal is to provide:

> *"a contemporary health care facility suited to the current and future needs of the catchment population. Importantly, this proposal strongly aligns with Commonwealth, NSW, and NSW Health strategic objectives for the provision of improved health services to regional, rural and remote communities."* (Health Infrastructure NSW, *Funding Application*, 2010, p.8)

The key objective of the proposal is to develop a hospital which will deliver:

> *"a new hospital on a Greenfield site with significantly improved capacity and the critical mass to support a higher scope of clinical care (services at Role Delineation Level 4) and a broader range of acute and sub-acute health services to better meet the current and future needs of the Bega Valley community."* (Health Infrastructure NSW, *Funding Application*, 2010, p.8)

ENVIRONMENTAL IMPACT STATEMENT

The EIS provides an assessment of the environmental impacts of the project in accordance with the Director General's Environmental Assessment Requirements (DGRs) and sets out the undertakings made by NSW Health Infrastructure to manage and minimise potential impacts arising from the development.

MITIGATION MEASURES

The EIS identifies appropriate mitigation measures to control the environmental impacts of the proposed development during both the construction and ongoing operation of the facility. The mitigation measures address issues such as traffic, noise, heritage, flora and fauna and construction management as well as the management of the hospital and its ancillary components for day to day operations. As part of the environmental impact assessment, specialist technical consultants have been engaged and consulted with to identify the suitable mitigation measures to be implemented to minimise environmental impacts of the proposal. These mitigation measures are summarised in **Section 13** of this report, and have been adopted in Draft Statement of Commitments for the delivery of the Hospital.

CONCLUSION

The EIS addresses the modified Director-General's Environmental Assessment Requirements (DGRs) issued by the Department of Planning and Infrastructure on 10 August 2012, and demonstrates the environmental impacts of the proposal can be satisfactorily mitigated.

Given the planning merits outlined in the EIS, the proposed development is justified and warrants approval by the Minister for Planning and Infrastructure.

The development results in positive changes to the health services infrastructure for the south coast community with minimal environmental impacts. Accordingly, it is considered that the proposed Staged Development and Stage 1 works for the hospital are in the public interest and approval is recommended.

1 Introduction and Background

1.1 BACKGROUND TO PROPOSAL

This Environmental Impact Statement (EIS) has been prepared by Urbis on behalf of NSW Health Infrastructure to accompany a State Significant Development application seeking approval for the Bega Valley Health Services Redevelopment proposal located at 1614 Tathra Road, South Bega.

The Bega Valley Health Service (BVHS) currently includes two public hospitals at Bega and Pambula, and a number of Community Health Services which cover the Bega Valley Shire.

- **Bega Hospital** is a 69 bed District Hospital providing Level 3 services including emergency and high dependency care, general medicine, general and orthopaedic surgery, maternity and paediatrics, mental health services (including a six bed inpatient unit), drug and alcohol services, medical oncology spaces and clinics, and a public dental clinic. A broad range of primary health care services are also located on the existing hospital site.

- **Pambula Hospital** is a 30 bed Community Acute Hospital providing emergency care, general medicine and day surgery. Pambula Hospital provides lower level clinical care than Bega Hospital.

These hospitals have outgrown their current physical infrastructure which is out dated and unsuited to the delivery of contemporary health care. The Bega Hospital was constructed in 1954 and Pambula Hospital in 1978.

Neither facility has the physical capacity to support the increasing health service demands and new models of care being driven by a growing and ageing population, nor do they comply with the current requirements of the Building Code of Australia (BCA). There is a need to consolidate site services and replace the out dated facilities with a contemporary building that support new models of care, including a greater emphasis on primary health care, community and ambulatory care services with multi-disciplinary orientation.

Planning for the redevelopment of BVHS has been informed by the BVHS Clinical Service Plan 2012 and community consultation. Through consultation with the relevant government bodies, stakeholders and local community, Health Infrastructure NSW made the decision that development of a new hospital on a Greenfield site was the most appropriate action. This facility will deliver contemporary models of care and functional design to service the growing health demands of the catchment population.

The new facility would be designed to support a larger critical mass of acute, subacute, primary health care, community and ambulatory care service, and clinical support services at a higher role delineation level that will have the capacity to meet the needs of the Bega Valley community and its broader catchment to 2021.

1.2 PROJECT OBJECTIVES

The overall goal is to provide consolidated health facilities with the physical capability to enable contemporary models of care including increased acute and sub-acute care to meet projected catchment population growth as documented in the BVHS Clinical Services Plan (CSP).

The existing health service facilities within the locality are no longer suitable for delivery of services which align with the National Health and Hospitals Reform agenda.

The key objectives for the BVHS development include an intention to:

- *Upgrade hospital and community health infrastructure to provide a more appropriate service capacity response to meet future needs and service gaps.*

- *Address service gaps (including unmet demand for elective surgery and mental health access).*

- *Enhance system coordination with greater functional integration of acute inpatient, sub-acute and community outreach services.*

- *Support achievement of performance benchmarks and efficiencies by reducing duplication and fragmentation associated with the current operation of two hospitals in close proximity.*

- *Develop the local health workforce and foster multi-disciplinary rural practice through improved training facilities and links to education institutions.*

- *Enable ongoing quality improvements including e-health and Telehealth initiatives and achievement of National Standards.* (Health Infrastructure NSW, *Funding Application*, 2010, p.17).

Development of the BVHS will assist in achieving Commonwealth reform targets through:

- *Upgrading regional health infrastructure through replacement of the two out-dated BVHS hospitals with a single state of the art regional health service (South Bega) and the retention of the Community Health Centre (Pambula) to allow continuity of service delivery with strong links to a new contemporary District Hospital.*

- *Providing upgraded training facilities to assist workforce development and to support rural based medical, nursing and allied health training and to benefit the local community through access to improved rural health models.*

- *Improving acute care facilities including operating theatres and Emergency Services which will assist with achievement of waiting time/access targets.*

- *Supporting more integrated system coordination with enhanced communication systems and health information links to community health programs, mental health, oral health, and rehabilitation services.* (Health Infrastructure NSW, *Funding Application*, 2010, p.18).

1.3 VALUE OF PROJECT

Capital investment value (CIV) is defined in the *Environmental Planning and Assessment Regulation 2000* as follows:

> ***Capital investment value*** *of a development or project includes all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, other than the following costs:*
>
> *(a) amounts payable, or the cost of land dedicated or any other benefit provided, under a condition imposed under Division 6 or 6A of Part 4 of the Act or a planning agreement under that Division,*
>
> *(b) costs relating to any part of the development or project that is the subject of a separate development consent or project approval,*
>
> *(c) land costs (including any costs of marketing and selling land), and*
>
> *(d) GST (within the meaning of A New Tax System (Goods and Services Tax) Act 1999 of the Commonwealth).*

Under *Schedule 1* of the *SEPP (State and Regional Development)* the following developments are included as State Significant Development:

> *Development that has a capital investment value of more than $30 million for any of the following purposes:*
>
> *(a) hospitals,*
>
> *(b) medical centres,*
>
> *(c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).*

The BVHS has a CIV of greater than $30 million and is a development for the purpose of a hospital, therefore is categorised as a State Significant Development in accordance with Schedule 1 of *SEPP (State and Regional Development).*

The CIV of the proposed development is $151,684,000.

A Quantity Surveyors Certificate of Cost certifying CIV of the development is attached as **Appendix A**.

1.4 THE SITE

The subject site is identified as 1614 Tathra Road, Bega and is legally described as Lot 1 in DP 1176012. The site has an area of approximately 17.5 hectare with a western frontage to Tathra Road. The site is irregular is shape, and falls away to the north east and south, with an overall cross-fall of approximately 25 metres. The site comprises two catchments with drainage discharge points required along the north and east boundaries.

As part of the recent subdivision, a new public access road from Tathra Rd at the intersection with Harry Scanes Ave is to be constructed (currently termed 'Hospital Drive'). The allotment on which Hospital Drive is situated is a Crown Road reserve running along the northern boundary of the site.

Construction of Hospital Drive on the Crown Road reserve will be subject to a separate approval process through Bega Valley Shire Council.

This access point will be constructed with a round-a-bout at its right-turn into the Hospital site. Hospital Drive will form the single access point into the BVHS site, providing access to emergency vehicles, patients, staff and visitors.

The site is generally cleared of vegetation, with turf coverage and a scattering of trees. Vegetation on the site is generally contained to the Tathra Road frontage, which provides a vegetated ridgeline for the site.

Adjacent properties to the north and south of the site are of a rural character, with detached dwellings. On the western side of Tathra Road is a new residential subdivision, which is partially constructed.

FIGURE 1 – LOOKING EAST/SOUTH FROM INTERSECTION OF TATHRA ROAD AND HARRY SCANES AVE

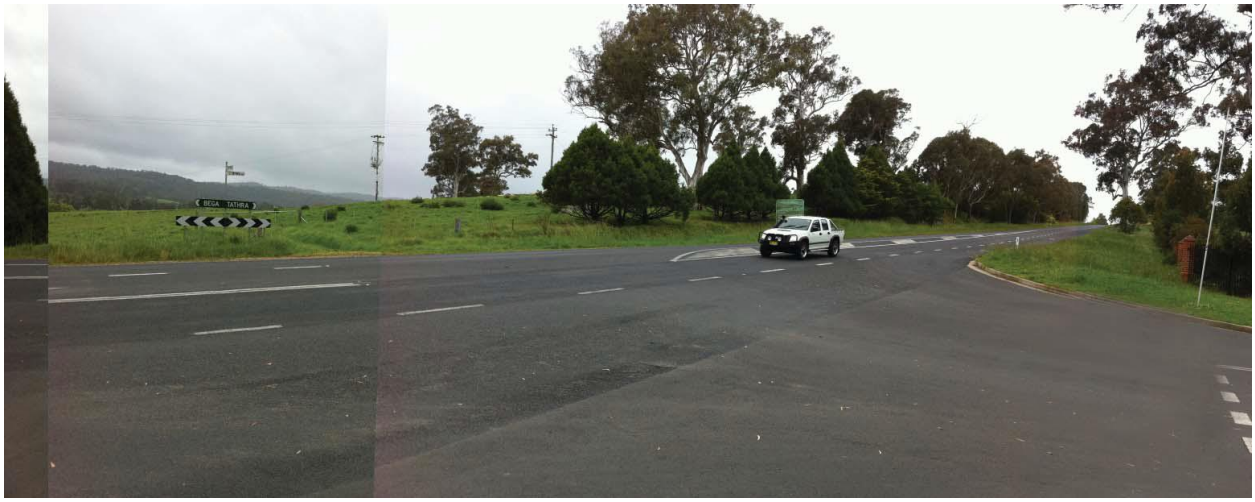


FIGURE 2 – LOOKING NORTH/EAST FROM INTERSECTION OF TATHRA ROAD AND BOUNDARY ROAD

FIGURE 3 – SITE PHOTOGRAPHS

PICTURE 1 – VIEW SOUTH EAST ACROSS NORTHERN PORTION OF SITE

PICTURE 2 – FACING EAST ACROSS THE SITE

PICTURE 3 – VIEW FROM TATHRA ROAD TO THE NORTH EAST TO BILLABONG

PICTURE 4 – TAKEN FROM SITE LOOKING NORTH ACROSS THE ADJOINING DAIRY FARM

1.5 REGIONAL CONTEXT

The subject site is situated approximately 2 km south east of the township of Bega, which is located approximately 80 km north of the New South Wales-Victoria border in south east New South Wales. The subject land is on the east side of Tathra Road approximately 700 metres from the main channel of the Bega River and is wholly within the Bega Valley Local Government Area (LGA).

The LGA has a projected population growth of 22% to 2021 and 41% to 2036. Population growth in 65 and over is forecast much higher at 73% to 2021, and 149% to 2036. The growth in the population aging in the region is the main driver for health services within the region.

1.6 THE PROPONENT AND PROJECT TEAM

The Environmental Impact Statement (EIS) has been prepared by Urbis with specialist reports prepared by a range of technical consultants. The key disciplines and members of the project team are listed below:

- Access, Traffic and Parking – Sinclair Knight Merz
- Aviation – L&R
- Bushfire - ABPP
- Civil Engineer – C&M

- Community Consultation – Health Infrastructure NSW
- Contamination – Coffey
- Ecology – Abel Ecology
- Ecological Sustainable Development – BVN
- Groundwater and Surface Water - Coffey
- Hazards and Risks – SKM
- Heritage: Indigenous and Non-Indigenous – RPS
- Noise & Vibration – SLR
- Landscape - 360º
- Project Management - Johnstaff
- Quantity Surveyor - RLB
- Stormwater – C&M
- Flooding – ARUP
- Urban Design – BVN
- Urban Planning – Urbis
- Services – ARUP
- Waste Management – Health Infrastructure NSW

2 Director General's Requirements

This EIS has been prepared to address the issues outlined in *Schedule 2, Part 3, Clause 6 and 7* of the *Environmental Planning and Assessment Regulations 2000* and the Director Generals Environmental Assessment Requirements (DGRs) specifically for the site.

The DGRs were issued on 6 June 2012, however to accommodate a Staged-Application in accordance with *Section 83B of the Environmental Planning and Assessment Act* 2979, modified DGRs were requested and issued by the Department of Planning and Infrastructure on 10 August 2012.

A copy of the amended DGRs is attached in **Appendix B**. This EIS has been prepared in response to the amended DGRs, (herein referred to as the DGRs).

Table 1 summarises the DGRs and includes a reference identifying where the DGRs key issue is addressed in this report.

The DGRs identified the following key issues to be addressed within Staged Development Application and Stage 1 – Construction Enabling Works:

<u>Staged Development Application</u>

- Statutory and Strategic Context
- Polices, Guidelines and Planning Agreements
- Built Form and Urban Design
- Ecologically Sustainable Development
- Amenity
- Transport and Accessibility
- Flora and Fauna
- Heritage
- Bushfire
- Flooding
- Staging

<u>Stage 1 Construction Enabling Works</u>

- Statutory and Strategic Context
- Noise and Vibration
- Transport and Accessibility
- Aboriginal Heritage
- Drainage
- Sediment, Erosion and Dust Controls
- Servicing and Waste

TABLE 1 – DIRECTOR GENERAL'S REQUIREMENTS: STAGED DEVELOPMENT APPLICATION & STAGE 1 CONSTRUCTION ENABLING WORKS

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
General Requirements	The Environmental Impact Statement/s (EIS) must address the *Environmental Planning and Assessment Act 1979 and* meet the minimum requirements in clauses 6 and 7 of Schedule 2 the *Environmental Planning and Assessment Regulation 2000.* Notwithstanding the key issues specified below, the EIS/s must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the assessment, must include measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	Direction from DOP&I has indicated that an environmental risk assessment is no longer a general requirement.
Staged Development Application: The EIS for the staged development application for the Bega Valley Health Service Redevelopment must address the following specific matters:		
1. Statutory and Strategic Context	Address the statutory provisions applying to the development contained in all relevant environmental planning instruments including: ▪ State Environmental Planning Policy- (State & Regional Development) 2011. ▪ State Environmental Planning Policy No.55 – Remediation of Land. ▪ State Environmental Planning Policy 33 – Hazardous and Offensive Development. ▪ State Environmental Planning Policy- Infrastructure 2007. ▪ Bega Valley 2030, ▪ Bega Valley Local Environmental Plan 2002 ▪ Draft Bega Valley Local Environmental Plan 2010. ▪ Bega and District Strategic Directions Report. *Permissibility* Detail the nature and extent of any prohibitions that apply to the development. *Development Standards* Identify the development standards applying to the site. Justify any development standards not being met.	Section 7.1-7.3

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
2. Policies, Guidelines and Planning Agreements	Address the relevant planning provisions, goals and strategic planning objectives in the following: ▪ NSW 2021 ▪ South Coast Regional Strategy; ▪ Bega Valley Shire Council's Section 94 Plans; ▪ NSW Ground water Policy Framework Document – General; ▪ NSW Groundwater Quality Protection Policy; ▪ Planning Guidelines for Walking and Cycling; and ▪ Crime Prevention Through Environmental Design. Detail how the development promotes or is consistent with the provisions and strategic objectives of these documents.	Section 7.4-7.5 and 11.4
3. Built Form & Access	▪ Establishment of appropriate development controls including: – Gross floor area – Land use distribution – Building footprints – Height and massing/building envelopes. ▪ Indicative plans and elevations for the concept proposal to detail design, height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography, streetscape, and existing hospital buildings. ▪ Consideration of the overall site layout, connection with the existing adjacent hospital buildings and pedestrian connectivity to open spaces and hospital facilities.	Section 4.1-4.7 and 9.1.
4. Ecologically Sustainable Development (ESD)	Preliminary analysis of how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulations 2000) will be incorporated in the design, construction and ongoing phases of the development.	Section 9.2
5. Amenity	Preliminary analysis of perceived amenity impacts including overshadowing, privacy and analysis of significant views and vistas that would be impacted by the concept proposal.	Section 9.3
6. Transport and Accessibility	Undertake a preliminary assessment of the traffic impact of the concept proposal, with particular regard to: ▪ Existing road capacity, traffic conditions, expected impacts and any upgrade requirements.	Section 9.4 and 10.2

