



Bega Valley Health Service Development – Bega: Stage 2 Main Construction Works

Environmental Impact Statement

February 2013

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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, Senior 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	Stage 2 Main Construction Works , including construction of a new 3 –storey hospital building of approximately 26,000m ² , car parking and associated landscaping.

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, Senior Consultant BTP, University of New South Wales
Signature:		
Date:	11 February 2013	11 February 2013

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*. An application for the Stage 1 works and Stage 2 building envelope has been lodged with DOPI in October. This application is for the Stage 2 detailed design of the hospital building and associated helipad, landscaping, etc.

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 'Stage 2' 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 subject site 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 south-east of 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 development and the Bega River floodplain, and a potential 'gateway' for those arriving at Bega along Tathra Road.

DEVELOPMENT PROPOSAL

The Hospital development is proposed as a Staged-Development under Section 83B of the EP&A Act 1979.

The proposed development of the BVHS Hospital will involve two separate stages of construction, which have been proposed as two separate development approvals:

- **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 Stage 2 Main Construction works.

An application for the Stage 1 works and Stage 2 building envelope was submitted to DOPI in October 2012 and is currently under assessment.

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 12** 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 hospital is 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 DEVELOPMENT APPROVALS BACKGROUND

NSW Health Infrastructure lodged the Concept Approval and Stage 1 (Construction Enabling Works) application of the proposed BVHS Hospital which is currently under assessment with the Department of Planning and Infrastructure in September 2012.

The proposal sought consent for the Staged Development of the BVHS Hospital and involved the Concept Approval for the construction of a new hospital facility in two (2) stages (Stage 1: construction enabling works and Stage 2: main construction works).

The building envelope for the hospital is subject to approval as part of the Concept/Stage1 Application.

This application has been prepared to identify the specific works associated with Stage 2 of the proposed BVHS Hospital for the Main Building Works.

The Concept/Stage1 Application is still under assessment with the DOPI.

This application has been prepared in accordance with the Concept/Stage1 Application.

1.3 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 Hospital 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).*

1.4 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 Combined Stage 1 and 2 proposed development is \$151,684,000.

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

1.5 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 in 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.

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

1.6 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.

1.7 THE PROPONENT AND PROJECT TEAM

This 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:

- Health Infrastructure - Proponent
- 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 - 360°
- Project Management - Johnstaff
- Quantity Surveyor - RLB
- Stormwater – C&M
- Flooding – ARUP
- Urban Design – BVN
- Urban Planning – Urbis
- Services – ARUP
- Waste Management – Health Infrastructure NSW
- Hazard/Risk Assessment – Sinclair Knight Merz

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 General's 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 1979*, 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 2.

TABLE 1 – DIRECTOR GENERAL'S REQUIREMENTS: STAGE 2 MAIN CONSTRUCTION WORKS

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
General Requirements	The Environmental Impact Statement/s (EIS) must address the <i>Environmental Planning and Assessment Act 1979</i> and meet the minimum requirements in clauses 6 and 7 of Schedule 2 the <i>Environmental Planning and Assessment Regulation 2000</i>. 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 Stage 2 Main Construction 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 7.1-7.4 and 7.7. NSW Groundwater Policy Framework Document NSW Groundwater Quality Protection Policy are addressed within the Groundwater Assessment submitted at Appendix V.

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 policy provisions, goals and strategic planning objectives in the following: ▪ NSW 2021 ▪ South Coast Regional Strategy ▪ Bega Valley Shire Council's Section 94 Plans ▪ NSW Groundwater Policy Framework Document – General ▪ NSW Groundwater Quality Protection Policy ▪ Planning Guidelines for Walking and Cycling ▪ Crime Prevention through Environmental Design.	The Planning Guidelines for Walking and Cycling have been addressed within the Traffic Assessment submitted at Appendix L.
2. Built Form and Urban Design	Address the relevant planning provisions, goals and strategic planning objectives in the following: ▪ Address the height, bulk and scale of the proposed hospital building and visual impact of car parking within the context of the locality and adjoining residential development. ▪ Demonstrate compliance with the development controls approved in the staged development application consent. ▪ Address design quality, with specific consideration of the overall site layout, connection with the existing adjacent hospital buildings, vistas and connectivity, open spaces and edges, gateway, façade, rooftop, mechanical plant, massing, setbacks, building articulation, materials, colours, including an assessment against the <i>Crime Prevention Through Environmental Design</i> principles. ▪ Provide details demonstrating the relationship with the Stage 1 Construction Enabling Works development consent.	Section 4.2 – 4.3 and 9.1 It is noted that there is not adjoining residential development as outlined in DGR 2.

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
3. Amenity	Details amenity impacts of the Stage 2 Main Construction Works including solar access, noise impacts, visual privacy, servicing requirements (including but not limited to, waste management, loading zones, mechanical plant) and overshadowing. A high level of environmental amenity for adjacent land uses must be demonstrated.	Section 9.2.
4. Ecologically Sustainable Development (ESD)	Detail 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 operation phases of the development.	Section 9.3
5. Noise and Vibration	Identify and provide a quantitative assessment of the main noise and vibration generating sources and activities during construction and operation. Outline measures to minimise and mitigate the potential noise and vibration impacts on existing hospital operations and surrounding occupiers of land.	Section 9.4 It is noted that there is not existing hospital operation as outlined within DGR 5
6. Transport and Accessibility	Undertake a preliminary assessment of the traffic impact of the concept proposal, with particular regard to: - Detail proposed access arrangements to the hospital, including augmentation requirements and intersection upgrade treatments, the type and size of vehicles accessing the sit, and measures to mitigate any associated pedestrian, cycle or traffic impacts. - Detail proposed on-site car parking arrangements for the development which shall be sufficient so as to minimise any off-site impacts on the local traffic network. Prepare a Traffic Impact Study to identify potential traffic impacts during the construction and operational stage of Stage 2 Main Construction Works, and measures to mitigate this impact. Traffic generation for public hospitals is not covered in the RTA's Guide to Traffic Generating Development and traffic generation estimates should be based on similar developments and a first principles analysis of the proposal. Intersection modelling using SIDRA should be undertaken for key junctions including Harry Scanes Avenue, Tathra Road and the proposed new access. The SIDRA analysis should be undertaken considering the following: - AM and PM peak volumes and holiday peak volumes.	Section 9.5

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
	- Existing traffic volumes with and without the development and 10 year projects volumes with and without the development. The results of the SIDRA modelling should be used to demonstrate the appropriate treatment for the future estimated traffic volumes through the intersection. Details of the proposed access, parking provision and service vehicle movements associated with the proposed hospital. This requires sight distance at any new access points to comply with the safe intersection sight distance in accordance with <i>Austroads Guide to Road Design – Part 4a: Unsignalised and signalised intersections Table 3.2, in both directions.</i> Prepare a Transport Accessibility Study that shall: - Demonstrate the proposed access and parking provisions, including the number of car parking spaces for adequate compliance with the relevant Australian standards and parking codes. - Demonstrate how users of the development will be able to make travel choices that support the achievement of NSW 2021 targets. - Detail existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport usage and pedestrian and cycle access. - Describe measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan. - Estimate the total daily and peak hour trips generated by the proposed development, including accurate details of the current and future daily vehicle movements and assess the impacts of the traffic generated on the local road network, including intersection capacity and any potential need for upgrading or road works (if required), having regard to local planning controls.	
7. Flora and Fauna	Address impacts on flora and fauna, including threatened species, populations and endangered ecological communities and their habitats and identify steps to be taken to mitigate any identified impacts to protect the biodiversity.	Section 9.6

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
8. Bushfire	- A bushfire hazard assessment and report that addresses the requirements of clause 44 of the <i>Rural Fires Regulation 2008</i> and the requirements for Special Fire Protection Purpose Development as detailed in <i>Planning for Bush Fire Protection 2006</i> guidelines. - The assessment and report shall also address the existing hospital development's compliance with the requirements of <i>Planning for Bushfire Protection 2006</i> and recommend any improvements to achieve a better bushfire outcome from the existing site.	Section 9.7
9. Heritage	A statement of significance and an assessment of the impact on the heritage significance of any heritage items should be undertaken in accordance with the guidelines in the NSW Heritage Manual, if relevant.	Section 9.8
10. Aboriginal Heritage	Address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, if relevant.	Section 9.8 and 9.9
11. Utilities	- In consultation with the relevant agencies the EIS shall address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure through the preparation of an Infrastructure Management Plan. - Prepared an Integrated Water Management Plan detailing any proposed alternative water supply, proposed end users of potable and non-potable water, demonstration of water sensitive urban design and water conservation measures.	Section 9.10
12. Contributions	Address Bega Valley Shire Council's Section 94 Contribution Plan and Section 64 water and sewer developer service charges and/or details of any Voluntary Planning Agreement.	Section 9.11
13. Flooding	An assessment of flood risk on site with reference to any relevant policies of the NSW Floodplain Development Manual (2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity.	Section 9.12
14. Drainage and Stormwater	In consultation with Bega Valley Shire Council, prepare a Stormwater Management Strategy and Plan that addresses drainage associated with the proposal, including stormwater and drainage infrastructure incorporating water sensitive urban design principles, water harvesting techniques with particular attention to the issue of on-site retention/detention and be designed to avoid any adverse impacts on downstream properties.	Section 9.13