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
	▪ Daily and peak traffic movements and impacts on intersections. ▪ Access arrangements to and within the site. ▪ Delivery, servicing and loading arrangements. ▪ Pedestrian and bicycle linkages to and within the site. ▪ Access for emergency vehicles.	
7. Flora and Fauna	Undertake a preliminary assessment of the potential impacts on existing local flora and fauna, including threatened species, populations and endangered ecological communities and their habitats and identify steps to be taken in the future stage to mitigate any identified impacts to protect the environment.	Section 9.5
8. Heritage	Undertake a preliminary assessment of the impact of the concept proposal on the heritage significance of any heritage items, including Aboriginal and European items of heritage or cultural significance.	Section 9.6 and 10.3
9. Bushfire	Undertake a preliminary bushfire hazard assessment that addresses the requirements of the *Rural Fires Regulation 2008* and the requirements for Special Fire Protection Purpose Development as detailed in *Planning for Bush Fire Protection 2006* guidelines.	Section 9.7
10. Flooding	Undertake a preliminary floor assessment that addresses the provisions of the NSW Floodplain Development Manual (2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity.	Section 9.8
11. Staging	Details regarding the staging of the proposed development.	Section 9.9
Stage 1 Construction Enabling Works: The EIS for Stage 1 Construction Enabling Works for the Bega Valley Health Service Redevelopment must address the following specific matters:		
1. Statutory and Strategic Context	Address the statutory provisions applying to the development contained in all relevant environmental planning instruments including: ▪ State Environmental Planning Policy- (State & Regional Development) 2011. ▪ State Environmental Planning Policy No.55 – Remediation of Land. ▪ State Environmental Planning Policy 33 – Hazardous and Offensive Development. ▪ State Environmental Planning Policy- Infrastructure 2007.	Section 7.1-7.5 and Section 11.4

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
	▪ Bega Valley 2030. ▪ Bega Valley Local Environmental Plan 2002. ▪ Draft Bega Valley Local Environmental Plan 2010. ▪ Bega and District Strategic Directions Report. Address the relevant planning provisions, goals and strategic planning objectives in the following: ▪ NSW 2021; ▪ South Coast Regional Strategy; ▪ Bega Valley Shire Council's Section 94 Plans; ▪ NSW Ground water Policy Framework Document – General; ▪ NSW Groundwater Quality Protection Policy; ▪ Planning Guidelines for Walking and Cycling; and ▪ Crime Prevention Through Environmental Design.	
2. Noise and Vibration	Identify and provide a quantitative assessment of the main noise and vibration generating sources and activities during Stage 1 Construction Enabling Works. Outline measures to minimise and mitigate the potential noise and vibration impacts on existing hospital operations and surrounding occupiers of land.	Section 10.1
3. Transport and Accessibility	▪ Detail proposed car parking arrangements, including parking requirements for Stage 1 Construction Enabling Works. ▪ Provide accurate details of daily vehicle movements and assess the impacts of the traffic generated on the local road network, including impact on nearby intersections and any potential need for upgrading or road works (if required). ▪ Preparation of a Traffic Impact Study to identify potential traffic impacts during the construction stage of the project, and measures to mitigate this impact.	Section 10.2
4. Aboriginal Heritage	The EIS shall address Aboriginal Heritage in accordance with the Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, if relevant.	Section 10.3

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
5. Drainage	In consultation with Bega Valley Shire Council, prepare a Stormwater Management Strategy and Plan that addresses drainage associated with Stage 1 Construction Enabling Works, including stormwater and drainage infrastructure, with particular attention to the issue of on-site retention/detention to avoid any adverse impacts on downstream properties.	Section 10.4
6. Sediment, Erosion and Dust Controls	Prepare a Soil and Water Management Plan that details measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles during Stage 1 Construction Enabling Works.	Section 10.5
7. Serving and Waste	Preparation of a Waste Management Plan that identifies, quantifies and classifies the likely impacts waste streams to be generated during Stage 1 Construction Enabling Works and describe the measures to be implemented to manage, reuse, recycle and safely dispose of waste, Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plants) for the site.	Section 10.6
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulations 2000. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following: ▪ Concept envelope drawings; ▪ Architectural drawings, including internal road works, road layout and car parking; ▪ Site survey plan, showing existing levels, location and height of existing and adjacent structures/buildings and boundaries; ▪ Site Analysis Plan; ▪ Stormwater Concept Plans; ▪ Shadow Diagrams; ▪ View Analysis/Photomontages; ▪ Landscape Plans; ▪ Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan; ▪ Geotechnical and Structural Report, including bulk earthworks plan;	Attached as Appendices

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
	▪ Arborist Report; and ▪ Sample board and schedule of materials and finishes.	
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: ▪ Bega Valley Shire Council. ▪ Roads and Maritime Service. ▪ Local Aboriginal Land Council and stakeholders. ▪ Local Heritage Group/s, if relevant. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	Section 6.1-6.2
Further Consultation after 2 years	If you do not lodge a development application and EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Director General in relation to the preparation of the EIS.	
Reference	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the guidelines, policies and plans listed above may be relevant to the environmental assessment of this project.	

3 Site and Contextual Analysis

3.1 REGIONAL CONTEXT

The subject site is situated approximately 2 km south east of the township of Bega, which is located approximately 80 km north of the New South Wales-Victoria border in south east New South Wales. The BVHS has been strategically located to service the South Coast Region of NSW.

The BVHS will primarily service the Bega Valley LGA, as well as provide regional services for orthopaedic services for the Bombala, Cooma-Monaro, Eurobodalla and Snowy River LGAs.

The BVHS falls within the wider catchment of the Southern NSW Local Health District. The Canberra Hospital, the major tertiary referral hospital for the Bega Valley Shire is a minimum of 3 hours' drive away. Goulbourn Base Hospital is the closest Base hospital and is 3.5 to 4 hours' drive away.

The site has been selected for its strategic accessibility from major road networks which service the region. The Princes Highway is the primary connecting vehicle route for South Eastern NSW. The Snowy Mountains Highway connects with the Princes Highway to the north of Bega connecting to Cooma through Bemboka. South of Bega, the Princes Highway continues to Merimbula, Pambula and Eden. These road networks provide connections between the site and major townships within the region.

Further, the Bega bypass will improve access to the hospital from the Pacific Highway, and, allowing traffic to continue around the town to the new hospital site, rather than passing through the Bega Township.

The South Coast Regional Strategy recognises the in-migration of retirees to the South Coast seeking a 'sea-change', coupled with the out-migration of youth to areas with higher employment opportunities. This has a consequential effect of creating an aging population with a median age of 45 compared to the current median of 37 for NSW (ABS Census, 2006).

The Bega Valley LGA has a projected population growth of 22% to 2021 and 41% to 2036. Population growth in 65 and over is forecast much higher at 73% to 2021, and 149% to 2036. The growth in the population aging in the region is the main driver for health services within the region.

Given the above, and the strategic importance of Bega as a major regional centre, the delivery of upgraded health services for the growing South Coast Region is of critical importance and the subject site is an optimal location.

FIGURE 4 – REGIONAL CONTEXT

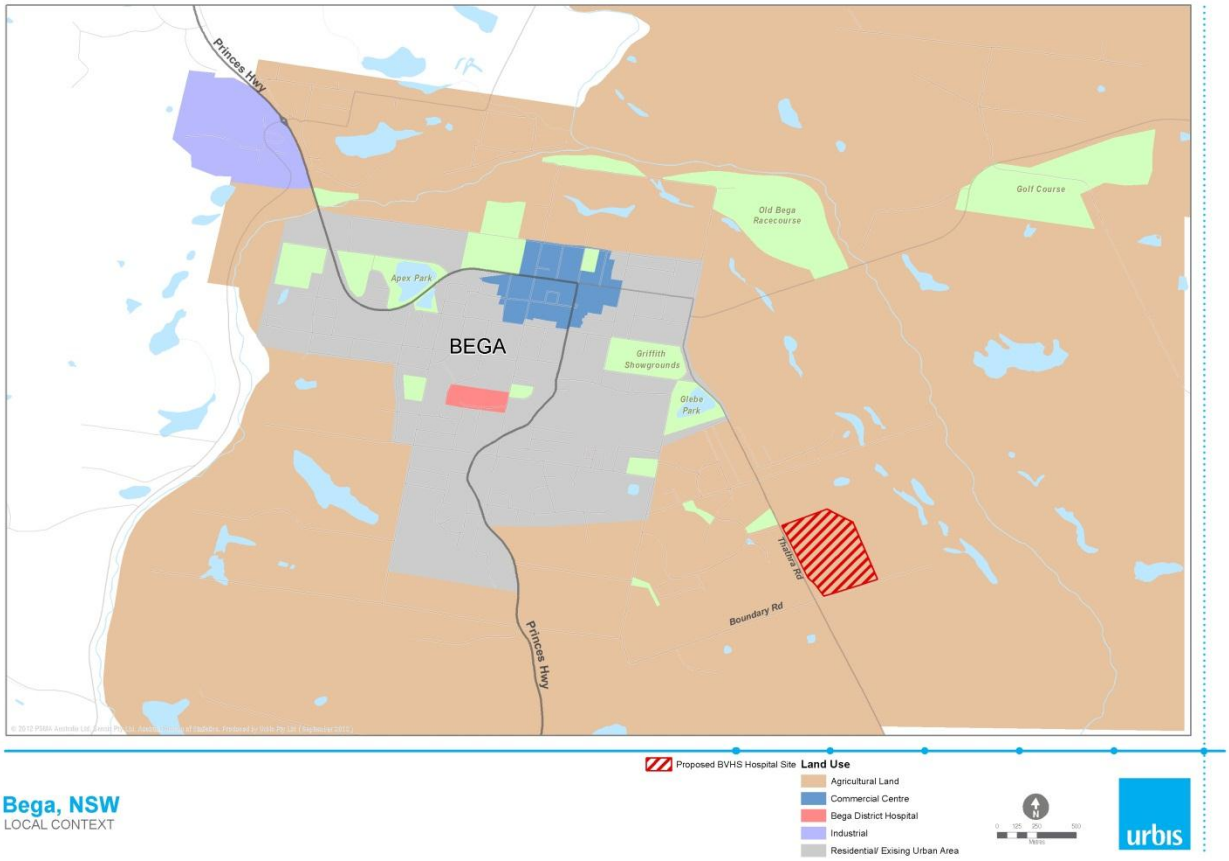
3.2 LOCAL AND SITE CONTEXT

The key features of the site and its context are detailed below:

- The site is zoned 1(a) Rural General Zone under the provisions of the *Bega Valley Local Environmental Plan 2002*.
- The site has a limited urban relationship to the urban forms of the Bega Town Centre, but nonetheless occupies an important public site as an edge to the town's development and the Bega River flood plain.
- Consent was granted for subdivision of the site to create a lot for the proposed hospital (as demonstrated within the Survey Plan and Subdivision Consent attached at **Appendix C**). The 'hospital site' is legally described as Lot 1, Deposited Plan 1176012. Any reference to the site hereafter makes reference to the hospital site as described above.
- The main vehicular approach to the site will be from Bega and heading south along Tathra Rd which lines the edge of town's eastern development and links back to the town centre. This approach provides vistas across the farming land that occupies the Bega River flood plain.
- There is limited significant vegetation on the site with the majority of vegetation being grass cover.
- The site generally falls away from Tathra Road towards the north and east. Levels at the site range from approximately RL30 (AHD) at the western boundary to RL18 (AHD) in the north and east lower lying areas.
- Tathra Road (to the west of the subject site) is a typical sealed rural road. Boundary Road along the southern boundary of the site in an unsealed 'dirt' road and resembles more of a private road or driveway than a public road.
- The site is a working farm with grazing livestock. As such the land is predominantly grassed with numbers of individual large eucalypts and casuarina screening along Tathra Rd.

FIGURE 5 – AERIAL PHOTO OF EXISTING SITE

FIGURE 6 – LOCAL CONTEXT



4 Development Description

4.1 OVERVIEW

The proposal seeks consent for the Staged Development of the BVHS Hospital. The hospital development will be constructed in two stages comprising the following:

- **Stage 1**: Construction enabling works consisting of:
  - Bulk earthworks;
  - Piling and foundations;
  - Services location and reticulation;
  - Internal and external road works; and
  - Car Parking and other civil infrastructure.
- **Stage 2**: Main construction works consisting of:
  - Construction of a new 3- storey hospital building of approximately 26,000m^2;
  - Car parking; and
  - Associated Landscaping.

The project will facilitate a greater level of patient focus care servicing the growing health demands of the wider Bega Valley community.

This application seeks approval for the Staged development of the hospital, including conceptual detail of the Hospital building, and Stage 1 Construction Enabling Works. The Stage 2 approval for the hospital building will be the subject of a subsequent separate application.

4.2 OBJECTIVES OF THE PROPOSAL

As previously stated, the overall objective of the BVHS Hospital development is to develop a new hospital on a Greenfield site with significantly improved capacity and the critical mass to support a higher scope of clinical care and a broader range of acute and sub-acute health services to better meet the current and future needs of the Bega Valley community.

The existing health service facilities within the locality are no longer suitable for delivery of services which align with the National Health and Hospitals Reform agenda.

In terms of service mix, the ageing population will produce a significant increase in acute service demand for cardiology, neurology, respiratory medicine, renal disease and cancer care as well as growth in orthopaedics, general surgery, urology, ophthalmology and gynaecology. The effective provision of service for an older population requires strong referral links to GP's and Community Health. Demand for fast and slow stream rehabilitation, and for geriatric evaluation and transitional care, will increase significantly while paediatrics and maternity care will remain a steady requirement.

The fabric and dispersed siting of the existing health facilities at Bega and Pambula are not appropriate to deliver the diversity and nature of service collaborations required to address the future health care needs of the catchment. There is a need to consolidate core services into a single new facility that will support contemporary multi-disciplinary models across a wide range of care programs. Consolidation of service infrastructure will also enable more effective utilisation of the local health care workforce which is stretched by the current requirement to cover duplicated services at two different hospital sites which are located just 30 minutes' drive apart.

4.3 DEVELOPMENT DESCRIPTION

The subject application seeks Staged Development approval for the overall hospital development at the subject site, and approval to undertake Stage 1 Construction Enabling Works.

4.3.1 STAGED HOSPITAL DEVELOPMENT

The Concept Development Application is for the development of a new hospital for the Bega Valley LGA. The Staged application seeks approval for the development of the hospital in two stages.

As part of the Staged Development, approval is sought for the Concept design of the hospital including building height, massing and building envelopes for the Hospital building. Key features of the hospital concept to be approved with this staged application include:

- The building pad of the hospital building, which has been located to optimise the topography of the site to limit the dominance of the building on Tathra Road.
- Identifying the location of hospital related land uses across the site, including the location of the helipad.
- The building envelope, including:
  - A building of generally 3 storeys with a pad level of RL 20.50.
  - Approximately 24.000sqm of GFA.

The concept site plan prepared by BVN is submitted with this application at **Appendix D**.

A concept landscape plan and strategy have been prepared by 360º Landscape Architects and whilst landscape approval is subject to the Stage 2 application, the concept proposal has been submitted with this application (at **Appendix E**).

While the hospital site has been created through a consolidation of five former allotments (Lots 1, 2 and3 in DP 827161, Lot 9 in DP 750190 and Lot 1 in DP 169801, and subdivision into two new allotments (Lots 1 and 2 in DP 1176012) the works described above are wholly contained within the hospital site (Lot 1 in DP 1176012). The remaining agricultural land (Lot 2 in DP 1176012) will remain undeveloped and will continue to be used for agricultural purposes. Any future development of the adjoining agricultural land will be subject to a separate application.

As part of the Stage 1 works, a boundary fence will be installed to clearly delineate between the hospital site and adjoining agricultural lands.

4.3.2 STAGE 1 CONSTRUCTION ENABLING WORKS

The Stage 1 works proposed as part of this application consist of the following:

- Bulk earthworks.
- Piling and foundations.
- Services location and reticulation.
- Internal and external road works including:
  - Construction of Hospital Drive on the adjoining Crown Road reserve, along with road upgrades on Tathra Road including road widening and roundabout (subject to a separate application).
  - Construction of the Hospital Drive on the subject site.
- Car Parking and other civil infrastructure.

The Stage 1 Early Works and Concept approval seeks consent 485 car parking spaces at BVHS site, along with three suitable over flow car park locations should the hospital expand in the long and short term.

To undertake the Stage 1 site preparation works, existing vegetation within the affected earthworks area will require removal. It is proposed that approximately 18 trees will require removal within the affected areas, and an assessment of the environmental impact of the removal of these trees is undertaken the Flora and Fauna Assessment Report attached in **Appendix F** and summarised in **Section 9.6** below.

As the subject site is rural lands, with no existing structures, no demolition works are required as part of the Stage 1 Construction Enabling Works.

Bulk Earthworks across the site will create a building pad level of RL 20.50, while the carpark levels will vary between RL 19.00 (southern carpark) to RL 27.00 (western car parks). The earthworks proposed across the site have been designed to limit the volume of material required to be removed or brought onto the site. The overall result of the proposed earthworks will requires approximately 3,854m³ of fill to be brought onto the site. Details of the earthworks are contained in the Civil Drawings prepared by C&M Consulting Engineers attached in **Appendix G.**

4.4 DESIGN STATEMENT

The site layout and built form features of the proposed hospital are summarised below:

- Retention of a strong connection to this landscape and an awareness of the project's specific 'place', generating a strategic land forming response and the implementation of new landscape elements which will develop a framework for the precinct and respond to the site's topography, optimising its north easterly aspect.

- The new intersection to service the hospital has been located at the existing T-intersection of Harry Scanes Avenue, to rationalise the location of intersections along Tathra Road.

- The bulk of the new hospital will be concealed by the site's sloping topography. The grassed hillside and existing mature trees will be retained, maintaining the existing character when observed from the site entry.

- A central vehicular spine is proposed through the site, providing service for patients, staff and visitors. The road will be bordered by feature planting as a way-finding measure through the facility.

- By locating the loading areas on the eastern side of the hospital building, the change in site levels across the site will enable service area to be screened from the public entry level.

- Ambulance vehicles are proposed to be directed to a separate access from the central spine road to the ambulance bays that will use a combination of land forming and vegetation to reduce its visibility from public areas.

- Carparks for staff and visitors are broken down into modules. The bulk of the car-parking is set behind the landscape of the central spine road, ensuring views to the hospital are preserved on arrival.

- Two other carparks are to be provided - one close to the building's main entry, for visitor and staff use -including night time parking, the other at a lower level, for staff and patients utilising the hospital's renal dialysis facility.

- A number of massing options have been considered. These include reducing footprint, but extending to additional levels. A three (3) storey solution has been selected as the optimal solution as it reduces the building's mass, achieves appropriate clinical functionality, and retains significant land for future development.

- The requirement for access to natural light and views has resulted in the creation of a number of courtyards that break the hospital form into a number of 'fingers'. A courtyard provides a transitional space to the main hospital entry to the west.

- The three storey volume of acute services and 24 hour functions of the hospital has been planned according to its three levels. Typically, sub-acute, rehabilitative wards and their gyms are located at lower ground with good access to outdoor spaces. At one end of the lower ground floor, the hospital's mental health unit is located as a single storey construction, with necessary access to courtyards. At ground level, emergency services has its own ambulance and patient entries.

- Imaging is co-located with emergency services, but with a presence at the main public entry, where it can also service the needs of ambulatory and primary healthcare. To the east, the administrative functions of admissions, executive offices, as well as support spaces such as pathology, pharmacy and education are positioned with varying degrees of public interface. At level 1, high acuity wards are co-located with surgical theatres and day surgery unit.

- A combination of patient and public lifts service each level, however it is envisaged that high visibility between floors along the hospital street, and strategic positioning of public stairs will reduce the general dependency on lifts.

- Facade systems will be selected for their high insulating properties, important in reducing energy consumed for the anticipated high heating loads required. This is particularly important given the site is not supplied with natural gas.

4.5 ACCESS AND PARKING

Access

Tathra Road is an arterial road and is the responsibility of the RMS. Preliminary discussions with the RMS have indicated that direct access from Tathra Road into the subject site would not be permitted, however, consideration would be given to the upgrading of the existing intersection of Tathra Road and Harry Scanes Avenue to allow a round-about with a new eastern leg being the entry to the proposed site.

Accordingly, the proposed hospital access has been designed to co-ordinate with existing Harry Scanes Avenue intersection on Tathra Road. The new access will be via a roundabout onto a new public road on the adjoining Crown Road reserve, which will then turn right through a roundabout into the BVHS hospital site.

Key urban issues involve connection and management of flows of considerable staff, patient and visitor numbers from the town centre and surrounding areas to the BVHS Hospital site.

Establishing public transport connections is critical due to the ageing population. A bus stop within the hospital site and the use of wheelchair accessible buses connecting the hospital to surrounding areas along with the incorporation of pedestrian and cyclist facilities within the development will facilitate these connections from the site to the town centre.

Parking

Based on data provided by South East Regional Health by 2021 the proposed BVHS is expected to cater daily for:

- 80 inpatients;

- 113 visitors;

- 54 emergency presentations; and

- 60 community health appointments.

Car-parking will be constructed in a staged manner, however at all times the car parking constructed on the site will meet the parking requirements for the volume of operations located on the site.

485 car parking spaces are proposed at BVHS site. In addition, three suitable over flow car park locations have also been identified should the hospital expand in the long and short term.

The site's location away from the centre of the Bega township will see a heavy reliance on public transport to reduce the number of patients and staff who will likely arrive by car. Discussions have begun with local transport providers and a likely bus route and bus stop have been marked. Likewise, pedestrian and cycle paths have been located in site planning that will service the site in the short term but more critically into the future when the site is developed as a health campus. Cyclist facilities will be located adjacent the public entry and change facilities within staff amenities.

4.6 SERVICES

- Potable Water

The site will be provided with potable domestic water supplied to the site by a single water connection as demonstrated in the concept water supply plan submitted at **Appendix H**.

- Sewerage

A site drainage supply concept plan outlines the sewerage connection running along the northern boundary as shown in **Appendix H.**

4.7 OPERATIONAL/CONSTRUCTION MANAGEMENT

It is proposed that the BVHS Hospital will operate 24 hours, 7 days a week. Supporting health services at BVHS Hospital are expected to be approximately 627 Full Time Equivalent (FTE) staff by 2021 in a range of departments including medical, administration, engineering and community. Staff numbers per shift will vary throughout the day and night.

An outlined Construction Management Plan has been prepared by Johnstaff for the proposed works for the proposed BVHS Hospital and is submitted at **Appendix I.**

The plan covers the following areas of management:

- The operations of site management when undertaking the works:
  - Facilities;
  - Hours of construction works; and
  - Public fencing.
- Mitigation to minimise amenity and environmental impacts:
  - Noise;
  - Dust management;
  - Odour control;
  - Protection of trees;
  - Vibration management; and
  - Soil and erosion control.

- Traffic/pedestrian management throughout the duration of the works.
- Waste management:
  - Waste management and recycling principle;
  - Storage of dangerous goods; and
  - Hazardous materials management.

4.8 STAGING

The BVHS development is proposed to be constructed in two stages. The anticipated scope of works and timing for each stage is described in **Table 2** below.

TABLE 2 – STAGING PLAN

STAGE	SCOPE	TIMING
Stage 1 -	Construction enabling works consisting of: ▪ Bulk earthworks. ▪ Piling and foundations. ▪ Services location and reticulation. ▪ Internal and external road works. ▪ Car Parking and other civil infrastructure.	Early 2013
Stage 2 -	Main construction works consisting of: ▪ Construction of a new 3- storey hospital building of approximately 26,000m². ▪ Car parking. ▪ Associated Landscaping.	Mid 2013 – 2016

5 Analysis of Feasible Alternatives

5.1 REDEVELOPMENT OF EXISTING HOSPITAL

The proposal seeks to upgrade regional health infrastructure through replacement of the two out-dated BVHS hospitals with a new integrated health care facility and the retention of the Community Health Centre (Pambula) to allow continuity of service delivery with strong links to a new contemporary District Hospital

The Bega Valley Health Service (BVHS) currently includes two public hospitals at Bega and Pambula, and a number of Community Health Services which cover the Bega Valley Shire.

They have outgrown their current physical infrastructure which is out dated and unsuited to the delivery of contemporary health care. Further their existing locations, configurations and building fabrics limit opportunity for suitable redevelopment.

The fragmentation of hospital services across the two existing small hospital facilities has created challenges in attracting, retaining and efficiently utilising staff, as well as utilisation of infrastructure and medical equipment. The proposed new BVHS hospital facility will provide a consolidated and modern health facility catering for the health demands of the catchments demographic trends. Planning for the redevelopment of Bega Valley Health Service has been informed by the Bega Valley Health Services Clinical Service Plan 2012 (the 'Clinical Services Plan') and community consultation.

The Clinical Services Plan recommends the development of a new hospital on a greenfield site which enables the delivery of contemporary models of care and functional design. The new facility will support a larger critical mass of acute, subacute, primary health care, community and ambulatory care service, and clinical support services at a higher role delineation level that will have the capacity to meet the needs of the Bega Valley community and its broader catchment to 2021.

Prior to the purchase of a new site for the redevelopment of the Bega Valley Health Service, a review of a number of sites was undertaken, giving consideration to key matters that would influence the successful operation of a hospital on site:

- Site valuation.
- Physical aspects.
- Internal circulation.
- Access.
- Environmental constraints.
- Heritage characteristics.

In undertaking a technical analysis, consideration was given to the suitability of the landform within each site to accommodate a low rise hospital, the accessibility and availability of external infrastructure required to the boundaries of each site to adequately accommodate the proposed hospital, ancillary service centres and any further expansion of service.

The planning constraints with respect to a hospital being a permitted use, the boundary setbacks required to the hospital built form, watercourses and riparian zones that will impact the building layout, the approval pathways and urban context.

The bulk, scale, intensity and activity of the redeveloped hospital has been considered with respect to the neighbouring properties as currently zoned and the proposed future zoning identified in the draft LEP 2010.

Of five original sites, three were short listed as being potentially suitable for the operation of a new hospital. The short listed sites were:

- Site 1: 1531 East Street, Bega.
- Site 3: 1614 Tathra Road, Bega (subject site).
- Site 5: 2 East Street, Bega.

Of the above site, Sites 3 and 1 were recommended for a more detailed site analysis.

The key attributes required for Site 1 and 3 for the successful development of the BVHS Hospital are:

- Ensures a high quality external patient and staff vista to the north east across Bega Valley river and escarpment without the risk of future urban development compromising this outlook.
- Ensure sufficient future land for the expansion of the hospital facilities with minimal future consent/operating restrictions.
- Provided a main road frontage to provide clear way finding for public and private modes of public transport for all users within the Bega Valley.
- Ensures community satisfaction and support for the redevelopment by minimising the impact on adjacent existing and/or future residents from what is a high intensity, 24 hour a day, 365 days a year operating community hospital health services.

Given the above, the subject site at 1614 Tathra Road, Bega was selected as the most suitable location of the BVHS Hospital.

6 Consultation

The DGRs include the following requirement for consultation to be undertaken during the preparation of the Environmental Impact Statement:

> ***Consultation***
>
> *During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:*
>
> - *Bega Valley Shire Council*
> - *Roads and Maritime Service*
> - *Local Aboriginal Land Council and stakeholders*
> - *Local Heritage Group/s, if relevant.*
>
> *The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.*

Each of the above parties was consulted by Health Infrastructure NSW and its consultant team during the preparation of the EIS documentation. A summary of the consultation process is provided below:

6.1 GOVERNMENT STAKEHOLDERS

In preparing the EIS, consultation was undertaken with the following agencies:

TABLE 3 – ABORIGINAL HERITAGE CONSULTATION

AUTHORITY	ISSUE	CONSULTATION FORMAT	CONSULTATION DATES	OUTCOME	AMENDMENTS MADE
ABORIGINAL HERITAGE CONSULTATION LOG					
BLALC; OEH; Bega Valley Shire Council	Government Agency Requests	Email/mail	08/05/12-29/05/12	Agency request letters issued to BLALC and OEH; Job advertisement placed in local newspaper	Addressed Aboriginal Heritage Regulations (2007)
Chair of BLALC	Local print media advertisement	Phone	01/06/12	Informed that BLALC wanted to register interest as stakeholders	Addressed Aboriginal Heritage Regulations (2007)

AUTHORITY	ISSUE	CONSULTATION FORMAT	CONSULTATION DATES	OUTCOME	AMENDMENTS MADE
Bega LALC, Eden LALC, Merrimams LALC, SEGEA Corporation, Yuin Traditional Owner, Bega Aboriginal Elders Council, Yukembruk Merung Ngarigo	Expression of Interest Letters	Email/mail	07/06/12	Letters issued EOIL response due by 05/07/12	Addressed Aboriginal Heritage Regulations (2007)
Bega LALC, Eden LALC, Merrimams LALC, SEGEA Corporation, Yuin Traditional Owner, Bega Aboriginal Elders Council, Yukembruk Merung Ngarigo	Responses to EOI	Phone	05/07/12-24/08/12	Responses gathered; added to Aboriginal consultation log; comments due by 24/08/12	Addressed Aboriginal Heritage Regulations (2007)
Aboriginal Community consultation	Community meetings	Meetings	7-9/05/12	Project background & status; Project aspirations; Important design and planning requirements for culturally appropriate care.	Confirmation of important project aspirations & macro design strategies. Planning & design include broad range of responses to enhance culturally appropriate site & facility response.

In preparing the EIS, consultation was undertaken with the following Government stakeholders:

TABLE 4 – GOVERNMENT STAKEHOLDER CONSULTATION

AUTHORITY	CONSULTATION FORMAT	CONSULTATION DATES	OUTCOME	AMENDMENTS MADE
GOVERNMENT STAKEHOLDERS CONSULTATION LOG				
BVHS/Bega Valley Mayor	Meeting	03/02/12	Overview of planning, key masterplan issues, project aspirations	Masterplan strategy refinement e.g. roads and access to site, preferred option for infrastructure upgrade
BVHS	Meeting	06/03/12	Transport planning, procurement planning, partnerships at new hospital, 'tick' map of region	Important need for discussion around transport infrastructure with local bus operators
Pambula Rotary	Meeting	02/02/12	Fundraising for relative accommodation, overview of planning, key masterplan issues, next steps	Confirmation of masterplan strategy approach
Pambula, Bega, Eden Rotary Clubs	Meeting	13/03/12	Experience in hospital builds, day surgery procedures, future of Pambula Hospital, community consultation	
Australian National University	Meeting	15/02/12	Overview of planning, masterplan issues, needs of junior medical officers, strategy, training, education	
Ambulance Service NSW	Meeting	16/02/12	Planning, masterplan, project aspirations, future role of paramedics, potential needs of new station	Confirmation of masterplan strategy approach

AUTHORITY	CONSULTATION FORMAT	CONSULTATION DATES	OUTCOME	AMENDMENTS MADE
Eden Chamber of Commerce	Meeting	24/02/12	Availability of services, site selection, training, oncology, stroke unit, private health opportunities	
Save Our Hospitals (SOHI)	Meeting	27/02/12	Consultation process, siting of hospital, history of consultation	Continuation of health services at Pambula
Imlay House Aged Care	Meeting	27/02/12	Transfer/carriage of patients from hospital	Process for ongoing consultation
Bega District News	Meeting	06/03/12	Need to counter misinformation in community, regular updates, siting of hospital	Process for ongoing consultation
Regional Nursing Home Operators	Meeting	07/03/12	Transport services, aged care facilities, transitional care, patient transfer, smoking areas at hospital, slow stream rehab beds	
Merimbula News Weekly	Meeting	27/03/12	Long term distrust of NSW Health, active local community, siting of new hospital	Process for ongoing consultation
Merimbula/Pambula GPS	Meeting	10/04/12	GP services at Pambula, GP services at Bega, community health, existing services	Process for ongoing consultation

6.2 LOCAL COMMUNITY

Consultation with community stakeholders commenced 8 years ago. Key community consultation undertaken as part of the project design development includes:

- September 2004 – Public Meeting at the Bega RSL club to discuss the need to improve hospital facilities in Bega Valley Shire. Over 60 public stakeholders attended the meeting and unanimously supported a motion *"that as a matter of priority, a base hospital is built in the Bega Valley Shire which replaces both the Pambula District Hospital and Bega District Hospital"*.

- In 2005 – nine Community Consultation meetings were held jointly Greater Southern Area Health Services and Bega Valley Shire Council to gauge the community perception of health needs within the LGA. The outcome of these meetings indicated community desire for *"one big new hospital for the Shire"*.

- Greater Southern Area Health Services conducted a subsequent series of public meeting seeking input relating to the services required to be provided by the new hospital. This information was used in the preparation of the *Clinical Services Plan* prepared for the hospital, which provides the rationale for the BVHS hospital.

- Clifton Coney were engaged to undertake further community consultation to inform the community of the process and progress of site selection.

- In August 2007 the subject site was announced as the new location for the Hospital. The location received mixed community feedback, and a number of community consultation meetings were held with interested groups including three Probus Clubs, two Rotary Clubs, CWA Pambula, and Neighbourhood Watch at Tura Beach.

Based on the consultation undertaken in the site selection and concept design for the new BVHS hospital, it is considered that each of the matters raised in the government and public stakeholder groups have been considered and thoroughly assessed.

7 Statutory and Strategic Context

The following section contains the environmental assessment of the proposed development. The assessment addresses the matters identified within the DGRs.

7.1 STATUTORY CONTEXT

The State, Regional and Local Planning Instruments applicable to the site and the proposed development are:

- *State Environmental Planning Policy (State and Regional Development) 2011*.
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development.
- State Environmental Planning Policy No. 55 – Remediation of Land.
- State Environmental Planning Policy (Infrastructure) 2007.
- Bega Valley 2030.
- Bega Valley Local Environmental Plan 2002.
- Draft Bega Valley Local Environmental Plan 2010.
- Bega and District Strategic Directions Report.

7.1.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

This report has been prepared in accordance with the provisions of Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (the Act) as outlined below:

- The Application has been declared a State Significant Development by way of Clause 8 of the *State Environmental Planning Policy (State and Regional Development) 2011*, being development specified in *Schedule 1 State Significant Development - General*.
- Proposed as a Staged development application under Section 83B.
- While approval is required under the *Roads Act 1993*, Section 89K specifies that these approvals cannot be refused if they are considered to be necessary for carrying out of this consent.

Accordingly, this application has been prepared in accordance with the Act, and meets the objects of the Act in that it:

- Promotes the social and economic welfare of the community in delivering modern health facilities to service the Bega Valley Shire LGA.
- Encourages the provision of land for public purposes, through providing hospital facilities in grounds which are able to cater for the changing local demographic and supporting the redevelopment of the existing Pambula Hospital site for a new Community Health Centre.
- Has been prepared to mitigate environmental impacts of the development.

7.1.2 ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

Clause 6 and 7 of Schedule 2 of the EP&A Regulations 2000 (EP&A Regulations) prescribe the requirements for preparing an Environmental Impact Statement (EIS). This EIS has been prepared in accordance with the *EP&A Regulation*.

7.1.3 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Clause 8 of SEPP (State and Regional Development) 2011 contains the following declaration of State significant development:

> *(1) Development is declared to be State significant development for the purposes of the Act if:*
>
> *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
>
> *(b) the development is specified in Schedule 1 or 2.*(emphasis added)

The site is currently zoned 1(a) Rural General Zone under the provisions of the Bega Valley LEP 2002 and hospitals are permissible with consent.

Item 14 of Schedule 1 of the SEPP includes the following development as State Significant Development.

> ***14 Hospitals, medical centres and health research facilities***
>
> *Development that has a capital investment value of more than $30 million for any of the following purposes:*
>
> *(a) hospitals,*
>
> *(b) medical centres,*
>
> *(c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).*

The proposal comprises of a Hospital with a CIV of $151,684,000 (refer **Appendix A**), as such, by way of Item 14 of Schedule 1 and pursuant to the Clause 8 of the SEPP, the proposed development comprises State Significant Development.

7.1.4 STATE ENVIRONMENTAL PLANNING POLICY NO. 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

SEPP 33 aims to ensure that the consent authority has sufficient information to assess whether a development is potentially hazardous or offensive. Conditions can be imposed to reduce or minimise any adverse impacts as appropriate.

The SEPP defines a "potentially hazardous industry" as:

> *"**Potentially hazardous industry**" means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*
>
> *(a) to human health, life or property, or*
>
> *(b) to the biophysical environment,*
>
> *and includes a hazardous industry and a hazardous storage establishment."*

Clause 12 of the SEPP requires a preliminary hazard analysis for a potentially hazardous industry. The analysis is to be prepared in accordance with the current circulars or guidelines published by the *Department of Planning and Infrastructure* and submitted with the development application.