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
15. Groundwater and Surface Water	The proposal must demonstrate compliance with the rules in any relevant Water Sharing Plan (WSP) and legislation. The EIS shall include: ▪ An assessment of the impact of the proposal on watercourses, riparian areas, wetlands, groundwater sources and groundwater dependent ecosystems. ▪ Adequate mitigating and monitoring requirements to address impacts to surface water and groundwater sources and dependent ecosystems. The construction of watercourse crossings and/or any works in or within 40m if a watercourse must demonstrate consistency with NSW Office of Water's Controlled Activities Guidelines.	Section 9.14
16. Sediment, Erosion and Dust Controls	Prepare a preliminary 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 2 Main Construction Works.	Section 9.15
17. Servicing and Waste	Preparation of a Waste Management Strategy that identifies quantifies and classifies the likely waste streams to be generated during Stage 2 Main Construction Works and describe the measures implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Section 9.16
18. Hazards	A description of the proposed storage, use and management of any hazardous materials and measures to be implemented to manage hazards and risks associated with the storage during Stage 2 Main Construction Works.	Section 9.17
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;	Attached as Appendices

KEY ISSUES	DIRECTOR GENERAL REQUIREMENTS	EIS REFERENCE
	- 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; 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.	Noted
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.	Noted

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).

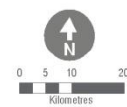
The Bega Valley LGA has a projected population growth of 22% to 2021 and 41% to 2036. Population growth in 65 and over is forecast much higher at 73% to 2021, and 149% to 2036. The growth in the population aging in the region is the main driver for health services within the region.

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



Bega, NSW
REGIONAL CONTEXT



3.2 LOCAL AND SITE CONTEXT

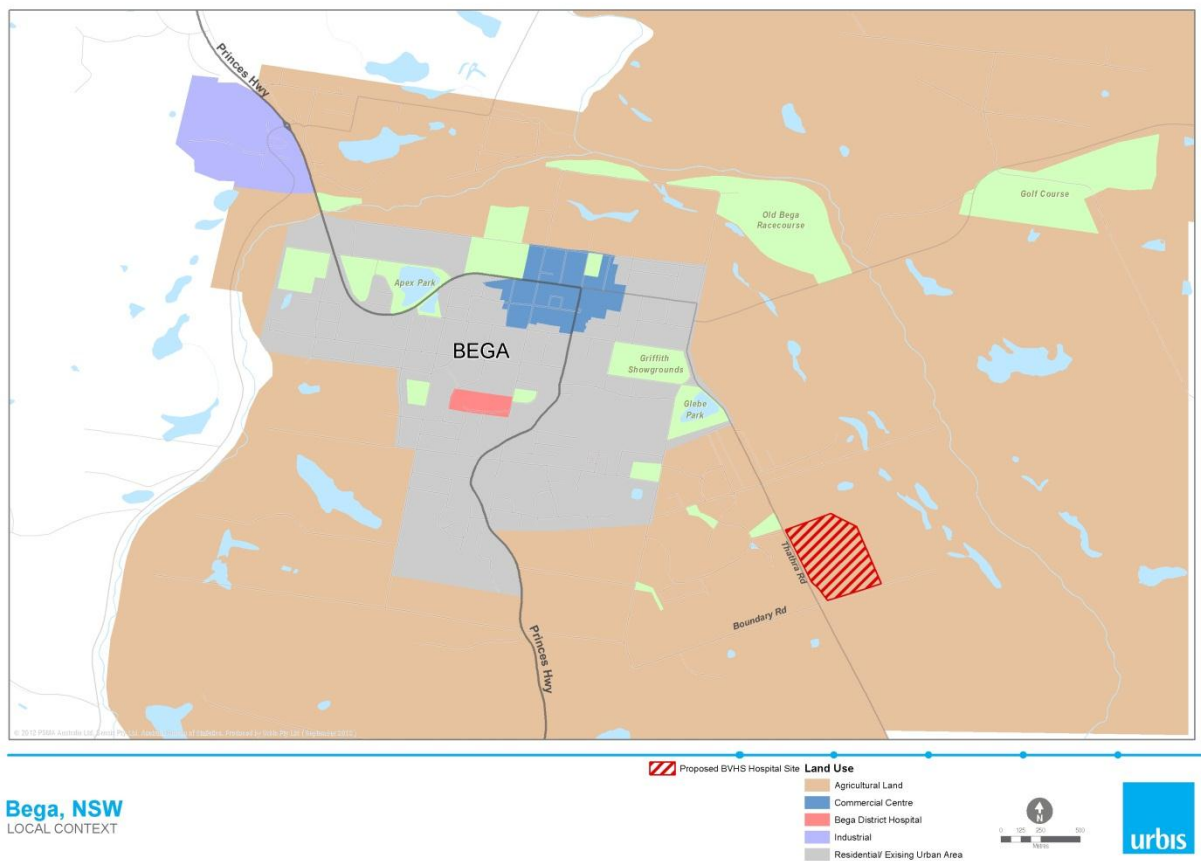
The key features of the site and its context are detailed below:

- 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 is 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 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 region are no longer suitable for delivery of services which align with the National Health and Hospitals Reform agenda, or forecast demographic changes.

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.

4.2 STAGED HOSPITAL DEVELOPMENT

NSW Health Infrastructure have lodged the Concept Approval and Stage 1 (Construction Enabling Works) application of the proposed BVHS Hospital which is currently under assessment with the Department of Planning and Infrastructure.

The proposal sought consent for the Staged Development of the BVHS Hospital and involved the Concept Approval for the construction of a new hospital facility in two (2) stages (Stage 1: construction enabling works and Stage 2: main construction works) comprising:

- Concept Approval:
 - A building envelope for a three storey hospital building of approximately 26,000sqm.
 - Provision of a new access road to and within the site and associated parking (485 spaces).
 - A helipad.
 - Earthworks, civil infrastructure and landscaping.
 - Building services and associated works.
- Stage 1 Construction Enabling Works:
 - All bulk earthworks.
 - Piling and foundations.
 - Services location and reticulation.
 - All internal and external road works.

- Site works for helipad.
- Carparking (485 spaces).
- Other civil infrastructure.

The DA for the above works has been publically exhibited and under assessment by DOPI.

4.3 STAGE 2 MAIN CONSTRUCTION WORKS

As shown on the Architectural Drawings prepared by BVN at **Appendix D**, this DA covers Stage 2 of the BVHS Hospital development, comprising of the Main Construction works for a 3 storey hospital building to service the demand for health services within the South Coast Region.

The new building will provide approximately 26,000sq.m of floor space area, and will contain the following units, as well as a range of new internal linkages, services, plant and equipment rooms:

The new Bega Valley Health Services Hospital is to be built in Bega. The development will include:

- Emergency Services.
- Intensive Care Unit and Critical Care Unit.
- Maternity Services.
- Regional Orthopaedic Services.
- Surgical Services.
- Acute Inpatient Services.
- Sub-acute Inpatient Services.
- Regional Inpatient Mental Health Service.
- Drug and Alcohol Services.
- Community Health.
- Clinical Support Services.
- Medical Imaging.
- Pharmacy.
- Pathology.
- Teaching and Training Facilities.

In addition to the construction of the main building, approval is sought for on-site landscaping finishes to the helipad and carparking, and construction of a geothermal ground source heat pump system.

All other works on site were identified as part of the Stage 1 application.

FIGURE 7 – ELEVATED PERSPECTIVE OF PROPOSED BVHS HOSPITAL BUILDING LOOKING NORTH TO TATHRA ROAD



4.4 PROPOSED FLOOR AREA AND USES

The proposed use and GFA for each level within the building are provided in the table below.

TABLE 2 – PROPOSED USE AND GFA BY LEVEL

LEVEL	PROPOSED USES
Ground Level Approximately 8,730m ² of GFA	Mental Health Medical IPU 1 Sub Acute IPU Overnight Stay Primary/Ambulatory Renal Health Transport Mortuary Food Services Staff Amenity Store Room Waste Back of House

LEVEL	PROPOSED USES
Level 1 Approximately 8,170m ² of GFA	Emergency Medical Imaging Oncology Ambulatory/Community Health Community Mental Health Community Health Staff Executive/Administration Front of House HIS Education Staff Amenity Pathology Pharmacy Office Future Development
Level 2 Approximately 5,670m ² of GFA	Perioperative Critical Care Paediatric IPU Medical IPU 2 Surgical IPU

4.5 OPERATIONAL DETAILS

Due to the nature of the services provided, the majority of the building will operate 24 hours a day, 7 days a week.