The proposed Staged development of a hospital does not constitute a *'potentially hazardous industry'*. However, as some medical supplies may constitute hazardous materials, the location, storage and disposal of these materials will be considered as part of the Stage 2 application of the development of the hospital building.

7.1.5 STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

State Environmental Planning Policy No.55 (SEPP 55) states that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated.

A Preliminary Contamination Assessment was undertaken by Coffey Environments Australia and is submitted at **Appendix J**.

The results of the assessment identified several potentially contaminating activities and associated Areas of Environmental Concern (AECs) and Contaminants of Potential Concern (COPCs), associated with the former and current agricultural use of the site. The main type of potentially contaminating activities included:

- *Former silage pits in the northeastern and western portions of the site (AEC 1);*
- *Site wide application of pesticides and herbicides (AEC 2);*
- *Dumped material in the former silage pit in the western portion of the site (AEC 3);*
- *Potential fill/reworked natural material in the dam bund (AEC 4);*
- *Potential deposition (site wide) of asbestos containing materials from off-site sources (AEC 5); and*
- *Weathering of hazardous materials adjacent the water tank (AEC 6).*

The identified AECs were assessed as having a low to moderate likelihood of contamination being present.

The dumped material in AEC 3 is in an area of the site that is not part of the initial earthworks stage, however it is understood that the dumped material is likely to be removed prior to commissioning of the hospital. This material should be appropriately disposed of to a licensed waste facility. Following removal of this material, sampling and analysis in this location should be considered to confirm the absence of contamination in residual fill or soils beneath the dumped material.

The level of assessment undertaken is considered applicable with reference to relevant guidelines. However, if during the development phase, suspicious materials (i.e. oily or odorous material, drums, tanks, metal or plastic chemical containers, brightly coloured material, potentially asbestos containing material, etc) are encountered, work in that part of the site should cease and advice should be sought from an appropriate qualified environmental consultant.

7.1.6 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The proposed development is defined as a 'health services facility' under *Clause 56 of SEPP (Infrastructure)*.

> ***health services facility*** *means a facility used to provide medical or other services relating to the maintenance or improvement of the health, or the restoration to health, of persons or the prevention of disease in or treatment of injury to persons, and includes the following:*
>
> *(a) day surgeries and medical centres,*

(b) community health service facilities,

(c) health consulting rooms,

(d) facilities for the transport of patients, including helipads and ambulance facilities,

(e) hospitals.

Clause 57 allows health services facilities to be carried out with consent on land in a prescribed zone. The zones referred to the SEPP (Infrastructure) are the zoned contained in the *Standard Instrument (Local Environmental Plan) Order 2006*.

The subject site is currently zoned 1(a) Rural General Zone under the provisions of the *Bega Valley Local Environmental Plan 2002* (the LEP) which is not a Standard Instrument LEP. However by way *of Clause 6 of SEPP (Infrastructure)* indicates that an equivalent named land use zone is also a proscribed zone when the environmental planning instrument was not made under Section 33A(2) of the Act. It is noted however that the 1(a) Rural General Zone would be an equivalent zone to the RU1 Primary Production zone, which is not a prescribed zone under Clause 57. Accordingly, the proposed hospital does not rely on SEPP (Infrastructure) for permissibility on the subject site.

The proposed use has been identified as a traffic generating development under the provisions of Schedule 3 of the SEPP (Infrastructure) being a *hospital*, and as such will be referred to the RMS for comment during the assessment of the proposal.

7.1.7 BEGA VALLEY LOCAL ENVIRONMENTAL PLAN 2002

The subject site is zoned 1(a) – Rural General Zone under the Bega Valley LEP 2002 (the LEP). The proposed development is, by omission, permissible with consent.

The development is considered consistent with the zone objectives as it will:

- Support a form of development which is not incompatible with continued use of surrounding agricultural lands.
- Has been designed in a manner to promote the economic provision of services compatible with the nature and intensity of development and character of the area.
- Responds to the natural and cultural features of the area.

7.1.8 DRAFT BEGA VALLEY LOCAL ENVIRONMENTAL PLAN 2010

Under the Bega Valley Draft LEP 2010 (the Draft LEP) the subject site was proposed to be zoned RU1 Primary Production. However, during the public exhibition period submissions were received from NSW Health Infrastructure requesting the proposed zoning of the site be reconsidered. At the Council meeting of 12 June 2012 Council resolved to endorse the Draft LEP and forward it to the Minister of Planning and Infrastructure for gazettal with a number of amendments, including for the subject site to be zoned SP2 Infrastructure *'to accommodate the proposed Regional Hospital'*.

Accordingly, the Draft LEP supports the future development of the site for the proposed BVHS hospital.

7.2 ROADS ACT 1993

The BVHS hospital development requires road upgrades to Tathra Road including:

- Installing a roundabout at the intersection of Tathra Road and Henry Scanes Avenue.
- Connecting a new road (Hospital Drive) to Tathra Road.
- Widening Tathra Road to accommodate turning and acceleration lanes to and from the Tathra Road / Scanes Avenue intersection.

According, consent is required under Section 138 of the Roads Act 1993. Consultation has been undertaken with the Roads and Maritime Service (RMS) during the design development of these road works, and issues raised in this consultation process have been responded in the EIS documentation.

7.3 WATER MANAGEMENT ACT 2000

As Section 91E of the *Water Management Act 2000* requires a Controlled Activity Permit to be obtained for all works within the riparian corridor, the effect of Clause 38 of the Regulations means 'public authorities' are exempt from obtaining a Controlled Activity Permit.

The *Water Management (General) Regulation 2011* provides the following:

> ***Clause 38 Controlled activities—public authorities***
>
> *A public authority is exempt from section 91E (1) of the Act in relation to all controlled activities that it carries out in, on or under waterfront land.*

7.4 POLICIES, PLANS AND GUIDELINES

7.4.1 NSW 2021

The NSW 2021 State Plan provides a 10 year plan for NSW. The BVHS proposal is aligned with two of the five strategies NSW 2021 has been created to deliver:

- Return quality services, specifically meeting Goal 12 to *'Provide world class clinical services with timely access and effective infrastructure'*.
- Renovate infrastructure, specifically meeting Goal 19 to *'Invest in critical infrastructure'*.

The investment of the NSW government in the BVHS will provide modern health services to the Bega LGA, and wider regional area, providing better equipped and responsive health care needs to the changing local demographic.

A section of the Plan is devoted to the delivery of Health, and a key component of this is to restore confidence in the public health system by rebuilding hospitals and health infrastructure. This will help reduce hospital waiting times and help to establish a healthier community. The proposed development is evidently consistent with the goal of the State Plan.

7.4.2 BEGA VALLEY 2030

Bega Valley 2030 (Bega 2030) has been prepared by Bega Valley Shire Council to set key directions for the Bega Valley LGA for the next 20 years. Bega 2030 affirms Council's commitment to support the development of a regional hospital in Bega. This proposal seeks to deliver a new hospital, while redeveloping the Pambula hospital as a new Community Health Centre.

7.4.3 SOUTH COAST REGIONAL STRATEGY

The South Coast Regional Strategy (the 'Regional Strategy') was prepared by the NSW State Government in 2007, providing regional visioning and actions for future development.

The Regional Strategy recognises the importance of providing land to support infrastructure and economic growth in the region, to response to the changing regional demographics.

The Regional Strategy identifies Bega as a Major Regional Centre with 'capacity to grow into a stronger regional administrative and service centre in the long term'. The BVSH hospital proposal is consistent with the Regional Strategy, as will provide a regional hospital to service the Bega Valley LGA on the major road network surrounding the Bega township.

7.4.4 BEGA AND DISTRICT STRATEGIC DIRECTIONS REPORT

The Bega and District Strategic Directions Report was prepared by Bega Valley Shire Council in 2006, reviewing existing rural small holdings and future urban land uses in the Bega-Tathra-Wolumla subregion.

The report has suggested a number of strategies for a residential settlement strategy for the Bega-Tathra-Wolumla subregion over the next twenty years. The report seeks to reinforce Bega as the major population and service centre for the sub-region with the most potential for employment, educational opportunities and industrial development.

Whilst the strategy does not specifically reference the subject site, the delivery of this important health service solidifies Bega as the service centre for the South Coast Region. Accordingly, the proposed development is consistent with the Bega and District Strategic Directions Report.

7.5 DEVELOPMENT CONTRIBUTIONS

The proposed development will facilitate delivery of important health services to both the local community, and the wider region.

Where a proposed development will or is likely to require the provision of or increase the demand for public amenities and public services within the area, the consent authority may, under Section 94 of the EP&A Act 1979, grant the development consent subject to a condition requiring dedication of land free of cost, payment of a monetary contribution or both.

The provisions of the EP&A Act allow the consent authority to accept the provision of a material public benefit in part or full satisfaction of the Section 94 contribution requirement.

The proposed development represents a significant redevelopment of the existing Bega Valley Health Services and will deliver substantial improvements to the level of health care in the region.

It is considered that no development contribution should be imposed under Section 94 as a material public benefit is being provided by the development.

8 Assessment of Key Issues

The Director-General's Environmental Assessment Requirements (DGRs) require the Environmental Impact Statement to assess the potential impacts of a number of key issues.

The DGR's identified the following key issues to be addressed within the Staged Development Application and Stage 1 – Construction Enabling Works:

Staged Development Application

- Built Form and Urban Design
- Ecologically Sustainable Development
- Amenity
- Transport and Accessibility
- Flora and Fauna
- Heritage
- Bushfire
- Flooding
- Staging

Stage 1 Construction Enabling Works

- Noise and Vibration
- Transport and Accessibility
- Aboriginal Heritage
- Drainage
- Sediment, Erosion and Dust Controls
- Servicing and Waste

The following sub-sections of the report provide an assessment of the key issues identified within the DGRs for the Staged Development Application and Stage 1 proposal. Each of these issues have been assessed in accordance with the criteria listed in the DGRs above, as outlined within each of the following sub-sections and the attached specialist reports.

The specialist reports have been prepared having regard to potential environmental impacts for the subject site and wider locality.

9 Staged Development Application Key Issues Assessment

9.1 BUILT FORM AND URBAN DESIGN

BVN Architects have designed a building to meet the specific demands for health services within the wider Bega Valley locality.

The height, bulk and scale of the development respond directly to the needs for expanding health services within the locality.

Bega Valley LEP 2002 does not set any controls for building height, FSR or setback.

9.1.1 ASSESSMENT OF METHODOLOGY

Assessment of the built form and urban design has been undertaken in accordance with the General Requirements of the DGRs as listed below:

- Gross floor area

The proposed BVHS Hospital will have an approximate gross floor area of 24,000m²

- Land use distribution

The proposed land distribution is identified in Figure 7 below. The image identifies Open Space, Helipad, Carparking/Loading, Hospital and Road Network.

FIGURE 7 – LAND DISTRIBUTION

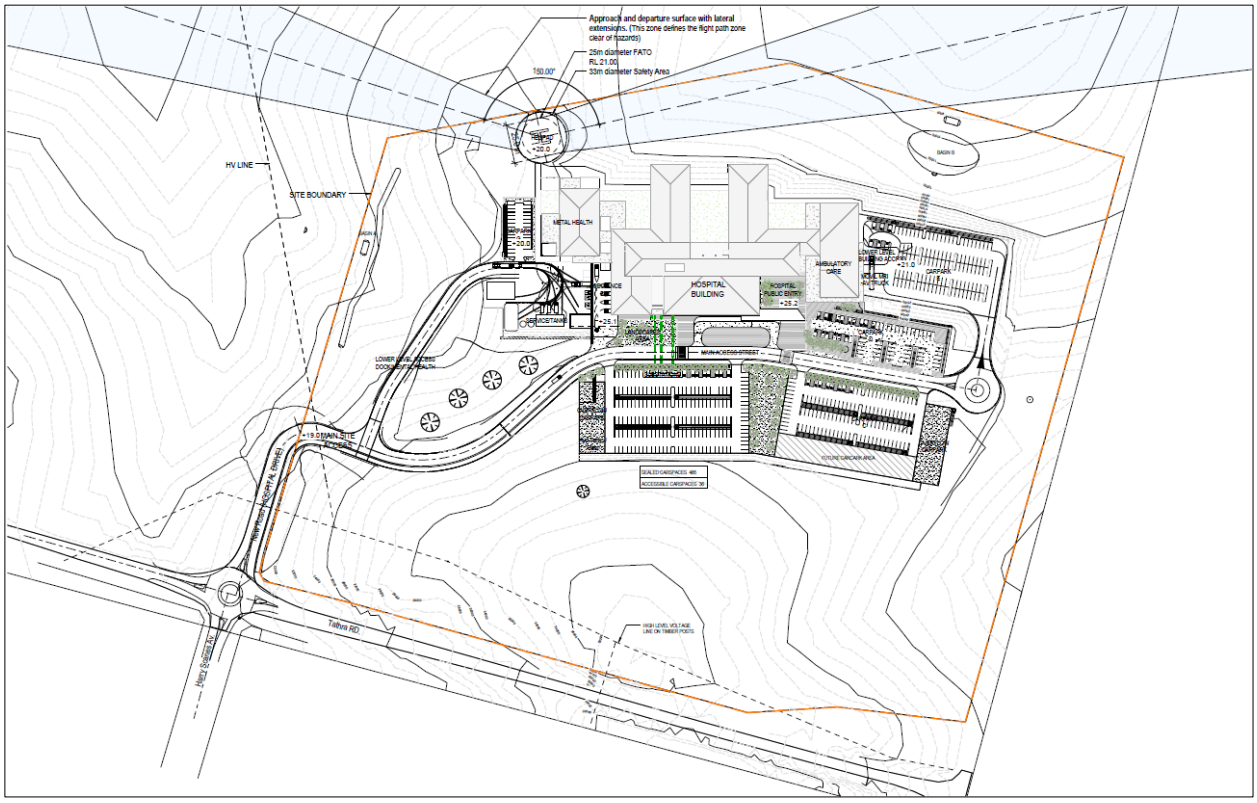
The image identifies Open Space, Helipad, Carparking/Loading, Hospital and Road Network. The approximately areas proposed for each of these land uses is:

- Open Space/Landscape: 141,480m².
- Car Parking/Loading: 19,245m².
- Future Car Park Expansion: 2805m².
- Helipad: 860m²

- Building footprints

The proposed building footprint is identified in Figure 8 below.

FIGURE 8 – SITE PLAN



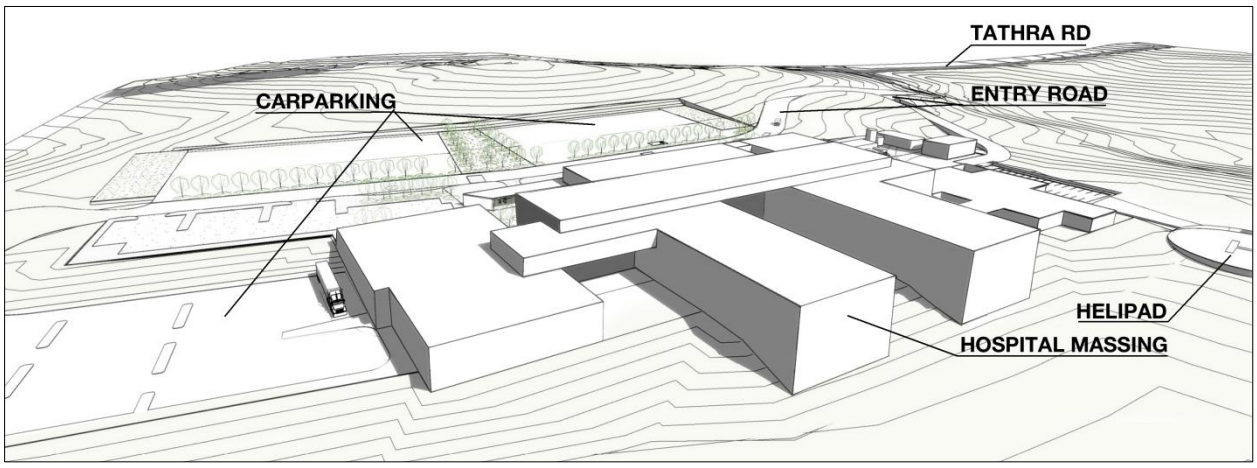
- Height and massing/building envelopes

The proposed building will be generally three storeys with a pad level of RL 20.95 as demonstrated in Figure 9 below.

The building's siting on the edge of the flood plain provides excellent opportunity for aspect that is unlikely to be compromised by future development. The rural vistas are likely to help create a sense of an appropriate 'restful' and 'healing' atmosphere.

In response, the planning has maximised access to these views and light, by ensuring maximum perimeter to workspaces and facilitating transparency to allow views from deep in the building.

FIGURE 9 – PROPOSED BVHS HOSPITAL



- Site layout

The proposed hospital requires a large footprint with good accessibility. This includes a large proportion of carparking which should have the opportunity for level access to the hospital entry.

To achieve this footprint, the proposal took the site's topography into consideration to ensure an appropriate fit with existing contours, and resulting cut and fill.

By positioning the hospital at the edge of the new site, the aspect from the hospital north and east across the river plain is ensured. By pushing the hospital to the edge, the development area left on the remaining site is maximised.

Due to the requirement of a helipad, the helipad would be located east of the main building where flight paths utilise the flood plain and are not impeded by future development. This siting would put the helipad away from the public precinct, and minimise visibility from the hospital wards. A natural ridge occurs on the site which would facilitate the best level connection back to the hospital footprint.

A central street is to be developed as the principle circulation spine for the site. This street will 'fit' to existing contours and provide access from the north entry to all developments on the main platform.

The street will concentrate landscape, vehicle / cycle ways and pedestrian paths into a single way finding element.

The street sets up a natural hierarchy - service functions tucked into the landscape to its west, and hospital functions capitalising on aspect to its east.

The bulk of carparking is located west of the spine in modules integrated into the landscape of the hillside, and minimising visible impact as one approaches the hospital.

Three parallel circulation systems are proposed:

- *A cycleway and footpath are incorporated into the circulation spine.*
- *An external pedestrian zone connecting short term parking with the three public hospital entries (emergency, main entry and ambulatory/ primary).*
- *Independent of these pedestrian systems.*

9.1.2 LEGISLATIVE REQUIREMENTS

Although the *Bega Valley Local Environmental Plan 2002* does not contain controls applicable to the proposed use of the subject site as a hospital, preliminary analysis of built form and urban design took the LEP into consideration.

9.1.3 SUMMARY AND CONCLUSION

The building has been designed for functionality, responding to the needs for health services with the Bega Valley with a form and height proportionate to its hospital context. The detailed design of the 3 storey hospital building is subject to separate application.

9.2 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

A preliminary analysis of the proposal against the principles of ecologically sustainable development has been undertaken by Health Infrastructure NSW and Johnstaff (Project Management) which outlines both passive and active measures adopted to provide an environmentally sustainable development.

These have been influenced by specific site characteristics which affect the energy requirements and environmental opportunities. Major factors include site location, topography and aspect, available energy sources and response to climate.

9.2.1 ASSESSMENT OF KEY ISSUES

The fundamental ESD features to be considered in the proposed design include:

- Energy;
- Materials;
- Building siting;
- Indoor environmental quality – adequate ventilation, day light;
- Water – water sensitive urban design; and
- Waste minimisation – during construction and operation.

The proposed development is consistent with the five accepted principles of ESD described below:

Precautionary Principle

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The proposal is supported by environmental studies and technical reports which conclude that there are no environmental constraints that preclude the development of the site in accordance with the proposal, subject to appropriate management in future planning, design, construction and operational stages. It is considered that through adherence with the mitigation measures outlined within Section 13 the proposal will not result in any serious or irreversible impact to the environment.

Integration Principle

The integration principle holds that decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable consideration.

The design of the proposed hospital will integrate the short and long term effects of economic, environmental and social consideration for locality through the delivery of much needed health service improvements in the short term, with an opportunity for future expansion if warranted.

Intergenerational Principle

The principle of inter-generational equity holds that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. The proposal has been developed to directly benefit current and future generation in that is contributes to the health services of the community without causing significant environmental impact.

Biological Diversity

Under the biodiversity principle, the conservation of biological diversity and ecological integrity should be a fundamental decision making.

A flora and fauna study has been undertaken and has found that the site has very little remnant vegetation as the site is mostly cleared and is used for agricultural purposes. Consequently, there is not likely to be significant effects on any endangered ecological community, threatened species or their habitats. Construction and ongoing operation of the proposed facility will be managed in accordance with the Mitigation Measures, ensuring no significant indirect impacts on the surrounding environment.

Valuation and Pricing of Environmental Resources

Under this principle, improved valuation, pricing and incentive mechanisms and environmental factors should be included in the valuation of assets and services. The cost of infrastructure and measures to ensure an appropriate level of environmental performance on the site has been incorporated into the cost of development. In addition, the proposal will incorporate waste minimisation during the construction, minimising cut and fill, and operation of the development. These measures have been incorporated into the cost of development.

9.2.2 DESIGN CONSIDERATIONS

- Building siting and form:

The building has been sited to maximise the key views and aspects across the river plain. These also provide a favourable north east orientation. The fall across the site enables the built form to minimise western façade area, with two storeys facing west opening out to 3 storeys orientated north and east.

- Daylight penetration:

The building has been designed with a 'finger-like' form, with wings extending beside courtyards, maximising to the perimeter for daylight penetration to habitable spaces.

- Balanced cut and fill:

Building siting and levels have been studied to minimise excavation and balance cut and fill across the site.

- Re-use of excavated rock:

Local rock excavated on site will be reused as road base or landscape works on site.

- Efficient building envelope:

The mechanical engineer has completed a thermal modelling analysis of the building using local climatic data which includes mean and maximum temperature ranges as well as available wind data.

The analysis identified that improving the façade efficiency will provide significant reductions in the heating and cooling load requirement s for the building. Consequently a high efficiency façade has been incorporated, with facade, roof and wall systems having thermal resistance values ('R-values') approximately 50% beyond those required to satisfy the BCA's Part J requirements.

- Building occupant zones:

The building has been designed to group the 24 hour use areas together and groups the daytime use separately. This will allow building lighting and heating/cooling systems to be easily turned off overnight for the daytime use areas.

- Water sensitive urban design:

Landscaping and civil designs have focussed on passive methods of slowing and cleaning large water runoff generated from carparking areas. This includes integrating swales as a landscape and civil component within car parks, and alongside new road works.

- Tree retention:

The site layout has been modified and the internal access road re-aligned to maximise the number of mature trees retained.

- Landscaping:

The landscaping design includes native plants and drought tolerant species.

- Public transport:

The site's location away from the centre of the Bega Township requires the provision of public transport options to reduce the number of patients and staff who will likely arrive by car. Discussions have been held with local transport providers and a bus route and bus stop have been included.

- Pedestrian access and cycle ways:

Pedestrian and cycle paths have been located in site planning that will service the site in the short term but more critically into the future when the site is developed as a health campus. Cyclist facilities will be located adjacent the public entry and change facilities within staff amenities.

- High efficiency plant:

The mechanical and electrical systems have been designed based on the use of high efficiency plant.

9.2.3 LEGISLATIVE REQUIREMENTS

The preliminary analysis of ESD principles took into account:

- *Schedule 2 of the Environmental Planning and Assessment Regulations 2000.*

9.2.4 SUMMARY AND CONCLUSION

The combination of these initiatives will contribute to the sustainable management of the proposal and will contribute to minimising its ecological footprint.

9.3 AMENITY

The proposed building has been designed to meet the specific demands for health services within the wider Bega Valley locality. The height, bulk and scale of the development are proportionate to similar existing facilities within the Bega Valley whilst responding to the needs for expanding services. Bega Valley LEP 2002 does not set any controls for building height, FSR or setback.

9.3.1 ASSESSMENT OF KEY ISSUES

Overshadowing:

The natural site topography and views correlate with a general north/ north east aspect which also provide opportunities for controlled solar gain.

The proposal will result in the development of a greenfield site without any adjoining development. As such the proposal will not result in the overshadowing of any adjoining properties.

Further the siting of the proposed 3 storey hospital is significantly setback from the site boundaries will reduce the potential for overshadowing.

Shadow diagrams are being prepared by BVN and will be submitted as part of the Stage 2 – Main Construction Works application.

Privacy:

With the proposed setbacks from the site boundary and the Greenfield site adjoining agricultural lands, the potential for privacy impact is considered to be minimal.

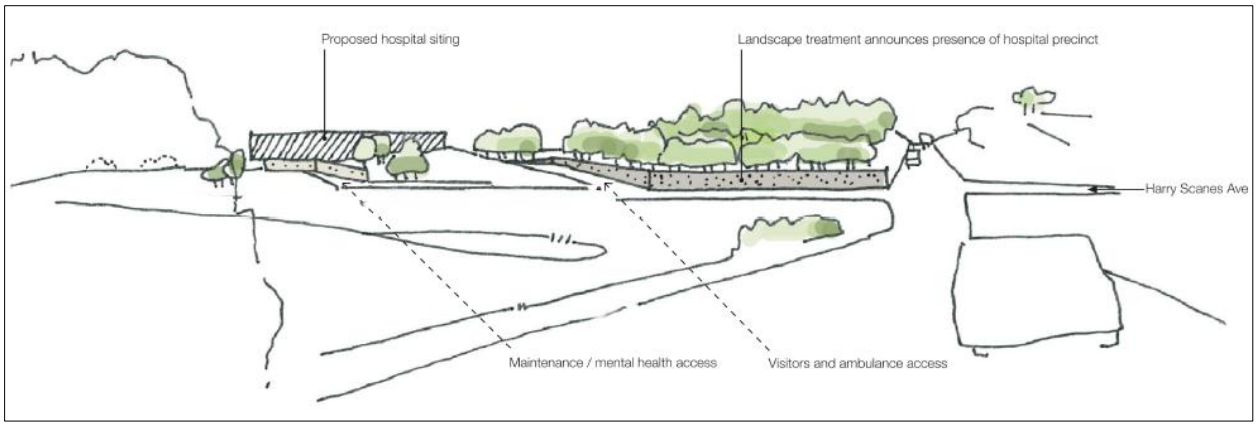
Views and Vistas:

Views from the site to the north east, east, and south east take in predominantly pastureland / rural uses of the Bega River floodplain and the hills of Mimosa Rocks National Park beyond. The majority of this land sits below the 1 in 100 year flood line, and are therefore unlikely to be built out by development.

Topography restricts views from the site towards Tathra Road to the west. As Tathra Rd sits in a cutting, there are also restricted views into the site from Tathra Rd.

The intersection of Tathra Rd and Harry Scanes Ave affords the best opportunity for views into the site from Tathra Rd.

FIGURE 10 – PRECINCT APPROACH SEQUENCE LOOKING SOUTH FROM TATHRA ROAD



To the north west, a new public road will divide the new hospital site from a proposed residential development beyond. This road will connect through to agricultural land to the east. A portion of this land sits above the 1 in 100 year flood level. As the zoning of this land is intended to remain as agricultural use, it is envisaged that future development of this area will be limited and will not have a significant impact on extent of views from the site.

Additional view analysis from Boundary Road, Howard Avenue and the existing residential areas to the north of the site have been undertaken and are submitted at **Appendix K**.

9.3.2 SUMMARY AND CONCLUSION

The proposal is not considered to result in an undue loss of amenity for the adjoining land uses. A full set of images prepared by BVN in regards to view analysis, building massing, land distribution and a site analysis plan is submitted at **Appendix K.**

9.4 TRANSPORT AND ACCESSIBILITY

SKM has produced this Transport Assessment (TA) submitted at **Appendix L**.

This TA provides a transport overview for proposal, examining issues such as accessibility, parking and traffic impacts. The TA has been designed to provide a robust assessment. The TA is cognisant of State

and local policy as well as: DGRs; Roads & Maritime Services (RMS); community and BVSC requirements.

On-going consultation will be required throughout the planning, development and operation of the proposed BVHS Hospital ensuring stakeholder requirements conform to hospital functionality and vice versa.

9.4.1 ASSESSMENT OF METHODOLOGY

The methodology to be adopted in the preparation of the TA has been confirmed with Bega Valley Shire Council and RMS, specifically detailing the following:

- Locations of intersections to be analysed as part of the TA;
- Traffic survey parameters such as survey days and timeframes;
- Site specific approach to car parking; and
- Transport Assessment scope including intersection modelling parameters.

9.4.2 ASSESSMENT OF KEY ISSUES

Traffic Generation

The proposed development is expected to cater for 80 inpatients, 113 visitors, 54 emergency presentations, and 60 community health appointments daily. Supporting health services at the hospital will be 627 Full Time Equivalent (FTE) staff upon hospital opening employed across a range of departments.

Transport Infrastructure

Proposed transport infrastructure, to ensure the safe and sustainable accessibility of the site for a wide mix of hospital user groups includes:

- A network of pedestrian and cycle links, including a number of shared paths and dedicated pedestrian zones;
- Dedicated pedestrian crossing facilities;
- Ten cycle parking spaces and the provision of showers and changing facilities for staff;
- A new bus stop located at the hospital entrance and a high level commitment from public transport stakeholders to serve the site;
- A dedicated pick up and drop off zone for emergencies, community transport and taxis;
- 485 car parking spaces including 36 accessible (wheelchair) spaces; and
- A new vehicular access and intersection (roundabout) at Tathra Road/Harry Scanes Avenue.

Vehicular Access

Vehicular access to the site is proposed via a new four arm roundabout at Tathra Road/Harry Scanes Avenue. This roundabout is designed to standard and can accommodate anticipated larger vehicles. The location of this intersection currently resides within a 100 km/h speed zone. In order to improve safety at the intersection it is proposed to extend the existing 60 km/h speed zone to include the new intersection and for an appropriate distance beyond the intersection. RMS and BVSC have been consulted in respect of the proposed roundabout and speed zone extension and both authorities have agreed to the proposals subject to the submission of this TA and supporting C & M Consulting Engineering drawings. The speed zone extension will allow an intersection to be provided which is in keeping with the nature of the town while providing benefits for hospital users and the local community.

Since initial consultation with BVSC and RMS, the proposed access arrangements to the hospital have changed. This includes the removal of a potential secondary access for emergency purposes at Boundary Road/Tathra Road. The access and subsequent consultation will therefore not form part of this TA.

The provision of a potential secondary access was considered during the concept design stage to provide Health Infrastructure with options for hospital functionality. Upon review of anticipated hospital functionality this access was removed from the design. No requirement has been made from RMS and BVSC regarding a secondary access and the proposed site layout has been discussed in detail with both authorities.

Car Parking

Car parking standards for Bega Valley Council for Hospitals are one space per three beds plus emergency vehicle parking (BVSC). This equates to a standard provision of 45 spaces. SKM have taken direction from BVSC and RMS whereby this standard and provision significantly underestimates the parking demand for a hospital such as BVHS.

Parking for BVHS has therefore been based on BVHS information and assumptions made in respect of the services to be offered. This site specific methodology has been agreed with key stakeholders.

The demand profile is summarised below:

- Staff- 247 spaces (based on 2016 FTE staff numbers).
- Visitors (of patients)- 113 spaces (robust assumption assumes 83% of inpatients have a visitor and that each visitor arrives at the same time).
- Patients- 129 spaces (robust assumption that all daily patients arrive on site at once).

This equates to a demand of 489 spaces. Given the robust nature of the demand profile and given that this is based on daily demand 485 spaces are proposed. This ensures that sufficient parking is provided at shift/appointment turnaround periods as well as for circulatory vehicle requirements, fleet vehicles and general visitors.

Additional parking associated with increased staff numbers can be adequately accommodated within one of the three identified overflow car parks. Long term expansion to BVHS Hospital beyond 2021 can also be accommodated within the three identified overflow car parks if required.

Traffic Impact

The results of the SIDRA analysis, under extremely robust test circumstances, demonstrate that the intersections will operate with a Level of Service of C or better with the exception of Intersection 6 in the PM peak and Intersection 3 in the AM peak.

The traffic generated by the development only contributes 12 additional trips to the background traffic utilising Intersection 6 and no account of the positive impact of the Bega by-pass has been made in the assessment.

Given that Intersections 3 and 6 are anticipated to operate at near capacity in the future base years and that BVHS trips are minimal no mitigation measures are necessary at this or any of the study intersections. Any impact on pedestrians and cyclists associated with BVHS vehicle trips would also be negligible.

Construction Vehicles – Stage 1

All construction vehicles, deliveries and staff will access the site from Tathra Road. An existing farm track accesses the SERH site from Tathra Road opposite Harry Scanes Avenue. This track will be utilised during Stage 1. This farm track has good visibility and the current intersection form is wide and capable of accommodating HRVs and AVs. Traffic flows along Tathra Road at this location are minimal with 7 two way vehicles a minute noted. Vehicles to/from Harry Scanes Avenue equate to 0.65 a minute in the peak hour.

In respect of construction works on Tathra Road (new four arm roundabout) a strategy will be agreed with RMS and BVSC in order to minimise traffic disruption including the identification of alternative through traffic routes, where appropriate. Residents of Glen Mia Drive will also be considered within the construction strategy.

Public Transport, Pedestrians and Cyclists

SKM have consulted with local bus operators and Transport for NSW to ascertain the acceptability of serving the site directly by bus. This is vital given the gradient of the site, walk distances to Tathra Road and the needs of hospital users.

An agreement has been made in this respect and a bus stop is proposed in close proximity to the main entrance. This bus stop will be designed to appropriate standards. As and when planning and development progresses, Transport for NSW will be consulted again so they may consider bus service contracts and timetables to the new facility. This is particularly important to ensure that a quality and frequent service can be provided. Transport for NSW has a requirement that by 1 January 2013, operators must ensure that 55% of their services are wheelchair accessible, thus assisting potential BVHS site users.

External to the site and in order to connect the hospital with Bega town centre appropriate pedestrian facilities will be provided at Tathra Road with a future 700m pedestrian link to be considered along the eastern side of Tathra Road from Harry Scanes Avenue to Rose Street.

This route will be developed in consultation with RMS and BVSC. Pertinent to any pedestrian link is ensuring that the proposed infrastructure has the ability to tie in with any future links. This is evident within the proposed site layout and proposed vehicular access.

A network of pedestrian and cycle routes are proposed within the site, principally along Hospital Drive and the proposed Spine Road. The principal route will be a shared 3m wide path and will connect to the hospital entrance with appropriate crossing facilities and way finding. Given the site gradient, this route is not DDA compliant across its length. It is also important to note that the main hospital entrance is 500m or a 6 minute walk from Tathra Road.

9.4.3 PROPOSED MITIGATION MEASURES

Given that the impact of the traffic generated by the proposal on the operation of the surrounding road network is comparatively minor no mitigation is proposed.

A construction Traffic Management Plan is to be prepared prior to construction.

9.4.4 LEGISLATIVE REQUIREMENTS

The Transport Assessment took into account:

- *NSW Plan 2021.*
- *RMS Integrating Land use and Transport Guidelines.*
- *NSW Planning Guidelines for Walking and Cycling.*
- *NSW Bike Plan.*
- *Premier's Council for Active Living (PAL) – Designing Places for Active Living.*
- *Cancer Council NSW – Car Parking for Cancer Patients in NSW.*
- *Bega Valley 2030.*
- *Bega Valley 2011 – 2016.*
- *Bega Valley Shire DCP 2011.*

- *Guide to Traffic Generating Development (RTA 2002).*
- *EIS Guidelines – Road and Related Facilities.*
- *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development.*

9.4.5 SUMMARY AND CONCLUSION

The approach to car parking at the BVHS Hospital will be to encourage those who choose to drive to the site to use a car park which corresponds to their reason for accessing the site and thereafter walk to their desired destination. This will be managed through way finding and the Travel Plan Framework.