The proposal will require approximately 247 staff initially. However, staff numbers per shift will vary throughout the day and night and the proposal is anticipated to create approximately 627 Full-Time Equivalent jobs for clinical and non-clinical staff by 2016 (Health Infrastructure NSW, 2010).

4.6 PUBLIC DOMAIN AND LANDSCAPING

Landscape works are provided as part of the proposed Stages 2 application

Landscape Plans have been prepared for the proposed works by 360° Landscaping (**Appendix E**) which detail the planting species, materials and landscape treatments proposed across the site.

Landscape works in this application include areas west, north, and east of the new building (around its perimeter). Within the building envelope a series of connected, fully accessible healing gardens provide excellent places for respite and healing. The primary courtyards are nestled between the buildings fingers offering physical connection to the surrounding landscape, while an uphill position elevated position will maximise visual links to the river to the east and north-east.

4.7 DESIGN STATEMENT

The site layout and built form features of the proposed hospital have been outlined in detail within the design statement prepared by BVN Architects and submitted with this report at **Appendix F**.

BVN have provided the following summary of the key principles that have shaped the proposed hospital building, summarised below:

1. Connection to Place

Established as a key aspiration from the outset, the planning of the building needs to respond to opportunities for transparency, allowing connections to the river plain beyond.

2. Separation of Acute Services and Primary Healthcare

The blocking and stacking responds to its connection to place by ensuring transparency from the entry, and allowing this move to influence the organisation of spaces further within the building.

The line of site generated from the entry to the landscape beyond becomes a natural division between acute services and primary and ambulatory healthcare components.

3. Creating a Central Space – The ‘Heart’

Fundamental to the identity of the building is a central space connecting the physical levels of the building, their activities, and the landscape beyond.

This becomes integral to way finding, visibility and connections between spaces / staff and patients.

4. Circulation Spine – ‘Hospital Street’

From the central space, a clear circulation spine orders the connections between departments.

This element gives clear direction for expansion strategies, by extension of the spine.

Spaces briefed within departments with an address to the spine, can then begin to be shared between departments.

Voids and stairs within the spine facilitate connections across levels.

4.8 KEY URBAN DESIGN PRINCIPLES

The following siting principles were developed in masterplanning for the site and have been further developed and adopted within the final design through community consultation, consultant input and Health Infrastructure review:

1. Building Footprint Stage 1 Hospital

- *Building sited close to eastern boundary / 1 in 100 year flood extents to maximise developable area for future development elsewhere on site.*
- *At the eastern boundary, the siting maximises preserved views across river plain.*
- *Length of building along contours to balance cut and fill.*

2. *Helipad Siting*

- *Helipad located on east side of building away from public circulation.*
- *At eastern boundary, incoming and outgoing flightpaths make least disturbance over other areas of the site.*
- *Helipad located north of building footprint where land rises to enable level connection with lower ground floor of hospital.*

3. *Identifying a Zone for Geothermal Bores*

- *Geothermal has been identified as a feasible alternative energy source.*
- *Requires a zone for bores of approximately 6,500sqm.*
- *Locating this zone below the 1 in 100 year flood extents makes best use of undevelopable land.*

4. *Landscape*

- *The design will complement the building, accentuating the sense of arrival, settling the building mass, and maximizing vistas. The entry road will create a green avenue, and provide distinct separation between the building and carpark, augmenting the building entry. It will maximise the existing natural buffer to Tathra Rd and future developments opposite and around the site, integrate car parking into the landscape. The landscape design will create a series of connected, fully accessible healing gardens, utilising the building curtilage (particularly the downslope) as well as entry court courtyard space.*

5. *Circulation Network*

- *A collector spine forms the principle vehicular access.*
- *Branching from this spine, service vehicular access, ambulance access and public drop offs are configured.*

6. *Pedestrian Network*

- *A 3 Metre wide shared pedestrian / cycleway is shown along the collector spine from the northern boundary to the hospital entry.*
- *A pedestrian path is indicated collecting pedestrians from carparks south of the building footprint.*

7. *Parking*

- *Bulk carparking*
 - *Likely to be shared by staff and patients, of around 300 car park capacity. Screened by the landscape spine with capacity for overflow.*
- *Drop off bays*
 - *Close to ED and the Main entry, these are likely to have short time restrictions. Likely capacity : 10 spaces.*
- *Close Proximity Parking*
 - *Divided into two areas outside main entry and lower level entry. Likely to have designated patient areas, fleet car areas and staff areas. Likely capacity approximately 160 spaces.*

- *Overflow / Future carparking*
- *Service / Maintenance carparking / Mental Health*
 - *Located at lower level outside mental health. Likely capacity 25 spaces.*

4.9 ACCESS AND PARKING

Access and Parking were included in the Stage 1 – Construction Enabling Works application currently under assessment with the Department of Planning and Infrastructure.

No change to the original proposal in terms of access and car parking is proposed as part of the Stage 2 – Main Construction Works application. The proposed site access and parking proposed as part of the Stage 1 works are outlined below.

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.
- 60 community health appointments.

Car-parking will be constructed in a staged manner as approved in the Stage 1 application. 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 short or long term.

The location of the site away from the centre of the Bega Township will require 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.

4.10 SERVICES

Comprehensive services and infrastructure works were proposed as part of the Stage 1 application.

These works were designed to accommodate a hospital development of the nature proposed in this Stage 2 application,

- Potable Water

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

- Sewerage

A site drainage supply concept plan submitted for approval with Stage 1 outlines the sewerage connection running along the northern boundary as shown in **Appendix G**.

4.11 OPERATIONAL AND CONSTRUCTION MANAGEMENT

The proposed 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.

A Construction Management Plan has been prepared by Johnstaff for the proposed works for the proposed BVHS Hospital and is submitted at **Appendix H**. The Plan covers the following areas of management:

- The operations of site management when undertaking the Main Works:
 - Legislative Requirements
 - Hours of work
 - Public safety, Amenity and Site Security
 - Disruption Notices and Neighbour Management
- Mitigation to minimise amenity and environmental impacts:
 - Noise and Vibration Management
 - Dust Management
 - Odour Control
 - Vegetation Protection
 - Stormwater and Sediment Control
- Traffic/pedestrian management over the duration of the SSD Works.
- Waste Management:
 - Storage of Dangerous Goods and Service Disconnections and Shutdowns

5 Analysis of Feasible Alternatives

This Stage 2 application has been prepared in accordance with the Concept and Stage 1 application currently being assessed by DOPI.

The Concept and Stage 1 application includes an analysis of the only feasible alternative to developing the subject site for the new hospital. This analysis considered the re-development of the existing hospital site and is restated below:

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, Health Infrastructure and their technical consultants have consulted 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
Eden Chamber of Commerce	Meeting	24/02/12	Availability of services, site selection, training, oncology, stroke unit, private health opportunities	

AUTHORITY	CONSULTATION FORMAT	CONSULTATION DATES	OUTCOME	AMENDMENTS MADE
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.

6.3 CONCEPT APPROVAL AND STAGE 1 CONSULTATION

The State Significant Development Application SSD 5307_2012 for the Concept Approval and Stage 1: Construction Enabling Works proposed for the Bega Valley Health Services Hospital Development at Tathra Road, Bega was submitted to the NSW Department of Planning and Infrastructure (DOPI) in September 2012 and exhibited between 25 October 2012 and 23 November 2012.

During the public exhibition period, the application was referred to the following key agencies:

- Bega Valley Shire Council.
- Environmental Protection Authority NSW.
- NSW Office of Water.
- Transport, Road and Maritime Services.
- Heritage Council of NSW.
- NSW Rural Fire Service.
- Air Services Australia.
- Department of Primary Industries.

The documentation was also placed on the Department of Planning and Infrastructures website, and hard copies available at a number of local locations including Bega Council's Civic Centre. In response to the public exhibition process 4 submissions were received from members of the public.

A formal response to the submissions was prepared by Urbis, in consultation with Health Infrastructure NSW and key consultants, and submitted to the DP&I in December 2012.

This response to submissions report provided a detailed response to the issues raised in the submissions, and including modifications to the Mitigation Measures detailed within the EIS.

6.3.1 GOVERNMENT AGENCIES – KEY ISSUES & RESPONSES

A key issues letter was prepared by the Department of Planning and Infrastructure which summarised the key issues for the Concept Plan / Stage 1 application. These issues and the Proponents response have been outlined within the table below.