485 car parking spaces are proposed at BVHS. In addition, three suitable over flow car park locations have also been identified should the hospital expand in the long and short term. It is envisaged that this parking provision/strategy will be sufficient to fully accommodate hospital parking demand and there will be no requirement for on-street parking on the local road network. Ongoing consultation with BVSC will be undertaken to ensure parking strategy and provisions conform to hospital functionality.

The traffic impact study ensured an extremely robust test scenario with traffic increased by 40% over existing volumes and no account of the positive impact of the Bega by-pass taken.

The results of the SIDRA analysis under these extremely robust test circumstances demonstrates that the intersections assessed will operate at a Level of Service of C or better with the exception of Intersection 3 (Kerrisons Lane/Princes Highway) and Intersection 6 (Boundary Road/Princes Highway). However, both intersections would operate close to capacity in future years regardless of the development of the hospital.

Given that the impact of the traffic generated by the BVHS Hospital on the operation of these intersections is comparatively minor no mitigation is proposed.

9.5 FLORA AND FAUNA

9.5.1 OVERVIEW

A flora and fauna survey was carried out at Tathra Road, Bega by Abel Ecology to assess the likely impacts of the construction of the proposed hospital and associated car parking on species present on site. Further, the report identifies whether there is likely to be any significant effect on any endangered ecological community, endangered population, threatened species or their habitats, as per the listings in the *Threatened Species Conservation Act 1995, the Environment Protection and Biodiversity Conservation Act 1999* and other applicable policies. This report is submitted with this application at **Appendix F**.

9.5.2 ASSESSMENT OF METHODOLOGY

In preparing the flora and fauna survey, the following tasks were undertaken:

- Literature review.
- Field work.
- Flora survey.
- Class system for vegetation quality.
- Fauna survey.

9.5.3 ASSESSMENT OF KEY ISSUES

The report by Abel Ecology contained the following assessment of issues:

- No threatened fauna species were recorded during the site survey.
- *The site and the study area display a high disturbance regime and remnant indigenous vegetation typically occurs as scattered trees or as patches of herbaceous species near the wetlands. Native faunal indicator species are consistent with an agricultural landscape. Feral indicator species, Red Fox, indicates that native fauna abundance is likely to be low. Natural ecological services for the site e.g. bioturbators, pollinators, seed dispersers are low.*
- *The two most important habitat features in the study area are the habitat (hollow-bearing) trees and the wetlands. Habitat trees in forests and woodlands are typically used by a range of fauna and are very important to the viability of various fauna species. On this site, the habitat trees, while still of value, are likely to be of lesser value, due to the surrounding highly disturbed habitat. Many fauna species that use habitat trees are unlikely to commonly occur on the site, as they prefer habitat with denser shrub and canopy layers.*
- *The wetlands observed downslope from the site but within the study area are degraded and probably high in nutrients. Despite their degraded condition they provide habitat for a range of species, particularly birds.*
- *In the long-term the site, with no development, is likely to stay in a similar condition. Continued compaction and displacement of the soil by heavy cattle grazing, accompanied by irrigation probably using effluent, and control of agricultural weed species, are likely to maintain the site in its current condition with little to no prospect of the restoration of indigenous vegetation without substantial amelioration. High nutrient levels from fertiliser are not complimentary to native plant regeneration. Agricultural weed species are likely to continue to be present in scattered locations on the site. Trampling and consumption of any regenerated native vegetation is likely to continue whilst the cattle remain on the site.*
- *The proposal will require the removal of up to 18 paddock trees. Sixteen of these trees contain hollows. Earthworks will also be required to create surfaces suitable for the buildings, roadways, car parks and associated infrastructure. The footprint for the building, roads, car parks and associated infrastructure is approximately nine hectares and is covered primarily in pasture.*
- *It is assumed that Water Sensitive Urban Design (WSUD) will be used to manage stormwater on the site. Stormwater draining from the site to the wetland is likely to be improved compared with the existing situation. Revegetation works associated with landscaping and riparian corridors will slightly improve the value of the site and study area for native wildlife.*

The Director- General's Environmental Assessment Requirements identified an arborist report as a list of required documentation to accompany the EIS however consultation with the Bega Valley Council has indicated that as the site is not identified as being subject to tree preservation requirements, the provision of a flora and fauna survey would be suitable to assess the impacts of the proposal. No arborist report is therefore submitted with this application.

9.5.4 PROPOSED MITIGATION MEASURES

The following recommendations resulting from the survey have been made:

- Tree Protection:
  - Before any site works commence tree exclusion fencing must be installed around all trees to be retained. The fencing must be installed as a circle around each tree; the distance from the centre of the tree to the fence must be 12 x the diameter of the tree at 1.4 m from the ground, as described in the Australian Standard AS4970. The fencing must be inspected by an arborist to ensure that it provides adequate tree protection and must remain in place until the completion of all site works.

- Habitat enhancement and removal of tree with hollows:
  - All hollow-bearing trees must be removed after the exclusion fencing has been installed and before any other earth works commence.
  - Two weeks prior to tree removal we recommend that four nest/roosting boxes be installed for each tree or stag containing hollows to be removed. Two of the boxes must be suitable for birds or arboreal mammals and two for microbats.
  - An ecologist must be present during the tree removal process to protect any fauna inhabiting the hollows.
- Indigenous species for landscape plantings:
  - The following is a list of suitable species. At least 54 locally indigenous trees, in addition to locally indigenous herbs and grasses, must be planted to offset the loss of the trees removed.
  - Trees and Small Trees: *Angophora floribunda, Eucalyptus tereticornis, Allocasuarina littoralis.*
  - Herbs and Grasses: *Dichondra repens, Lomandra longifolia, Poa labillardierei, Themeda australis.*
- Any works within 40 m of the watercourse north of the proposed access road require a Controlled Activities Approval from the NSW Office of Water. As Section 91E of the *Water Management Act 2000* requires a Controlled Activity Permit to be obtained for all works within the riparian corridor, the effect of Clause 38 of the Regulations means 'public authorities' are exempt from obtaining a Controlled Activity Permit.
- Erosion and sediment control structures are to be installed prior to any earthworks commencing and cleared after any storm event.

9.5.5 LEGISLATIVE REQUIREMENTS

The preliminary analysis of the impacts of the proposal on flora and fauna took into account:

- *State Environmental Planning Policy No. 44 – Koala Habitat Protection.*
- *Environment Protection and Biodiversity Conservation Act 1999.*
- *State Environmental Planning Policy No. 14 – Coastal Wetlands.*
- *Water Management Act 2000.*
- *NSW Wetlands Policy 2010.*

9.5.6 SUMMARY AND CONCLUSION

There is overall very little remnant vegetation as the site is mostly cleared and is used for agricultural purposes. Remanent vegetation is primarily represented by scattered paddock trees and scattered patches of herbaceous vegetation around the wetlands. The canopy trees contain hollows, typically two to four hollows per trees. Hollow are usually considered very important nesting and roosting habitat for a range of indigenous fauna. On this site however, the value of the hollows is reduced as the site lacks general connectivity for many species fauna.

There is no impediment to this proposal in the scope of the flora and fauna survey. There is not likely to be a significant effect on any endangered ecological community, threatened species or their habitats. A Species Impact Statement is not recommended.

9.6 HERITAGE

A Cultural Heritage Impact Assessment was prepared by RPS to accompany this application and is submitted as **Appendix M**.

- *A search was undertaken of the Office of Environment and Heritage – Aboriginal Heritage Information Management System (AHIMS) on 27 March 2012 for a 5 km radius centred on the project area. A total of 66 sites were identified within that search radius. Only two sites are recorded inside the project area; these are AHIMS sites #62-6-0707 and 62-6-0724. On closer inspection they were found to be duplicates of each other having the same site name and co-ordinates on the AHIMS database. Hence there is only one site inside the project area, an isolated artefact described as a grey volcanic flake.*

- *An archaeological survey was conducted on July 17th 2012 in conjunction with Graeme Moore, Chairman of Bega Local Aboriginal Land Council (BLALC). During the archaeological survey two elevated spur landforms were identified. These potentially would have formed an easy natural pathway connecting the Bega River and floodplain to more elevated parts of the Bega Valley, with Spur 2 overlooking a natural depression (outside the project area) that is currently filled with water.*

The current designs of the proposed Hospital will in no way impact upon AHIMS site# 62-6-0724. Two sensitive archaeological spur landforms will be partially affected. Irrespective of this a Cultural Heritage Management Plan will need to be developed before on site excavation or construction activity begins to provide guidance on management of these areas. Conservation of Aboriginal sites and areas of archaeological sensitivity is the preferred heritage outcome.

9.6.1 ASSESSMENT OF KEY ISSUES

Indigenous Heritage

No new Aboriginal archaeological sites were identified during the survey. The location of AHIMS site 62-6-0724 (duplicate of 62-6-0707) was inspected, but the single grey volcanic flake associated with this site was not identified. Two spur landforms were identified as being areas of archaeological sensitivity and may have potential to contain subsurface archaeological deposits. These two spur landforms must be subject to archaeological test excavations in accordance with the Code of Practice (DECCW 2010) and with Aboriginal consultation as per the Aboriginal Cultural Heritage Consultation Requirements (ACHCRs) 2010.

No permit is required from OEH to undertake the test excavations; however, the Aboriginal community must be allowed 28 days to comment on the excavation methodology and OEH needs to be notified at least 14 days before test excavations commence (DECCW 2010:25).

The current designs of the proposed Hospital will not impact upon AHIMS site# 62-6-0724. There will be partial impact the sensitive archaeological spur landforms.

European Heritage

The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. A search of the National Heritage List indicates that there are no items within the Bega Valley LGA on the National Heritage List.

The NSW Heritage Inventory database is maintained by the NSW Heritage Office and lists items that have been identified as of State and local heritage value throughout NSW. A search of the NSW Heritage Inventory indicates that there are eight (8) items on the State Heritage Register, and 274 items of local heritage significance in Bega Valley LGA, however, zero (0) items are within the project area.

As there are no registered heritage items within the vicinity of the project area, it is considered that there are no European heritage constraints associated with the project.

9.6.2 PROPOSED MITIGATION MEASURES

The assessment makes the following recommendations to mitigate future cultural heritage impacts during the development process:

Recommendation 1

The proponent will need to develop a Cultural Heritage Management Plan before on site excavation or construction activity begins that takes into account the following:

- *Salvage and/or management of AHIMS site# 62-6-0724;*
- *Test pitting of Spur 1 & 2 landforms where impact is to occur under OEH Code of Practice methodology guidelines (September 2010);*
- *Opportunity for monitoring by BLALC during trenching and other related construction works to the spur landform;*
- *Mechanism for ongoing Aboriginal cultural input into the proposed hospital development.*
- *Should the proposed hospital plan change, it should identify if impact to spur landforms will increase and if so appropriate mitigation measures be put in place to ameliorate these.*

Recommendation 2

All relevant staff, i.e. contractors and subcontractors, should be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act (1974) and the NSW Heritage Act (1977).

Recommendation 3

If, during the course of development works, suspected European cultural heritage material is uncovered, work should cease in that area immediately. The OEH Enviroline 131 555 should be contacted and works only recommence when an appropriate and approved management strategy instigated.

9.6.3 LEGISLATIVE REQUIREMENTS

The preliminary assessment of the impact of the concept proposal on the heritage significance of any heritage items, including Aboriginal and European items of heritage or cultural significance took into account:

- *Heritage Act 1977.*
- National Parks and Wildlife Act 1974.
- *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment* and *Community Consultation 2005 (if relevant).*
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.*

9.6.4 SUMMARY AND CONCLUSION

This report has considered the environmental and archaeological context of the project area. In terms of European Heritage, the search results indicate that there are no known (i.e. reported or recorded) European heritage items within the project area; it is considered that there are no European heritage constraints associated with the project.

The current designs of the proposed Hospital will in no way impact upon AHIMS site# 62-6-0724. Two sensitive archaeological spur landforms will be partially affected. Irrespective of this a Cultural Heritage Management Plan will need to be developed before on site excavation or construction activity begins to provide guidance on management of these areas. Conservation of Aboriginal sites and areas of archaeological sensitivity is the preferred heritage outcome.

9.7 BUSHFIRE

9.7.1 OVERVIEW

A Bushfire Constraints Report has been prepared by *Australian Bushfire Protection Planners for* construction of the BVHS Hospital on proposed the site which is submitted at **Appendix N**.

9.7.2 ASSESSMENT OF METHODOLOGY

Graham Swain of *Australian Bushfire Protection Planners Pty. Limited* inspected the development property on the 24th April 2012 to assess the topography of the land and the classification of the vegetation within and external to the site.

The inspection examined the adjoining land uses and the location of vegetation which could be lawfully recorded on a Bushfire Prone Land Map as either Category 1 or Category 2 Bushfire Prone Vegetation in accordance with the NSW Rural Fire Service's *Guideline for Bushfire Prone Land Mapping* and the vegetation classification provided by Keith in *'Ocean Shores to Desert Dunes'.*

9.7.3 ASSESSMENT OF KEY ISSUES

Examination of the vegetation within proposed Hospital site has found that there is no affection on the site from bushfire prone vegetation or the buffer zone to bushfire prone vegetation and therefore the Hospital site is not deemed to be bushfire prone.

9.7.4 PROPOSED MITIGATION MEASURES

There is no requirement to provide Asset Protection Zones to the Hospital buildings and other assets or any requirement to comply with the bushfire construction standards as required by the Building Code of Australia and Australian Standard A.S. 3959 – 2009.

The report provides recommendations on the provision of fire-fighting access and water supply requirements and evacuation requirements. These include:

- *A need to provide adequate internal access for emergency service vehicles including Fire and Rescue NSW and NSW Rural Fire Service Appliances.*
- *The proposed Hospital site is to be located more than 100 metres from the Category 2 Bushfire Prone Vegetation which is mapped as being located adjacent to the watercourse located within the central north-eastern portion of the development site – within proposed Lot 2. This separation width removes the need to apply bushfire construction standards to the proposed Hospital buildings/assets are required by A.S. 3959 – 2009.*
- *Fire Hydrant spacing, sizing and pressures of mains shall comply with A.S. 2419.1 – 2005.*
- *The proposed Hospital site is unlikely to come under bushfire attack and therefore not requirement exists for the preparation of a specific Evacuation Plan that addresses a bushfire emergency. However, there shall be prepared an Evacuation Plan which establishes the relevant protocols for the management of other specific emergencies including a fire in a building; severe storm and storm damage; hazardous material incident within the Hospital or on surrounding land, etc.*

9.7.5 LEGISLATIVE REQUIREMENTS

The preliminary bushfire hazard assessment took into account:

- *Environmental Planning and Assessment Act 1979.*
- *Rural Fires Act 1997.*
- *Rural Fires Regulation 2008.*
- *Threatened Species Conservation Act 1995.*
- *Native Vegetation Act.*
- *Planning for Bushfire Protection 2006 (Rural Fire Service)*

9.7.6 SUMMARY AND CONCLUSION

The site inspection confirmed that the vegetation within the development site does not constitute bushfire prone vegetation as defined by the NSW Rural Fire Service's *'Guideline to Bushfire Prone Land Mapping 2006'.*

In conclusion, there is no requirement to provide Asset Protection Zones to the Hospital buildings and other assets or any requirement to comply with the bushfire construction standards as required by the Building Code of Australia and Australian Standard A.S. 3959 - 2009.

9.8 FLOODING

WMA Water were been engaged to review the flooding aspects of the subject site in relation to the proposed hospital development (Attached at **Appendix O**).

Typically flood information can reliably be sourced from a detailed flood study undertaken of a river system. However, to date there has not been a comprehensive flood study undertaken of the Bega and Brogo Rivers.

In the absence of a detailed flood study, a range of other data has been collected in order to make an estimate of the flood behaviour at the site. As such, ARUP has been engaged to provide a peer review of the flood study prepared by WMA Water (**Appendix O**).

9.8.1 ASSESSMENT OF METHODOLOGY

Flow and water level information were sourced from a range of river gauging stations throughout the catchment.

A Probable Maximum Flood (PMF) Level is typically determined from an assessment of design rainfalls and analysis using a robust hydraulic model, in the absence of these, less robust estimates can be made using a number of methods.

Bega Valley Shire Council provided excerpts from the Water Resources Commission of New South Wales' (WRC) Flood Inundation Map, Bega and Brogo Rivers (1979) (Reference 2), this contained flood mapping of the site for the 10 year and 100 year ARI events (Figure 2) and details of flood levels at the North Bega gauge (Gauge Number 219900) for a range of frequencies.

Adjoining landholders provided flood levels for both the 1971 and 2011 events, 14.1 m AHD and 11.2 m AHD, respectively.

9.8.2 PROPOSED MITIGATION MEASURES

As advised by WMA Water, it is important that every opportunity is taken to incorporate design, mitigation measures that will reduce the flood risk to the Hospital. Such mitigation measures include:

- Critical electrical infrastructure such as backup generators, should be stored at a minimum above the 500 year ARI flood level (preferably the PMF). Backup generators should also be designed to operate for up to several weeks (that is, sufficient fuel, etc).

- A Hospital Emergency Management (Response and Evacuation) Plan needs to be in place and ensure that it accounts for several possible scenarios during a flood, including restricted or cut-off access due to flood waters, inundation of low lying parts of the site and extended periods of isolation. It will also need to consider the transfer of equipment and patients to other hospitals.

- The minimum floor level of any new hospital building must be raised to the PMF, including wards, operating theatres and the Emergency Department, and non-essential services/area, such as car parks and recreation areas, should be located in the lower lying areas of the property below the PMF.

- The PMF should be adopted as the flood planning level of the site. If this is not possible, the development should be located at as high an elevation as possible with a minimum requirement to be above the 1000 year ARI maximum flood level. In such circumstances the hospital should be protected d up to the PMF level. Initial review of the site contours suggests that such protection would be achievable.

- A further allowance on top of the 1000 year ARI or PMF event flood levels for climate change is not considered necessary at this stage, due to the extreme and uncertain nature of these events. However, this approach should be discussed with relevant representatives from OEH and re-visted following a detailed flood risk analysis.

- An access route should be available to the hospital which will remain free of flooding, including during a PMF event.

- There are no current flood risk management requirements relating to off-site impacts for land above the 100 year ARI maximum flood level.

9.8.3 LEGISLATIVE REQUIREMENTS

The review of flooding aspects took into account:

- *Draft Bega Valley Local Environmental Plan 2010.*

- *Draft Bega Valley Shire Development Control Plan 2010.*

- *NSW Floodplain Development Manual 2005.*

- *'Guidance on Land Use Planning in Flood Prone Area' by Hawkesbury Nepean Floodplain Management Steering Committee 2007.*

- *Floodplain Management in Australia: best practice guidelines, SCRAM Report 73.*

- *Managing the Floodplain, Emergency Management Australia Manual 19.*

9.8.4 SUMMARY AND CONCLUSION

The flood risk across the site varies significantly. Once the flooding in the river exceeds the main channel capacity, inundation of the site will occur in varying degrees. Approximately 15% (13 Hectares) of the site would not be subject to inundation during a Probable Maximum Flood (PMF) size event. Also, during that event a section of up to 100m of Tathra Road adjacent to the site would also become inundated and likely to not be trafficable. Local access road and evacuation routes are likely to be cut off for some time in a major flooding event.

As there is significant demand after a flood for a hospital to be operational, services that allow the hospital to remain functional should be location above the PMF. Adopting the PMF level for setting floor levels would reasonably mean the hospital would remain flood free and could continue to function in large event.

Every opportunity will be taken to incorporate in the design, mitigation measures that will reduce the floor risk to the hospital.

9.9 STAGING

As previously stated within **Section 4.8** of this report, the BVHS development is proposed to be constructed in two stages.

The anticipated timing for the Stage 1 scope of works is early 2013, with construction of Stage 2 works anticipated between mid-2013 and 2016.

10 Stage 1 Key Issues Assessment

10.1 NOISE AND VIBRATION

The Environmental Noise Impact Assessment was prepared by *SLR Global Environmental Solutions* (Attached as **Appendix P**) should be reviewed to fully understand the methodology for undertaking the noise and vibration impact analysis, including the identification of the noise receivers, establishment of the relevant noise criteria base on noise monitoring results, the estimates noise impact from construction and operation of the proposal at the surrounding sensitive reception locations.

10.1.1 ASSESSMENT OF METHODOLOGY

The noise and vibration assessment was undertaken having regard to the site context, potential impacts of the proposal, consideration of statutory requirements and identification of appropriate mitigation measures to be implemented to avoid any significant impacts. Each of these matters is outlined in detail within the *Noise Impact Assessment* and outlined below:

- Existing Environmental.
- Construction Noise and Vibration Assessment.
- Operational Noise and Vibration Assessment.

10.1.2 ASSESSMENT OF KEY ISSUES

Construction

- Noise and vibration emissions from the proposed construction activities are predicted to exceed the construction noise goals at nearby sensitive locations and should therefore be managed in accordance with the recommendations contained in this report and noise mitigation measures documented in the *Interim Construction Noise Guidelines* (ICNG). The predicted magnitude of noise impacts is similar to that generated by other construction activities in urban areas. Noise impacts will generally be restricted to the daytime period.
- During the detailed design stage, when more specific information is available in relation to the proposed construction works, it is recommended that a site specific Construction Noise and Vibration Management Plan be prepared, consistent with the requirements of the ICNG.

Operation

- Calculation of noise propagation from the proposed hospital has been conducted to the nearest representative receiver locations. The operational noise impacts associated with this project include the following:
  - Mechanical plant noise emissions.
  - Car park noise emissions.
  - Noise emissions from the helipad equipment (including helicopter idling while on the helipad only).
  - Additional road traffic on public roads.

- The selected mechanical equipment should be reviewed and assessed for conformance with established criteria at the detailed design stage of the project when specific plant selection is finalised and appropriate noise control measures can be determined. It is envisaged that the mechanical plant noise sources will be controllable by common engineering methods that may consist of judicious location, barriers, silencers and/or acoustically lined ductwork noting that the cumulative noise emissions from all hospital noise sources should be considered when determining appropriate mitigation options.

- The noise predictions for the specified car parking use (including ambulance arrivals) show no exceedance of the operational noise goals at the nearby representative residential receiver locations.

- The noise predictions for the proposed helipad operations specified by Rehbein Airport Consulting show no exceedances of the operational noise goals at the nearby representative residential receiver locations.

- On the basis of the proposed road traffic numbers generated by the development the increase in traffic noise due to the project is not anticipated to cause an exceedance of the specified noise goals.

- The helipad is proposed to be located to the north east of the hospital building.

- Information relating to the proposed operations and source sound power levels has been provided by Rehbein Airport Consulting. Emergency helicopters will not 'hot load' or load patients when the rotor blades are turning, and all helicopter movements at Bega will be retrievals. Therefore, the helicopter will land and shut down (less than five minutes), the patient will be loaded, and the helicopter will start-up and depart. Start-up and departure will be relatively fast (less than five minutes) as the helicopter is already warm and the checklists have been completed. The potential noise impacts of the helicopter operation will be further detailed in the Stage 2 application.

10.1.3 PROPOSED MITIGATION MEASURES

Construction Noise Goals

- *The expected noise management level exceedances are likely to be concerning for surrounding residents and particular effort should be directed towards the implementation of all reasonable noise mitigation and management strategies.*

- *The standard suite of mitigation measures includes management measures such as community consultation, site inductions (with guidance on how to minimise noise and vibration) and the preparation of site specific construction noise and vibration management plans. The strategy also includes several recommendations for reducing the source noise levels of construction equipment via good planning and equipment selection.*

- Examples of mitigation measures which may be considered appropriate for these works are:

  - *Use of localised acoustic hoarding and/or earth bunds around significantly noise generating items of plant (eg rock breaker), where practicable. This would be expected to provide between 5 dB and 10 dB of additional noise attenuation, if adequately constructed to ensure line of sight between all receivers and the construction equipment is broken.*

  - *Briefing of the work team in order to create awareness of the locality of sensitive receivers and the importance of minimising noise emissions.*

  - *Ensuring any spoil is placed and not dropped into awaiting trucks.*

  - *Establishing load points as far as practicable from sensitive receivers.*

  - *Use of less noise-intensive equipment, where reasonable and feasible.*

  - *Non-tonal reversing alarms fitted on construction vehicles.*

In order to minimise the potential noise and vibration impacts upon nearby sensitive receivers, most construction works are proposed to be undertaken during the OEH's standard daytime construction periods (7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays).

Prior to construction, when more specific information is available in relation to the proposed construction works, a site specific Construction Noise and Vibration Management Plan (CNVMP) would be prepared. This would address each major stage of the construction works and identify the appropriate mitigation and management measures, consistent with the requirements of the *Interim Construction Noise Guideline.*

Operational Noise Goals

- It is envisaged that the mechanical plant noise sources will be controllable by common engineering methods that may consist of judicious location, barriers, silencers and/or acoustically lined ductwork noting that the cumulative noise emissions from all hospital noise sources should be considered when determining appropriate mitigation options.

- The noise predictions for the specified car parking use (including ambulance arrivals) show no exceedance of the operational noise goals at the nearby representative residential receiver locations.

10.1.4 LEGISLATIVE REQUIREMENTS

Section 1.2 of the *Noise Impact Assessment* confirms that the scope of work underpinning their analysis took into account each of the following policies and plans:

- *NSW Industrial Noise Policy.*

- *Interim Construction Noise Guideline.*

- *Road Noise Policy.*

10.1.5 SUMMARY AND CONCLUSION

The noise and vibration impacts of the proposal have been assessed by SLR against the relevant noise and vibration criteria as outlined in the EARs. The assessment concludes that the proposal will be able to meet the relevant noise and vibration criteria for surrounding land uses through the implementation of a number of mitigation measures which will minimise the environmental impacts of the proposal.

10.2 TRANSPORT AND ACCESSIBILITY

As outlined within Section 9.4 of this report, a Transport Assessment was prepared by SKM to accompany this application and is submitted as **Appendix L**. This report provides a detailed assessment of the impacts of the proposal in terms of Traffic, examining such issues as accessibility, parking and traffic impacts.

10.3 ABORIGINAL HERITAGE

As outlined within Section 9.6 of this report, an Aboriginal and European Heritage Due Diligence Report was prepared by RPS to accompany this application and is submitted as **Appendix M**. This report provides a detailed assessment of the impacts of the proposal in terms of Indigenous Heritage. The potential impact and proposed mitigation measures to protect Indigenous Heritage have been identified in Section 9.6.3 and 9.6.4.

10.4 DRAINAGE

A Stormwater Management Strategy and Plan (SMP) has been prepared by C&M Consulting Engineers (submitted at **Appendix Q**) in response to the DGR.

10.4.1 ASSESSMENT OF KEY ISSUES

The key issues and the mitigating measures to be employed within the proposed development site are:

- *Water Quantity: Increased impervious surfaces (such as roofs, driveways, etc) have the potential to increase the storm water flows from the site during storm events. To avoid impacting on the downstream drainage system, the site storm water system has been planned to safely convey the flows through the site and within the capacity of the downstream system.*

- *Water Quality: Urban developments have the potential to increase gross pollutants, sediments and nutrient concentrations in storm water runoff. To limit impact on the downstream water quality, pollution control measures will be provided at each storm water outlet prior to discharging to the existing drainage system.*

10.4.2 PROPOSED MITIGATION MEASURES

In summary, the stormwater management works required for the proposed development will generally comprise the following:

- *A pipe network system to collect minor storm runoff from surface areas which will minimise nuisance flooding.*

- *On-site stormwater detention system(s) to detain storm flows so that they can be slowly released over time to ensure that peak storm flows do not exceed that of the existing site for storm events up to and including a 1 in 2 year storm event. This will assist with maintaining environmental flows and reduce the likelihood of scouring and instability within downstream waterways.*

- *Bio-retention basins (constructed within the on-site stormwater detention basins) to provide significant water quality treatment to runoff from impervious areas while at the same time providing additional stormwater detention.*

- *Stormwater Quality Improvement Devices (SQIDs) including hydrodynamic separation via Vortex Device(s) or equal to provide water quality treatment to runoff from road and car park areas by removing sediment, oils and hydrocarbons.*

- *Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.*

- *Overland flow paths (such as roads and swales) to carry major storms through the site without causing damage to property from flooding.*

With the proposed Water Sensitive Urban Design strategy and management, the proposal can help provide a safe and ecologically sustainable environment.

10.4.3 LEGISLATIVE REQUIREMENTS

The scope of work underpinning production of the Stormwater Management Plan took into account each of the following policies and plans:

- *Bega Valley Shire Council Development Control Plan(s).*

- *"Australian Runoff Quality – A Guide to Water Sensitive Urban Design", Engineers Australia (2006).*

- *"Australian Rainfall and Runoff: A Guide to Flood Estimation – Volume 1", Engineers Australia (1987).*

10.4.4 SUMMARY AND CONCLUSION

A Water Sensitive Urban Design Approach will be adopted as part of the development strategy to manage potential changes in water quality and quantity.

The traditional stormwater management and investigation that only considers impacts of flooding and flood mitigation does not constitute contemporary drainage management. Stormwater management practices must now also consider water quality, aquatic habitats, riparian vegetation, recreation, aesthetic and economic issues.

Through the implementation of the measures outlined within the SMP (and above), the proposal can ensure a safe and ecologically sustainable environment.

10.5 SEDIMENT, EROSION AND DUST CONTROLS

A Stormwater Management Strategy and Plan (SMP) as well as Soil and Sediment Control Plans have been prepared by C&M Consulting Engineers (submitted at **Appendix Q** and **Appendix R**), along with the review of the flooding aspects submitted at **Appendix O** in response to the DGR.

10.5.1 ASSESSMENT OF KEY ISSUES

The Stormwater Management Strategy and Plan (SMP), and Soil and Sediment Control Plans propose a number of mitigation measures to preserve water quality and control sediment and erosion.

10.5.2 PROPOSED MITIGATION MEASURES

Key management measures proposed to manage erosion, sediment and dust impacts off-site are:

- *Bio-retention basins (constructed within the on-site stormwater detention basins) to provide significant water quality treatment to runoff from impervious areas while at the same time providing additional stormwater detention.*
- *Stormwater Quality Improvement Devices (SQIDs) including hydrodynamic separation via Vortex Device(s) or equal to provide water quality treatment to runoff from road and car park areas by removing sediment, oils and hydrocarbons.*
- *Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.*

10.5.3 SUMMARY AND CONCLUSION

The proposed water quality management measures are considered acceptable to mitigate offsite soil and sediment impacts in watercourse. The proposed soil and sediment control measures will be in place and maintained during construction. Further detail of dust control will be included in the Construction Management Plan to be prepared for the on-going management of dust during the Stage 1 works.

10.6 SERVICING AND WASTE

A Waste Management Strategy has been prepared by ARUP (submitted at **Appendix S**) in response to the DGR's.

10.6.1 ASSESSMENT OF KEY OBJECTIVES

- To manage waste in accordance with the waste hierarchy.
- Comply with relevant statutory requirements.
- Comply with all environmental management measures.
- Provide plans of actions for key waste streams.

- Document and describe the systems for waste management.
- All appropriate opportunities are taken to minimise waste.
- All waste that cannot be reused is disposed of in an appropriate manner.

10.6.2 PROPOSED MITIGATION MEASURES

A construction contractor will prepare a Waste Management Plan in accordance with this strategy.

10.6.3 LEGISLATIVE REQUIREMENTS

The scope of work underpinning production of the Waste Management Strategy took into account each of the following policies and plans:

- *The Protection of the Environment Operation Act, 1997.*
- *Waste Avoidance and Resource Recovery Act 2001.*
- *NSW Waste Reduction and Purchasing Policy (WRAPP).*

10.6.4 SUMMARY AND CONCLUSION

The outline Waste Management Strategy outlines any possible material generated from the works to be recycled and reused where possible. Before commencement of works on site, a Construction Waste Management Plan will be prepared to outline the exact procedures during construction.

11 Other Issues

11.1 GEOTECHNICAL

A Geotechnical Report has been prepared by Douglas Partners and accompanies this report in **Appendix T**. The report is based on the findings of field works which included 8 borehole tests and 21 excavated test pits. The field work investigations found:

- Within the Building Area the Subsurface conditions varied, including:
  - organic topsoil depths ranging from 0.2 – 0.6 metres;
  - Clay and sand to depths of 0.6 – 2.5 metres; and
  - Granodiorite to depths of 0.6 – 8.5 metres, initially extremely low in strength, but increasing in strength with depth.
- Surface conditions were typically weak to depths of up to 1 metre.
- Groundwater was observed at a depth of 0.7 metre in one borehole (Bore 14).
- While the borehole drill technique precluded groundwater observation at depth, groundwater was monitored in two boreholes and observed at depths of 8.2metres and 5.6 metres (RL 8.8 and LR16.4 respectively).

Based on the findings of the groundwater investigations, the assessment concluded a Site Classification of H1. This will be required to be considered in the design of the building footings. Accordingly, a foundation specifications report has been prepared and attached in **Appendix U**, which demonstrates an engineered solution for the geotechnical conditions of the site to support the proposed hospital development.

11.2 GROUNDWATER

Based on the identification of groundwater on the site during the geotechnical investigation, ARUP were engaged to undertake a groundwater assessment which is attached in **Appendix V**. Their assessment concluded that:

- *The proposed hospital development is unlikely to impact the local groundwater system.*
- *Any risks which arise during construction can be fully mitigated by the adoption of appropriate site water management arrangements.*
- *Consideration should be given to the incorporation of sustainable drainage systems in the building design so as to maintain existing rates of surface infiltration.*

The ARUP assessment was peer reviewed by Coffey, which is also attached in **Appendix T**. The peer review of the groundwater assessment concludes:

> *Based on the available information, Coffey agrees that the risk of impacts on the groundwater system is low, however a groundwater assessment of the site is being conducted.*

Accordingly, the proposed hospital development will not adversely impact on groundwater quality or flows.

11.3 SOCIAL AND ECONOMIC CONSIDERATIONS

In accordance with Schedule 2 of the *Environmental Planning and Assessment Regulations 2000*, biophysical, social and economic considerations have been included in this environmental assessment. These considerations are summarised below.

11.3.1 BIOPHYSICAL CONSIDERATIONS

The biophysical impact assessment of the proposed hospital has been assessed in **Sections 8 and 9** above. While the hospital development will result in the removal of vegetation associated with the earthworks, the impacts of the proposal on the biophysical environmental are considered acceptable.

11.3.2 SOCIAL CONSIDERATIONS

In the preparation of the Funding Application by Health Infrastructure the following social benefits of the BVHS hospital development were identified:

- *Improved accessibility for patients and carers.*
- *An increase in the equitable access to a range of public health services, including ambulatory, emergency and maternity care.*
- *Improved access for Aboriginal communities.*
- *Reduced distress and disability associated with illness and having to travel long distances to other hospitals in the Sydney region.*
- *Enhanced social cohesion due to the improved accessibility of health services in regional and rural areas.*

Further, as a result of the new hospital development proceeding, the following health benefits were also identified:

- *The reduction in pain and suffering for the other patients who would otherwise not be treated without the development.*
- *The averting of mortality for seriously ill patients who would otherwise not be treated without the development.*

11.3.3 ECONOMIC CONSIDERATIONS

The development of the BVHS hospital will have positive economic impacts including:

- Generating approximately 247 direct and 600 indirect jobs during each year of construction (Health Infrastructure NSW, 2010).
- Create approximately 564 Full-Time Equivalent jobs for clinical and non-clinical staff by 2016 (Health Infrastructure NSW, 2010).
- The following economic health benefits:
  - *Increased flexibility of facilities to better meet the future needs of the hospital.*
  - *Increased staff productivity.*
  - *Increase in local employment during construction of over 1,500 jobs created (direct construction and indirect jobs).*
  - *New employment opportunities after development, with increases in clinical staffing and non-clinical support services. It is estimated that employment will increase by nearly 130 FTEs over the years to 2016.*

- *Productivity gains for those patients who receive early treatment and return to the workforce sooner.*

In addition, the hospital will generate a number of intangible benefits that will deliver significant positive social outcomes to the Bega Valley LGA and other regional communities within the South Coast Regional area.