TABLE 5 – AGENCY SUBMISSION KEY ISSUES AND PROPONENT RESPONSE

ISSUE	COMMENT	RESPONSE
Impact on Wetlands	The Department of Primary Industries (DPI) requested an assessment against the criteria in the <i>NSW Wetlands Management Policy</i> .	Sections 2 and 4 of the Stormwater Management Plan prepared by C&M Engineers addressed this issue.
Intersection Upgrades	The Roads & Maritime Services (RMS) raised issue with the deficiency of sight lines at the intersections of Tathra Road with both Boundary Road and Kerrisons Lane. The RMS and Council submissions also identifies the need for the upgrade of the junction of Hospital Road and Tathra Road to a roundabout.	The Transport Assessment prepared by Sinclair Knight Mertz indicates that the proposal will not generate a significant increase in traffic to warrant changes to the Kerrisons Lane or Boundary Road Intersection. NSW Health Infrastructure is committed to working directly with BVSC to determine whether any additional intersection improvements are required. NSW Health Infrastructure support the initiative of BVSC to reduce the speed limit to 60 km/hour along Bega – Tathra Road.
Pedestrian and Cycle Access	RMS and Council raised concerns in relation to the limited accessibility of the site, and recommend a shared pathway for pedestrians and cyclists be constructed linking Hospital Drive at Tathra Road from Harry Scanes Avenue to Rose Street. This would be for a distance of approximately 700m..	NSW Health Infrastructure has committed to providing a footpath of approximately 700 metres to link the subject site with Rose Street.
Archaeology	The submission from the Heritage Branch requested further clarification regarding the potential for historic archaeological discoveries on the site and for an archaeological management strategy to be prepared.	Consultation with RPS (who prepared the Cultural Heritage Impact Assessment submitted with the application) has confirmed that the potential for discoveries is considered low to nil. The recommended management strategy, in the case of the discovery of relics, has been updated to specifically reference the Heritage Act.
Ecology	Council's submission recommended that all hollow bearing trees proposed to be removed should be stagwatched during the breeding period (November- March) for threatened microbats. Council is of the view that the loss of the 16 hollow bearing trees is significant and will result in the further decline of this valuable habitat type.	A microbat survey was commissioned to take place during the week ending 14th December. The results of the survey have been submitted to the Department for assessment as part of the Concept Plan / Stage 1 application.

6.3.2 PUBLIC SUBMISSIONS – KEY ISSUES & RESPONSES

A total of 4 public submissions received during the public exhibition period, all objecting to the proposed development. A summary of the key issues raised and the Proponents response is outlined in the table below.

TABLE 6 – PUBLIC SUBMISSION KEY ISSUES AND PROPONENT RESPONSE

ISSUE	COMMENT	RESPONSE
Flood Prone Land	Submission states that: <i>The site for the New Regional Hospital is Flood Prone.</i>	The two flood studies prepared in support of the proposed BVHS Hospital Development (prepared by ARUP and WMA Water) found that the proposed hospital has been appropriately sited outside the probable maximum flood level and as such the proposed development is not at risk from flooding.
Purchase of Land	Submission states that: <i>The process leading to the purchase of the site was to benefit a Bega land owner/developer, no matter where the Greenfield site was in Bega.</i>	This matter is not a planning consideration to be assessed as part of SSD 5307-2012.
Subdivision	Submission states that: <i>The DA consent given for subdivision by the Bega Valley Shire Council uses conflicting reports to obtain its conclusion.</i> <i>These conflicting reports were obtained by the NSW Department of Health now owner of 'site' and placed on the NSW Department of Planning, for exhibition.</i>	This matter is not a planning consideration to be assessed as part of SSD 5307-2012.
Forecast Demographics	Submission states that: <i>That projected population and site criteria figures used re: Coffey report of November 2007.</i>	The Coffey report 2007 does not form part of this planning submission. Consequently this matter is not a planning consideration to be assessed as part of SSD 5307-2012.
Access	Questioned the location of the proposed access to the site, and potential use of existing gate on Tathra Road,	NSW Health Infrastructure will not utilise the existing gate as a point of access during construction or during the operation of the hospital unless required for emergencies. The existing gate may be used for grazing for lands to the east of the site.

ISSUE	COMMENT	RESPONSE
Privacy to Surrounding properties	Seeking inclusion of a buffer zone between residential properties and the Hospital to provide an acceptable degree of privacy and attractive screening.	A landscape concept was submitted as part of the Stage 1 application, however more detailed landscape strategy has been prepared and submitted as part of this Stage 2 application.
Security	Fence to be constructed of sufficient height and durability as to prevent access to our property from the Hospital site.	Stock fencing similar to the existing fencing was prepared as part of the Concept Plan and has been incorporated into the Stage 2 design. Security fencing is not proposed to be installed as part of the BVHS Hospital Development.
Speed Limit	Seeking clarification to potential changes in speed limits to accommodate the new Hospital development and access points off Tathra Road,	NSW Health Infrastructure supports the initiative of BVSC to reduce the speed limit to 60 km/hour along Bega – Tathra Road.
Location of Community Health Care (CHC)	Submission states that: <i>In my view the requirements for the communities of Bega, Tathra and Bermagui to have access to the (single) CHC would be better if the CHC were located close to services already provided by Bega's Doctors. Their (20) Surgeries are all located in Canning, Carp, Church and Hill Streets.</i> <i>If my proposal to change the proposed location of the new CHC is accepted I can support the other features covered in SSD 5307-2012</i>	The location of Primary health care has been assessed as part of the project service model. Locating Primary Health Care/CHC at the new hospital was found to provide the optimum outcome for service delivery.
Location of Helipad	Request moving the helipad location as the current location is different to the proposed sites shown prior to land sale and will affect Ray Miller's ability to build a house on the rural zoned land surrounding the hospital	The building and helipad location have undergone an extensive planning and review process to ensure that the best outcome is achieved for all stakeholders. The helipad must be located within 75m of the emergency department to comply with NSW Health guidelines. Moving the helipad so that it still complies with the flight path requirements would require the helipad to be moved to further than 75m. NSW Health Infrastructure notes that the flight paths currently traverse rural zoned land, much of which is below the 1 in 100 year flood level.

ISSUE	COMMENT	RESPONSE
		Helicopter movements are expected to average between 5 and 10 per month, based on current movements from Bega and Pambula hospitals. The helipad has remained in this position as part of the Concept Plan / Stage 1 application, and the Stage 2 application,

6.3.3 IMPACTS OF THE CONCEPT PLAN/STAGE 1 SUBMISSIONS

In light of the benefits of the proposed development and the absence of any adverse environmental impacts, the proposal was considered to be appropriate development and provide a net community benefit to the wider Bega locality.

In addressing the key issues raised during the exhibition and referral of the Concept and Stage 1 application, the applicant has incorporated any suggested measures to mitigate undue environmental impact in the design of the BVHS Hospital facility, and the Proponents response is reflected in this Stage 2 proposal.

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 part of 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 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 has been considered within the hazard/risk assessment prepared by SKM and submitted with this application at **Appendix I**.

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

Earthworks and building pad are proposed as part of the Stage 1 application and an assessment of SEPP 55 was undertaken as part of that application. Accordingly, SEPP 55 does not apply to this Stage 2 application. However, for completeness the Preliminary Contamination Assessment was undertaken by Coffey Environments Australia is attached to this report as **Appendix J**.

7.1.6 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The proposed development is of the nature which constitutes traffic generating development. However, as the carparking, site access and internal road network are all proposed as part of the Stage 1 works and this Stage 2 application has been designed to remain consistent with the Concept and Stage 1 application, this application does not trigger further assessment against SEPP (Infrastructure).

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

As outlined in the Concept and Stage 1 application, 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 development of the site for the proposed BVHS hospital.

7.2 ROADS ACT 1993

The proposed development is of the nature which constitutes consent under Section 138 of the Roads Act 1993. However, as the carparking, site access and internal road network are all proposed as part of the Stage 1 works and this Stage 2 application has been designed to remain consistent with the Concept and Stage 1 application, this application does not trigger further consent under the Roads Act 1993.

7.3 WATER MANAGEMENT ACT 2000

No Stage 2 works are proposed which trigger Section 91E of the *Water Management Act 2000*.

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'*.

As outlined in the Concept and Stage 1 application, 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.

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.

An assessment of the new BVHS Hospital was undertaken as part of the Concept and Stage 1 application which demonstrated the proposal is aligned to the vision and actions of the Strategy. As this Stage 2 application delivers the hospital building as described within the Concept and Stage 1 application, the works remain consistent with the Strategy.

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.

7.6 SECTION 64 DEVELOPER SERVICE CHARGE

Section 64 of the Local Government Act empowers Councils to levy charges on development to address the impacts of such development on Council's water and / or sewer services.

Developer service charges for water and sewer where allotments are vacant will be enforced by Bega Valley Shire Council.

It is noted that conditions applicable to the Stage 2 application in relation to the Section 64 Contribution to give due consideration to the Concept and Stage 1 application concurrently under assessment with DOPI to ensure 'double –dipping' for developer service charge does not occur.

7.7 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. These principles apply particularly 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.

The proposed building design has been assessed against these principles as outlined below:

- **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.
 - This is achieved by clear distinction of public entries and back of house operations, by utilising the change of level across the site. Generally all public entries occur at Level 01, whereas the main back of house operation and staff entry is located at Level 00. Within the building, a clear signage strategy will indicate areas intended for public access and those to be accessed by staff only. Additional entries are provided to be used by patients entering oncology and renal services - who will visit the hospital on a frequent basis.
 - Key retail activities are co-located with the main admissions areas in the entry foyer with access to seating in the entry courtyard, to signify activity and ownership of these spaces, as well as providing good opportunities for casual surveillance.

- **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.
 - Key retail activities are co-located with the main admissions areas in the entry foyer with access to seating in the entry courtyard, to signify activity and ownership of these spaces, as well as providing good opportunities for casual surveillance.
 - 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.
 - Carparking will be allocated to ensure night parking areas are in close proximity to entries and hospital lighting.
 - Within the hospital the creation of a circulation spine with good visual connection to departments and across levels will enable easy surveillance of public areas within the hospital.
 - Principle entries (at the main entry and at emergency) are linked by a covered way and are accessed from a shared vehicle drop off loop.
 - Large areas of glazing to courtyards from public areas enable good surveillance of external areas from within the building.
 - The design of vision panels, peep holes and the like are intended to minimise areas of poor surveillance.
- **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.
 - Key wait areas are grouped together at the main entry and designed to be open rather than separate rooms, in order to provide high levels of activity.
 - Retail areas are intended to have access to outdoor seating in the main entry that will activate the primary external space.
 - Generally, high levels of transparency are maintained at public areas, connecting inside and outside spaces.
 - Where possible meeting rooms are located adjacent to public areas, and are provided with vision panels, glazing, peep holes and the like appropriate to their clinical functionality.

High risk areas have been identified and strategies implemented including glazed security screening and duress alarms to high risk or isolated reception areas, multiple means of egress to mental health facilities, vision panels and consideration of furniture layouts with regard to easy egress to interview and assessment rooms to minimise the risk of harm to staff and public.

- **Access control – control of who enters an area so that unauthorised people are excluded.**
 - 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.
 - This will be achieved through the installation of physical and symbolic barriers that channel or restrict pedestrian and vehicle movement, with security strategies that include access cards, duress alarms, CCTV, appropriate lighting and monitoring, including provision for visible facilities for security staff alongside high risk areas such as main entry and emergency.
 - 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.

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 Stage 2 – Main Construction Works Development Application:

Stage 2 Main Construction Works

- Built Form and Urban Design.
- Amenity.
- Ecologically Sustainable Development (ESD).
- Noise and Vibration.
- Transport and Accessibility (Construction and Operation).
- Flora and Fauna.
- Bushfire.
- Heritage.
- Aboriginal Heritage.
- Utilities.
- Contributions.
- Flooding.
- Drainage and Stormwater.
- Groundwater and Surface Water.
- Sediment, Erosion and Dust Controls.
- Servicing and Waste.
- Hazards.

The following sub-sections of the report provide an assessment of the key issues identified within the DGRs for the Stage 2 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 2 Main Construction Works Key Issues Assessment

9.1 BUILT FORM AND URBAN DESIGN

BVN Architects have designed the hospital building to meet the specific demands for health services within the wider Bega Valley region. The height, bulk and scale of the development respond directly to the forecast needs for expanding health services within the region.

The Bega Valley LEP 2002 does not set any controls for building height, FSR or setback. Accordingly, the bulk scale and siting of the hospital building have been designed having regard to the following considerations:

- Existing Site Conditions – including topography, frontage, natural environmental features.
- Strategic Targets – to accommodate a hospital which will support the long-term demands for health facilities in the region.
- Resultant implications on the surrounding sites.

These key considerations have been incorporated into the built form and urban design, which is assessed in accordance with the General Requirements of the DGRs below and is detailed within the Design Statement prepared by BVN and submitted as **Appendix F**.

Site Layout

The subject site fronting Tathra Road is characterised by its rural setting, predominantly utilised for agricultural purposes. An emphasis during the design development of the proposed hospital building was to minimise the impact on the surrounding region. As such, the proposed siting of the hospital building responds directly to the existing site conditions, topography, access to Tathra Road and Health Infrastructure requirements for a building with a large footprint, whilst minimising the impacts on the surrounding agricultural lands.

The topography of the site falls in an easterly direction away from Tathra Road. These key site features have been fundamental in the selection of the proposed location of the hospital building set within the eastern portion of the site which achieves the following outcomes:

- Minimises visual impact from Tathra Road, optimising the slope the natural topography to reduce the appearance of the 3 storey building.
- Allows for optimal vehicular access from Tathra Road.
- Ensures the proposed carparking has the opportunity for level access to the hospital entry.
- Supports the desired hospital footprint in a location which minimises the extent cut and fill during construction.
- 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.
- Ensuring that the hospital building's key services are not located within areas of the site subject to flooding.

The proposed siting of the hospital building ensures a minimum disturbance of the rural character of the locality, responds to the natural environmental constraints and creates a built form outcome that will allow for patients, staff and visitors to maximum views and vistas to the east towards the Bega River.

The falls across the site provide an opportunity for a discrete servicing level that assists in separating services and stores from the main hospital level, allowing services to be maintained and expanded with minimal disruption to hospital operations.

Visual Impact

The proposed development has been designed to respond to functional needs of the hospital along with consideration of its location, the site constraints and key aspects of local fabric.

The building's site on the edge of a 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 appropriate 'restful' and 'healing' atmosphere. In response, the building planning maximises access to these views and light by maximising the perimeter of the IPU's and other treatment and workspaces and by facilitating transparency through to the Hospital Street to allow views from within the building.

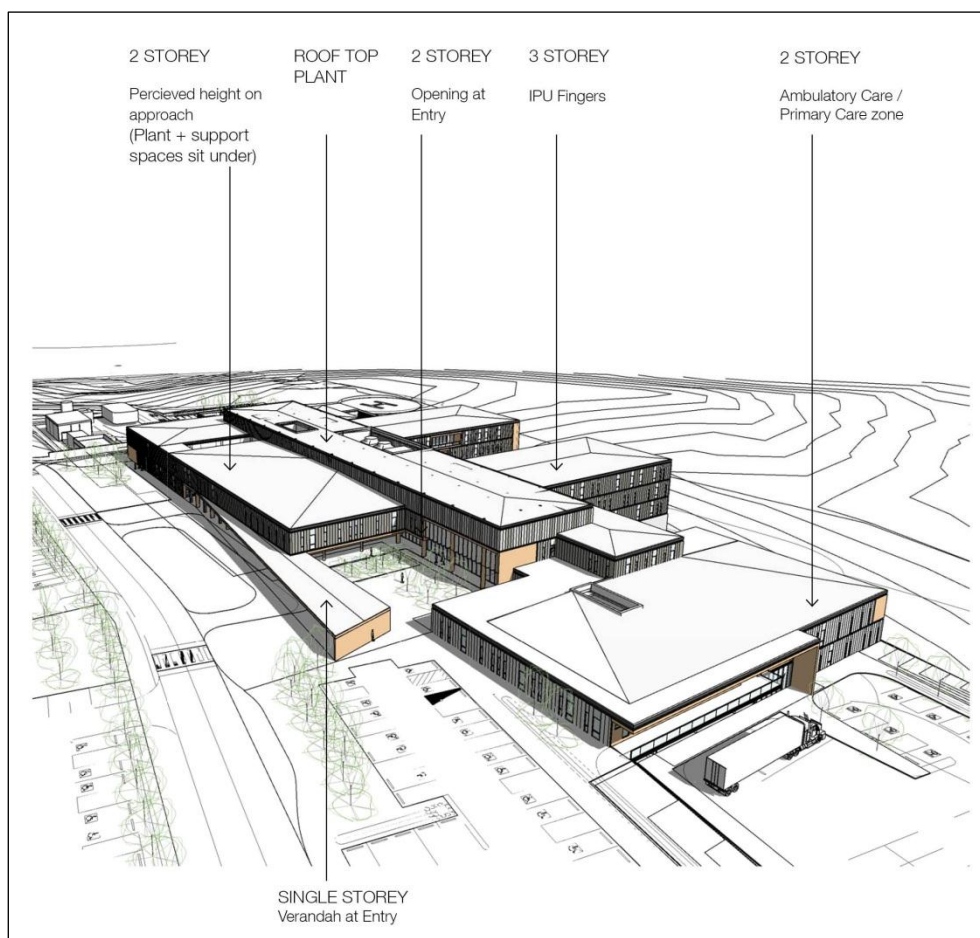
The full building mass is concealed on approach to create a reassuring 'horizontal' scale. The site's topography provides the opportunity to reduce the apparent mass of the building at its entry to two stories.