11.4 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposal has been assessed against the key Crime Prevention Through Environmental Design (CPTED) principles.

CPTED principles fall into four broad categories: territorial reinforcement, surveillance, space management and access control. They apply in particular to the way that buildings and their surroundings are designed but also have an application in determining the most appropriate lay out of individual work areas.

- **Territorial reinforcement/ownership** – people are more likely to protect territory they feel they own and have a certain respect for the territory of others.
  - This has been expressed through installation of fences, paving, signs, good maintenance and landscaping.
  - The building design and orientation clearly defines the public entries and back of house operations, including loading and services to the building. The separation of uses, signage and landscape will ensure clear boundary definition and distinction between the public and private domain.
- **Natural surveillance** – maximising opportunities for passers-by or residents to observe what happens in an area (the 'safety in numbers' concept).
  - This may be achieved through the placement of physical features, activities and people.
  - The proposed building will maintain good sightlines to pedestrian entries and walkways surrounding the site and to the building. The pedestrian entries will be appropriately lit and situated in areas with a high level of Hospital use.
- **Space management** – ensures that space is appropriately utilised and cared for.
  - Space management strategies include; activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out lighting and the removal or refurbishment of decayed physical elements.
  - The proposed development will not result in the creation of space that would compromise the safety of users or the wider locality.
- **Access control** – control of who enters an area so that unauthorised people are excluded.
  - This will be achieved through the installation physical barriers such as fences and grills.
  - The key public access points to the building will be clearly defined using appropriate way-finding signage, building form and landscape design. Distinct public routes to the building within the Hospital site will be provided.

11.5 AVIATION COMPLIANCE

An assessment of the proposal with regards to compliance with the relevant aviation guidelines and standards has been prepared by Rehbein Airport Consulting and submitted at **Appendix W**. The finding of the review show the concept design is in accordance with the draft NSW guidelines set to supersede the current NSW Health Policy Directive.

12 Likely Impacts on the Environment (Summary)

KEY ISSUE	LIKELY IMPACTS
ESD	The fundamental ESD features to be considered in the proposed design include: Energy; Materials; Building siting; Indoor environmental quality – adequate ventilation, day lighting; Water – water sensitive urban design; and Waste minimisation – during construction and operation.
Flora and Fauna	No threatened fauna species were recorded during the site survey. The proposal will require the removal of up to 18 paddock trees. Sixteen of these trees contain hollows. Earthworks will also be required to create surfaces suitable for the buildings, roadways, car parks and associated infrastructure. The footprint for the building, roads, car parks and associated infrastructure is approximately nine hectares and is covered primarily in pasture.
Heritage	<u>Indigenous Heritage</u> No new Aboriginal archaeological sites were identified during the survey. The location of AHIMS site 62-6-0724 (duplicate of 62-6-0707) was inspected, but the single grey volcanic flake associated with this site was not identified. Two spur landforms were identified as being areas of archaeological sensitivity and may have potential to contain subsurface archaeological deposits. These two spur landforms must be subject to archaeological test excavations in accordance with the Code of Practice (DECCW 2010) and with Aboriginal consultation as per the Aboriginal Cultural Heritage Consultation Requirements (ACHCRs) 2010. No permit is required from OEH to undertake the test excavations; however, the Aboriginal community must be allowed 28 days to comment on the excavation methodology and OEH needs to be notified at least 14 days before test excavations commence (DECCW 2010:25). The current designs of the proposed Hospital will not impact upon AHIMS site# 62-6- 0724. There will be partial impact the sensitive archaeological spur landforms.

KEY ISSUE	LIKELY IMPACTS
	<u>European Heritage</u> The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. A search of the National Heritage List indicates that there are no items within the Bega Valley LGA on the National Heritage List. The NSW Heritage Inventory database is maintained by the NSW Heritage Office and lists items that have been identified as of State and local heritage value throughout NSW. A search of the NSW Heritage Inventory indicates that there are eight (8) items on the State Heritage Register, and 274 items of local heritage significance in Bega Valley LGA, however, zero (0) items are within the project area. As there are no registered heritage items within the vicinity of the project area, it is considered that there are no European heritage constraints associated with the project.
Bushfire	Examination of the vegetation within proposed Hospital site has found that there is no affection on the site from bushfire prone vegetation or the buffer zone to bushfire prone vegetation and therefore the Hospital site is not deemed to be bushfire prone.
Flooding	The PMF should be adopted as the flood planning level of the site. If this is not possible, the development should be located at as high an elevation as possible with a minimum requirement to be above the 1000 year ARI maximum flood level. In such circumstances the hospital should be protected d up to the PMF level. Initial review of the site contours suggests that such protection would be achievable.
Noise and Vibration	<u>Construction</u> Noise and vibration emissions from the proposed construction activities are predicted to exceed the construction noise goals at nearby sensitive locations and should therefore be managed in accordance with the recommendations contained in this report and noise mitigation measures documented in the *Interim* Construction *Noise Guidelines* (ICNG). The predicted magnitude of noise impacts is similar to that generated by other construction activities in urban areas. Noise impacts will generally be restricted to the daytime period. During the detailed design stage, when more specific information is available in relation to the proposed construction works, it is recommended that a site specific Construction Noise and Vibration Management Plan be prepared, consistent with the requirements of the ICNG. <u>Operation</u> Calculation of noise propagation from the proposed hospital has been conducted to the nearest representative receiver locations. The operational noise impacts associated with this project include the following:

KEY ISSUE	LIKELY IMPACTS
	▪ Mechanical plant noise emissions. ▪ Car park noise emissions. ▪ Noise emissions from the helipad equipment (including helicopter idling while on the helipad only). ▪ Additional road traffic on public roads.
Transport and Accessibility	The results of the SIDRA analysis, under extremely robust test circumstances, demonstrate that the intersections will operate with a Level of Service of C or better with the exception of Intersection 6 in the PM peak and Intersection 3 in the AM peak. The traffic generated by the development only contributes 12 additional trips to the background traffic utilising Intersection 6 and no account of the positive impact of the Bega by-pass has been made in the assessment. Given that Intersections 3 and 6 are anticipated to operate at near capacity in the future base years and that SERH trips are minimal no mitigation measures are necessary at this or any of the study intersections. Any impact on pedestrians and cyclists associated with SERH vehicle trips would also be negligible.
Drainage	Water Quantity: Increased impervious surfaces (such as roofs, driveways, etc) have the potential to increase the storm water flows from the site during storm events. To avoid impacting on the downstream drainage system, the site storm water system has been planned to safely convey the flows through the site and within the capacity of the downstream system. Water Quality: Urban developments have the potential to increase gross pollutants, sediments and nutrient concentrations in storm water runoff. To limit impact on the downstream water quality, pollution control measures will be provided at each storm water outlet prior to discharging to the existing drainage system.
Sediment, Erosion and Dust Controls	The Stormwater Management Strategy and Plan (SMP), and Soil and Sediment Control Plans propose a number of mitigation measures to preserve water quality and control sediment, erosion and dust.
Servicing and Waste	To manage waste in accordance with the waste hierarchy. Comply with relevant statutory requirements. Comply with all environmental management measures. Provide plans of actions for key waste streams.

13 Compilation of Mitigation Measures

The following measures have been compiled based on the Environmental Impact Assessment undertaken in the preparation of this report and following review and consideration of the issues raised in consultation with government agencies.

They provide a commitment by Health Infrastructure and indicate the responsibilities required to implement measures to prevent potential environmental impacts that have been identified through the assessment.

This will ensure that the project is environmentally, socially and economically sustainable.

Schedule 2 of the Environmental Planning and Assessment Regulation 2000 requires a full description of the measures proposed to mitigate any adverse effects of the development on the environment.

The collective measures required to mitigate the impacts associated with the proposed works are detailed within the table below. These measures have been derived from the previous assessment in Section 9 and 10 and those detailed within the appended consultant reports.

TABLE 5 – MITIGATION MEASURES

KEY ISSUE	MITIGATION MEASURE
Prior to Construction	
Flora and Fauna	▪ Tree Protection: – Before any site works commence tree exclusion fencing must be installed around all trees to be retained. ▪ Habitat enhancement and removal of tree with hollows: – All hollow-bearing trees must be removed after the exclusion fencing has been installed and before any other earth works commence. – Two weeks prior to tree removal we recommend that four nest/roosting boxes be installed for each tree or stag containing hollows to be removed. Two of the boxes must be suitable for birds or arboreal mammals and two for microbats. – An ecologist must be present during the tree removal process to protect any fauna inhabiting the hollows. ▪ Indigenous species for landscape plantings: – The following is a list of suitable species. – Trees and Small Trees: *Angophora floribunda, Eucalyptus tereticornis, Allocasuarina littoralis.* – Herbs and Grasses: *Dichondra repens, Lomandra longifolia, Poa labillardierei, Themeda australis.*

KEY ISSUE	MITIGATION MEASURE
	▪ Any works within 40 m of the watercourse north of the proposed access road require a Controlled Activities Approval from the NSW Office of Water. ▪ Erosion and sediment control structures are to be installed prior to any earthworks commencing and cleared after any storm event.
Heritage	The following recommendations have been formulated to inform the practice of cultural heritage management on site: *Recommendation 1* *The proponent will need to develop a Cultural Heritage Management Plan before on site excavation or construction activity begins that takes into account the following:* - *Salvage and/or management of AHIMS site# 62-6-0724;* - *Test pitting of Spur 1 & 2 landforms where impact is to occur under OEH Code of Practice methodology guidelines (September 2010);* - *Opportunity for monitoring by BLALC during trenching and other related construction works to the spur landform;* - *Mechanism for ongoing Aboriginal cultural input into the proposed hospital development; and* - *Should the proposed hospital plan change, it should identify if impact to spur landforms will increase and if so appropriate mitigation measures be put in place to ameliorate these.* *Recommendation 2* *All relevant staff, i.e. contractors and subcontractors, should be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act (1974) and the NSW Heritage Act (1977).* *Recommendation 3* *If, during the course of development works, suspected European cultural heritage material is uncovered, work should cease in that area immediately. The OEH Enviroline 131 555 should be contacted and works only recommence when an appropriate and approved management strategy instigated.*

KEY ISSUE	MITIGATION MEASURE
Bushfire	▪ *A need to provide adequate internal access for emergency service vehicles including Fire and Rescue NSW and NSW Rural Fire Service Appliances.* ▪ *The proposed Hospital site is to be located more than 100 metres from the Category 2 Bushfire Prone Vegetation which is mapped as being located adjacent to the watercourse located within the central north-eastern portion of the development site – within proposed Lot 2. This separation width removes the need to apply bushfire construction standards to the proposed Hospital buildings/assets are required by A.S. 3959 – 2009.* ▪ *Fire Hydrant spacing, sizing and pressures of mains shall comply with A.S. 2419.1 – 2005.* ▪ *The proposed Hospital site is unlikely to come under bushfire attack and therefore not requirement exists for the preparation of a specific Evacuation Plan that addresses a bushfire emergency. However, there shall be prepared an Evacuation Plan which establishes the relevant protocols for the management of other specific emergencies including a fire in a building; severe storm and storm damage; hazardous material incident within the Hospital or on surrounding land, etc.*
Flooding	▪ Critical electrical infrastructure such as backup generators, should be stored at a minimum above the 500 year ARI flood level (preferably the PMF). Backup generators should also be designed to operate for up to several weeks (that is, sufficient fuel, etc). ▪ A Hospital Emergency Management (Response and Evacuation) Plan needs to be in place and ensure that it accounts for several possible scenarios during a flood, including restricted or cut-off access due to flood waters, inundation of low lying parts of the site and extended periods of isolation. It will also need to consider the transfer of equipment and patients to other hospitals. ▪ The minimum floor level of any new hospital building must be raised to the PMF, including wards, operating theatres and the Emergency Department, and non-essential services/area, such as car parks and recreation areas, should be located in the lower lying areas of the property below the PMF. ▪ The PMF should be adopted as the flood planning level of the site. If this is not possible, the development should be located at as high an elevation as possible with a minimum requirement to be above the 1000 year ARI maximum flood level. In such circumstances the hospital should be protected d up to the PMF level. Initial review of the site contours suggests that such protection would be achievable.

KEY ISSUE	MITIGATION MEASURE
	▪ A further allowance on top of the 1000 year ARI or PMF event flood levels for climate change is not considered necessary at this stage, due to the extreme and uncertain nature of these events. However, this approach should be discussed with relevant representatives from OEH and re-visted following a detailed flood risk analysis. ▪ An access route should be available to the hospital which will remain free of flooding, including during a PMF event. ▪ There are no current flood risk management requirements relating to off-site impacts for land above the 100 year ARI maximum flood level.
During Construction	
Noise and Vibration	▪ *Use of localised acoustic hoarding and/or earth bunds around significantly noise generating items of plant (eg rock breaker), where practicable. This would be expected to provide between 5 dB and 10 dB of additional noise attenuation, if adequately constructed to ensure line of sight between all receivers and the construction equipment is broken.* ▪ *Briefing of the work team in order to create awareness of the locality of sensitive receivers and the importance of minimising noise emissions.* ▪ *Ensuring any spoil is placed and not dropped into awaiting trucks.* ▪ *Establishing load points as far as practicable from sensitive receivers.* ▪ *Use of less noise-intensive equipment, where reasonable and feasible.* ▪ *Non-tonal reversing alarms fitted on construction vehicles.* In order to minimise the potential noise and vibration impacts upon nearby sensitive receivers, most construction works are proposed to be undertaken during the OEH's standard daytime construction periods (7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays). Prior to construction, when more specific information is available in relation to the proposed construction works, a site specific Construction Noise and Vibration Management Plan (CNVMP) would be prepared. ▪ It is envisaged that the mechanical plant noise sources will be controllable by common engineering methods that may consist of judicious location, barriers, silencers and/or acoustically lined ductwork noting that the cumulative noise emissions from all hospital noise sources should be considered when determining appropriate mitigation options. ▪ The noise predictions for the specified car parking use (including ambulance arrivals) show no exceedance of the operational noise goals at the nearby representative residential receiver locations.

KEY ISSUE	MITIGATION MEASURE
Transport and Accessibility	Traffic, access, servicing and layout arrangement are to be in accordance with the Transport Assessment prepared by SKM. A construction Traffic Management Plan is to be prepared prior to construction.
Drainage	▪ *A pipe network system to collect minor storm runoff from surface areas which will minimise nuisance flooding.* ▪ *On-site stormwater detention system(s) to detain storm flows so that they can be slowly released over time to ensure that peak storm flows do not exceed that of the existing site for storm events up to and including a 1 in 2 year storm event. This will assist with maintaining environmental flows and reduce the likelihood of scouring and instability within downstream waterways.* ▪ *Bio-retention basins (constructed within the on-site stormwater detention basins) to provide significant water quality treatment to runoff from impervious areas while at the same time providing additional stormwater detention.* ▪ *Stormwater Quality Improvement Devices (SQIDs) including hydrodynamic separation via Vortex Device(s) or equal to provide water quality treatment to runoff from road and car park areas by removing sediment, oils and hydrocarbons.* ▪ *Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.* ▪ *Overland flow paths (such as roads and swales) to carry major storms through the site without causing damage to property from flooding.*
Sediment, Erosion and Dust Controls	▪ *Bio-retention basins (constructed within the on-site stormwater detention basins) to provide significant water quality treatment to runoff from impervious areas while at the same time providing additional stormwater detention.* ▪ *Stormwater Quality Improvement Devices (SQIDs) including hydrodynamic separation via Vortex Device(s) or equal to provide water quality treatment to runoff from road and car park areas by removing sediment, oils and hydrocarbons.* ▪ *Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.*
Servicing and Waste	Before commencement of works on site, a Construction Waste Management Plan will be prepared to outline the exact procedures during construction.

14 Justification and Conclusion

The proposal is therefore recommended for approval.

Given the benefits of the proposed hospital redevelopment, its importance to the management of healthcare to the local and regional community, and given that there are minimal environmental impacts on the locality, it is recommended by this report that the State Significant Development application be approved subject to the mitigation measures.

The expected benefits of this proposal include:

- Achievement of significant improvement in capacity which enables a higher scope of clinical care to be delivered to local residents.
- Achievement of a broader range of acute inpatient services available locally including mental health, palliative care and rehabilitation which will reduce the need for local residents to travel long distances to access these services, and enables more integrated care to be delivered within the BVHS.
- Expanded capacity to respond effectively to emergency and critical care needs including the capacity to support 20,000 emergency presentations per year and the capacity to provide intensive and coronary care.
- Expansion in the range of specialised diagnostic and treatment services available to support the delivery of acute inpatient services at Role Delineation Level 4.
- Improved access to, and reduced waiting times for, emergency care and elective surgery.
- Improved capacity to provide more integrated models of care.
- More effective and efficient use of available clinical staff, improved staff satisfaction and greater capacity to attract and retain staff.
- Greater capacity to meet the healthcare requirements of the growing aged population now and into the future.

Appendix A Quantity Surveyor's Assessment

Appendix B Director General's Environmental Assessment Requirements

Appendix C Survey Plan and Subdivision Consent

Appendix D Site Plan

Appendix E Concept Landscape Plan

Appendix F Flora and Fauna Report

Appendix G Civil Engineering Plan

Appendix H Services

Appendix I Outline Construction Management Plan

Appendix J Contamination Assessment

Appendix K Site Analysis

Appendix L Transport Assessment

Appendix M Heritage Impact Statement

Appendix N Bushfire Assessment

Appendix O Flood Report

Appendix P Environmental Noise Impact Assessment

Appendix Q Stormwater Management Plan

Appendix R Soil and Sediment Control Plan

Appendix S Waste Management Plan

Appendix T Geotechnical Report

Appendix U Foundation Design Report

Appendix V Groundwater Assessment

Appendix W Aviation Compliance Statement

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