As outlined above, the siting of the hospital building has factored the site's sloping topography to minimise the massing of the building as seen from Tathra Road. When combined with a strong landscaped response, the proposed building will ensure that the rural setting is maintained and minimal visual impact will result from the proposed hospital building.

Height, Bulk and Scale

As demonstrated within Figure 8 below, the final building design, in terms of height and building massing is consistent with the concept building envelope proposed as part of the Concept and Stage 1 application. The concept elevations, submitted with the Concept and Stage 1 application, outlined a maximum building height of RL 38.80. The proposed building height sits within this building height.

FIGURE 8 – BUILDING HEIGHT



The building height has been designed to best utilise the natural sight topography, allowing for a perceived height of two storeys on approach from Tathra Road.

The building plan form allows for the creation of a series of major courtyards around the building. Either between the wings (such as between the IPU's) or large areas carved out of the plan such as the main entry courtyard. These courtyards act as a transition space adjacent to the building, between the expansive rural setting and the internal space of the hospital.

Compliance with the Stage 1 development application consent

The Concept Design and Stage 1 Early Works application is currently being assessed by the Department of Planning and Infrastructure as such, specific controls and conditions of consent have not been issued at this time however it is anticipated that the proposed hospital building will achieve compliance with Stage 1 consent.

Should there be any issue with the proposed Stage 2 Main Construction Works ability to meet the applicable conditions of the Stage 1 consent it should be reflected accordingly within the conditions of consent issued for the Stage 2 application where necessary.

9.1.1 SUMMARY AND CONCLUSION

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.

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.

9.2 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 have considered the site context and minimising visual impacts from public spaces, particularly Tathra Road, whilst responding to the needs for expanding services. Bega Valley LEP 2002 does not set any controls for building height, FSR or setbacks for the site.

9.2.1 ASSESSMENT OF KEY ISSUES

Solar Access

Given the orientation of the building and functional requirements of the Hospital, solar access has been maximised and is considered acceptable.

Noise Impacts

An *Environmental Noise Impact Assessment* was prepared by *SLR Global Environmental Solutions* (Attached as **Appendix K**) to identify the estimated noise impact from construction and operation of the proposal at the surrounding sensitive reception locations.

The noise impacts of the proposal have been assessed against the relevant noise and vibration criteria. 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.

Visual 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.

Servicing Requirements

- Waste Management

A Waste Management Plan for both construction and ongoing operation has been prepared by Space 2 Develop and are submitted with this report at **Appendix L**.

- Loading Zones

Site Loading is located to the north of the proposed hospital building and will be access via the main site entry from Tathra Road. A full assessment of site access and servicing has been undertaken by SKM and is outlined in detail within the Traffic Assessment submitted with this report at **Appendix M**.

- Mechanical Plants

Cooling towers and mechanical plant rooms are located at roof top level and have been appropriately treated and visually screened to minimise impact on patients, staff and adjoining land uses in terms of noise and visual impact.

Overshadowing

Shadow diagrams have been prepared by BVN and are included at **Appendix F**. The diagrams demonstrate that due to the size of the site and the location of the building, it will not cast shadows beyond the site boundaries, and accordingly will not impact on any solar access on neighbouring properties at any time of the year.

Environmental amenity for adjacent land uses

The proposed hospital building is of an appropriate scale and is setback to ensure that the potential amenity for adjacent land uses is minimised. The adjoining land is currently undeveloped pasture land and in the event that this land is developed in the future the proposal has given consideration to limit potential impact in terms of overshadowing, noise, visual impact and odour.

The proposal has considered the nearest sensitive land use at 1556 Tathra Road, fronting Tathra Road to the south west of the proposed hospital facility, and found it will not result in undue loss of amenity as a result of the operation of the hospital. The existing access road is not proposed to be in utilised during the construction and operation of the BVHS Hospital facility and as such, given the distance from the building, is not considered to result in any unreasonable noise and vibration impact.

The proposal will not result in any overshadowing impact on the adjoining property at 1556 Tathra Road nor is the proposal considered to result in a loss of privacy due to the proposed landscaping and distance of the main building to the site.

9.2.2 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 the proposal has prepared by BVN in regards to view analysis, building massing, land distribution and a site analysis plan is submitted at **Appendix F**.

9.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

An analysis of the proposal against the principles of ecologically sustainable development has been undertaken by Health Infrastructure NSW, Steensen Varming (Geothermal Ground Source Heat Pump) 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.

9.3.1 ASSESSMENT OF KEY ISSUES

The fundamental ESD features considered in the proposed design include:

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

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

Precautionary Principle

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 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 proposal has been developed to directly benefit current and future generation in that it 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 fundamental to all decision making.

A Flora and Fauna study (**Appendix N**) 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

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.

9.3.2 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 requirements 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.

- Geothermal Ground Source Heat Pump:

Due the lack of a natural gas supply on the site, the design team have had to look at alternative fuel sources to deliver the thermal energy necessary to provide heating and hot water to the site. After analysing a number of fuel sources, Geothermal has been shown to provide the most benefits in terms of life cycle costs and carbon reduction.

Ground-Source Heat Pump (GSHP) taps into energy stored within the earth and transforms it into useful energy to heat and cool buildings. It provides low temperature heat by extracting it from the ground and provides cooling by reversing this process.

Harnessing this free energy makes the system very efficient. For every unit of electricity used to power the heat pump, approximately 3-4 units of heat are captured and distributed. In effect this means a Ground Source Heat Pump is 300-400% efficient in terms of its use of electricity.

A report has been prepared by Steensen Varming to summarise the benefits of incorporating a ground source heat pump system into the proposed BVHS Hospital development and is submitted at **Appendix O**.

9.3.3 LEGISLATIVE REQUIREMENTS

The preliminary analysis of ESD principles took into account:

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

9.3.4 NSW HEALTH ENGINEERING SERVICES AND SUSTAINABLE DEVELOPMENT GUIDELINES

An assessment of the proposal has been undertaken against NSW Health's Engineering Services and Sustainable Development Guidelines.

The key sustainable development objectives outlined within the guidelines are as follows:

- *Comfortable and healthy indoor environment (in terms of thermal comfort, visual comfort and indoor air quality).*
- *Minimised non-renewable resource consumption (e.g. energy, water) and environmental impacts (e.g. greenhouse, other air and water emissions, solid waste).*
- *Cost-effectiveness over its whole life cycle.*

Health Infrastructure NSW (the proponent) have given careful consideration to the guidelines in the design of the proposed facility, ensuring that the building form shall incorporate passive design consideration to minimise the intervention of engineering services and minimise energy use.

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. This information has been utilised to ensure a building designed to achieve an energy efficient, healthy and thermally comfortable indoor environment.

Water conservation and water cycle management measures have been incorporated within the design, focussing 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.

In accordance with the guidelines, design analysis has identified that improving the façade efficiency will provide significant reductions in the heating and cooling load requirements 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.

The proposal has been benchmarked against existing hospitals and is considered to achieve the high standards NSW Health demands of their facilities. The proposal is considered to set a new standard for NSW Health facilities, exceeding targets for environmental performance throughout each stage of design and aligning with the objectives of Health NSW Engineering Services and Sustainable Development Guidelines.

9.3.5 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 and is aligned to key ESD principles.

9.4 NOISE AND VIBRATION

The Environmental Noise Impact Assessment was prepared by *SLR Global Environmental Solutions* (Attached as **Appendix K**) which assess the noise and vibration impact of the proposed hospital building, 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.

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.

9.4.1 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 Noise Impact Assessment.
- Prior to construction commencing on site, a site specific Construction Noise and Vibration Management Plan be prepared, consistent with the requirements of the ICNG. A condition requiring this to be prepared prior to the Construction Certificate being issued will be accepted.

Operation

- Calculation of noise propagation from the proposed hospital has been conducted to the nearest representative receiver locations. The operational noise impacts associated with the Stage 2 works include:
 - Mechanical plant noise emissions.
 - Noise emissions from the helipad equipment (including helicopter idling while on the helipad only).

- The selected mechanical equipment will be reviewed and assessed for conformance with established criteria at the Construction Certificate 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 proposed helipad operations specified by Rehbein Airport Consulting show no exceedances of the operational noise goals at the nearby representative residential receiver locations.

9.4.2 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 (e.g. 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) will 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.

9.4.3 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.*

9.4.4 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 DGRs. 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. These recommendations have been incorporated into the Hospital building design where appropriate.

9.5 TRANSPORT AND ACCESSIBILITY

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

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.

9.5.1 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.
- Transport Assessment scope including intersection modelling parameters.
- SIDRA Modelling.

9.5.2 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

All transport infrastructure approved as part of Stage 1. As scale and general location of the hospital has remained, no further assessment is required.

9.5.3 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.

9.5.4 LEGISLATIVE REQUIREMENTS

The Transport Assessment considered the following policies:

- *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.*

9.5.5 SUMMARY AND CONCLUSION

The access and car parking strategy outlined within the Stage 1 application is suitable to support the Stage 2 development.

9.6 FLORA AND FAUNA

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 N**.

9.6.1 SUMMARY AND CONCLUSION

The earthworks for the site are proposed for approval as part of the Stage 1 works. Accordingly, a thorough assessment of Flora and Fauna was undertaken as part of the Stage 1 application. However, this assessment concluded, 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.

9.7 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 P**.

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 HERITAGE

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

- *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 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.

9.9 ABORIGINAL HERITAGE

As outlined above within Section 9.8 of this report, a Cultural Heritage Impact Assessment was prepared by RPS to accompany this application and is submitted as **Appendix Q**. This report provides a detailed assessment of the impacts of the proposal in terms of Indigenous Heritage.

9.10 UTILITIES

Comprehensive services and infrastructure works were included as part of the Stage 1 application currently under assessment. These works took the proposed development into consideration, and are capable of servicing the new building.

Potable Cold Water Supply

The Bega Hospital site is currently not fronted by a Water main network.

Suitably sized water connection will require to be extended from the existing network to service the site.

The new connection is proposed to be fed from the existing 500mm feeder main within East Street. The new extension will be run along Howard Avenue to the hospital site, subject to approval.

The potable cold water service will be designed and constructed in accordance with The Plumbing Code of Australia, AS 3500.1, National Plumbing and Drainage Part 1: Water Supply and Sydney Water requirements.

Sewer and Trade Waste Discharge

The Bega Hospital site is currently not serviced by a sewer drainage network.

A suitably sized sewer drainage connection will be required to be supplied within 1m of the sites boundary.

A new Bega Valley owned pumping station is proposed to be constructed with the above connection supplied from this pumping station for the hospital site, subject to approval.

The new pumping station will be suitably sized to drain the hospital site however; Bega Valley Shire Council will be required to provide assessment of the new flows and capacities of their existing infrastructure.

Communication Services

Existing Telstra assets are located along Tathra Road. These include copper and fibre services.

A formal application for reticulation was made through the Telstra Smart Communities website on 5th October 2012.

Electrical Services

Existing Essential Energy assets are located along Tathra Road. This includes an 11kV feeder that will be upgraded and used to supply the site.

A formal application for connection was made through the Essential Energy application process on the 26th October 2012

Water, Sewerage and Communication Infrastructure are documented in the various services plans prepared by WSP and ARUP respectively and submitted with this application at **Appendix G**.

9.11 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.

9.12 FLOODING

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

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 R**).

The Flood Study was used to establish suitable pad levels for the Hospital building as part of the Stage 1 application. As the Stage 2 application proposes the same floor level, no further assessment of flooding for the hospital is required.

9.13 DRAINAGE AND STORMWATER

A Stormwater Management Strategy and Plan (SMP) has been prepared by C&M Consulting Engineers (submitted at **Appendix S**) in response to the DGR. The Stormwater and Drainage works form part of the Stage 1 application and the Stormwater Management Strategy and Plan demonstrates this is satisfactory to service the proposed Hospital development.

9.14 GROUNDWATER AND SURFACE WATER

Coffey Geotechnics Pty Ltd (Coffey) has carried out a Groundwater Assessment for the proposed Bega Valley Health Service Hospital submitted with this report at **Appendix T**.

Based on the nature of the proposed development and expected subsurface conditions, we note the following potential groundwater impacts:

- Loss of Infiltration catchment area across the development footprint.
- Potential minor drawdown of groundwater for upper unsaturated soils in areas of cut.
- Increased infiltration to the north and south east of the site through surface drainage to Bio Retention Basins.
- Possible alteration to shallow groundwater levels and through flow to wetland lagoons down gradient to the east of the site.

It is recommended by Coffey that groundwater monitoring be undertaken prior to and during construction activities associated with the proposed development. Such monitoring should be conducted on a regular basis in order to assess any potential impacts on groundwater and document findings should it be requested by any government agencies.

Groundwater levels should be continually monitored to identify any adverse impacts on groundwater should it occur, with samples collected for laboratory analysis twice per year. The groundwater quality

results from the laboratory should be compared to the background water quality results obtained in the Coffey groundwater investigation.

Coffey considers that the proposed development will not conflict with any of the policies identified within the DGR's and/ or relevant guidelines provided that adequate controls during and post construction are employed. Such control measures could include adoption of bunding, settlement ponds and interceptors within the site drainage system during and post construction with monitoring of groundwater levels and quality.

9.15 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 S** and **Appendix U**), along with the review of the flooding aspects submitted at **Appendix R** in response to the DGR.

9.15.1 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.

9.15.2 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.*

9.15.3 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.

9.16 SERVICING AND WASTE

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

This plan identifies the stream of operational waste that the hospital will generate and describes the spaces required, the operational activities and processes required to confirm the BVHS Hospital is operational.

The Operational Waste Management Plan (OWMP) will form part of the constructors construction, site and project management processes.

The objective of this plan and the process is to ensure that the areas are built correctly and are operational before the hospital accepts patients. The risks being infection, hygiene and occupational health and safety issues which could arise if the works are incomplete or incorrect.

Further to the above, a new development and construction waste management plan for the Stage 2 works has been prepared.

Both Construction and Operational Waste Management Strategies accompany this report.

9.16.1 ASSESSMENT OF KEY OBJECTIVES

- To control waste the generated during construction and control the end use of waste generated from construction activities and augment the Bega Valley Shire Council Waste and Resource Recovery Reforms, especially in regard to Food, Hazardous and land fill initiatives to minimise underground methane generation.
- 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.

9.16.2 PROPOSED MITIGATION MEASURES

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

9.16.3 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).*

9.16.4 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.

9.17 HAZARDS

A Hazard/Risk Assessment has been prepared by SKM (submitted at **Appendix I**) in response to the DGR's.

In order to assess the implications of the storage and handling of dangerous goods and hazardous substances the NSW Department of Planning and Infrastructure, as part of the Director Generals Requirements for the BVHS development, a preliminary risk assessment (PRA) was prepared as part of the overall environmental assessment for the proposal. This PRA has been prepared in support of the DA submitted in respect of the BVHS main construction works as outlined in the Director Generals requirements for Stage 2.

This report details the objectives, scope of work, methodology and project management for the preliminary risk assessment for the BVHS development. In particular the report covers the risk implications of the storage and handling of dangerous goods, and clinical wastes.

9.17.1 ASSESSMENT OF KEY OBJECTIVES

The key objectives are to:

- Assess the risks associated with the expansion of the BVHS Hospital in respect of dangerous goods and hazardous materials storage and handling.
- Determine whether the risks exceed the accepted risk criteria.
- Report on the findings of the study in respect of any land use safety implications.

9.17.2 PROPOSED MITIGATION MEASURES

- Recommendation 1 - In addition to the requirements of AS 1596 – The LP Gas Code that LP Gas tanks be located in accordance with the NSW Department of Planning and Infrastructure – Locational Guidelines for LP Gas. Thereby minimising the potential LP Gas risks to ALARP levels.
- Recommendation 2 - Clause 12 of the SEPP 33 guidelines requires the BVHS and NSW Health to contact the NSW Department of Planning and Infrastructure for advice on any transport movements of Class 6.2 – Infectious Substances – i.e. substances containing micro-organisms, bacteria, viruses etc. that are believed to cause disease in humans or animals. Note that class 6.2 - Infectious Substances also includes Clinical Wastes, cytotoxic and bio hazardous wastes. In any case these discussions are anticipated during the DA stage for the BVHS proposal.
- Recommendation 3 - In addition to the requirements of AS 1894– The Storage and handling of non-flammable cryogenic and refrigerated liquids (oxygen) LP Gas Code that HI address oxygen leakage and response as part of a site based Emergency response and disaster recovery plan . Thereby minimising oxygen storage and handling risks to ALARP levels.

9.17.3 LEGISLATIVE REQUIREMENTS

- *State Environmental Planning Policy No.33 – Hazardous and Offensive Development Application Guidelines (1994), “Applying SEPP 33”, Department of Planning NSW.*
- *Hazardous Industry Planning Advisory Paper No.6 – Guidelines for Hazard Analysis, Department of Planning, NSW, 1992.*

9.17.4 SUMMARY AND CONCLUSION

In conclusion, there were no postulated incidents identified that exceeded the NSW Department of Planning and Infrastructure consequence or risks criteria outlined in SEPP 33 or HIPAP 6.

The SEPP 33 guidelines require the BVHS and NSW Health to contact the NSW DoPI for advise on any transport movements of Class 6.2 – Infectious Substances – i.e. substances containing micro-organisms, bacteria, viruses etc. that are believed to cause disease in humans or animals. Note that class 6.2 - Infectious Substances also includes Clinical Wastes, cytotoxic and bio hazardous wastes.

Also, that the 4 x 7.5 kL aboveground LP Gas tanks be installed in Accordance with AS 1596 – The LP Gas Code and located in accordance with the NSW Department of Planning and Infrastructure – Locational Guidelines for LP Gas, thereby minimising the potential LPG as risks to ALARP levels.

The issue of safe storage and operation of the bulk oxygen tank and reticulation system be specifically addressed for disaster planning for the proposal. In the unlikely event of a pipe rupture or valve malfunction around the VIE, the release of oxygen into the atmosphere at high pressure causes a vapour cloud which could impact on patient, staff as well as general site safety in the hospital. Such eventualities are to be covered under a comprehensive emergency response and disaster recovery plan.

10 Other Issues

10.1 GEOTECHNICAL

A Geotechnical Report has been prepared by Douglas Partners and accompanies this report in **Appendix V**. 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.
 - 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 W**, which demonstrates an engineered solution for the geotechnical conditions of the site to support the proposed hospital development.

10.2 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.

10.2.1 BIOPHYSICAL CONSIDERATIONS

The biophysical impact assessment of the proposed hospital has been assessed in **Section 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.

10.2.2 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.*

10.2.3 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.

10.3 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 X**. The finding of the review show the final design is in accordance with the draft NSW guidelines set to supersede the current NSW Health Policy Directive.

10.4 HELICOPTER MOVEMENTS

In consultation with Ambulance Service NSW and Southcare, currently operating Helicopter flights into the existing Bega Hospital and Pambula Hospital, it has been established that there were approximately 150 flights throughout 2012 (in total) to the two existing facilities. These numbers are confirmed via the email correspondence received from ASNSW and Southcare (submitted at **Appendix Y**).

The number of flights per annum (150) to the two existing facilities is considered to be comparable to the proposed BVHS Hospital, which will equate to be in the order of approximately 3 flights per week.

The acoustic impacts of the operation of the helipad to service the BVHS Hospital have been assessed in the Acoustic Assessment prepared by SLR Consulting and discussed in detail within Section 9.4 of this report.

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.

11 Likely Impacts on the Environment (Summary)

KEY ISSUE	LIKELY IMPACTS
Built Form	
ESD	The Stage 2 Hospital building design includes a number of design features which work to minimise the environmental impacts of the development.
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 <i>Interim Construction Noise Guidelines</i> (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 Construction Certificate 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: ▪ Mechanical plant noise emissions. ▪ Noise emissions from the helipad equipment (including helicopter idling while on the helipad only).
Transport and Accessibility	No additional transport and accessibility issues are expected as a result of the Stage 2 works beyond those identified as part of the Stage 1 application.
Flora and Fauna	No threatened fauna species were recorded during the site survey and no additional impacts beyond those identified as part of the Stage 1 works are expected.
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.
Heritage	<u>Indigenous Heritage</u> 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> 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.
Flooding	The PMF has been adopted as the flood planning level of the site.
Drainage and Stormwater	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.
Groundwater and Surface Water	Based on the nature of the proposed development and expected subsurface conditions, we note the following potential groundwater impacts: ▪ Loss of Infiltration catchment area across the development footprint; ▪ Potential minor drawdown of groundwater for upper unsaturated soils in areas of cut; ▪ Increased infiltration to the north and south east of the site through surface drainage to Bio Retention Basins; and ▪ Possible alteration to shallow groundwater levels and through flow to wetland lagoons down gradient to the east of the site.
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.
Hazards	Assess the risks associated with the expansion of the BVHS Hospital in respect of dangerous goods and hazardous materials storage and handling Determine whether the risks exceed the accepted risk criteria or; and Report on the findings of the study in respect of any land use safety implications.

12 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 7 – 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: <i>Angophora floribunda</i>, <i>Eucalyptus tereticornis</i>, <i>Allocasuarina littoralis</i>. – Herbs and Grasses: <i>Dichondra repens</i>, <i>Lomandra longifolia</i>, <i>Poa labillardierei</i>, <i>Themeda australis</i>.

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: <i>Recommendation 1</i> <i>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:</i> <i>Salvage and/or management of AHIMS site# 62-6-0724;</i> <i>Test pitting of Spur 1 & 2 landforms where impact is to occur under OEH Code of Practice methodology guidelines (September 2010);</i> <i>Opportunity for monitoring by BLALC during trenching and other related construction works to the spur landform;</i> <i>Mechanism for ongoing Aboriginal cultural input into the proposed hospital development; and</i> <i>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.</i> <i>Recommendation 2</i> <i>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).</i> <i>Recommendation 3</i> <i>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.</i>

KEY ISSUE	MITIGATION MEASURE
Bushfire	▪ <i>A need to provide adequate internal access for emergency service vehicles including Fire and Rescue NSW and NSW Rural Fire Service Appliances.</i> ▪ <i>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.</i> ▪ <i>Fire Hydrant spacing, sizing and pressures of mains shall comply with A.S. 2419.1 – 2005.</i> ▪ <i>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.</i>
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-visited 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	▪ <i>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.</i> ▪ <i>Briefing of the work team in order to create awareness of the locality of sensitive receivers and the importance of minimising noise emissions.</i> ▪ <i>Ensuring any spoil is placed and not dropped into awaiting trucks.</i> ▪ <i>Establishing load points as far as practicable from sensitive receivers.</i> ▪ <i>Use of less noise-intensive equipment, where reasonable and feasible.</i> ▪ <i>Non-tonal reversing alarms fitted on construction vehicles.</i> 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	▪ <i>A pipe network system to collect minor storm runoff from surface areas which will minimise nuisance flooding.</i> ▪ <i>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.</i> ▪ <i>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.</i> ▪ <i>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.</i> ▪ <i>Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.</i> ▪ <i>Overland flow paths (such as roads and swales) to carry major storms through the site without causing damage to property from flooding.</i>
Sediment, Erosion and Dust Controls	▪ <i>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.</i> ▪ <i>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.</i> ▪ <i>Vegetated swales or bio swales to convey storm flows from car park areas while providing water quality treatment via filtration.</i>

KEY ISSUE	MITIGATION MEASURE
Servicing and Waste	Before commencement of works on site, a Construction Waste Management Plan will be prepared to outline the exact procedures during construction.
Groundwater and Surface Water	It is recommended by Coffey that groundwater monitoring be undertaken prior to and during construction activities associated with the proposed development. Such monitoring should be conducted on a regular basis in order to assess any potential impacts on groundwater and document findings should it be requested by any government agencies.

13 Justification and Conclusion

Given the benefits of the proposed hospital redevelopment, its importance for 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 hospital facility has been designed by BVN Architects to provide a high quality architectural finish whilst responding to the operational and functional needs of a regional hospital. The hospital building has been designed to respond to the sites natural topography minimising the visual impact of the facility from the public domain and Tathra Road.

The proposal will benefit the region through the following outcomes:

- Significant improvement in capacity of health services, enabling a higher scope of clinical care to be delivered to local residents.
- Broader range of acute inpatient services available within the region including mental health, palliative care and rehabilitation, reducing the need for residents to travel long distances to access these services, and enabling a more integrated approach to care to be delivered within the BVHS Hospital.
- Hospital beds catering for 80 inpatients, 113 visitors, 54 emergency presentations, and 60 community health appointments daily.
- Supporting health services at the hospital are anticipated to create up to 627 Full Time Equivalent (FTE) staff by 2016 upon the hospital opening employment across a range of departments.
- 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.

Given the multiple benefits the proposed BVHS Hospital will have on the South Coast Region, with minimal impact on the nature environment, the application is recommended for approval.

Appendix A

Quantity Surveyor's Assessment

Appendix B

Director General's Environmental Assessment Requirements

Appendix C

Survey Plan and Subdivision Consent

Appendix D

Architectural Plans

Appendix E

Landscape Plan

Appendix F

Design Statement

Appendix G Services

Appendix H

Construction Management Plan

Appendix I

Hazard/Risk Assessment

Appendix J

Contamination Assessment

Appendix K

Environmental Noise Impact Assessment

Appendix L

Waste Management Strategy

Appendix M

Transport Assessment

Appendix N

Flora and Fauna Report

Appendix O

Geothermal Report

Appendix P

Bushfire Assessment

Appendix Q

Heritage Impact Statement

Appendix R

Flood Report

Appendix S

Stormwater Management Plan

Appendix T

Groundwater Assessment

Appendix U

Soil and Sediment Control Plan

Appendix V

Geotechnical Report

Appendix W

Structural Design Report

Appendix X

Aviation Compliance Statement

Appendix Y

Helicopter Movements

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