

Project Application Environmental Assessment Report

24-40 Bigge Street, Liverpool
Sydney Southwest Private Hospital

Submitted to
Department of Planning
On Behalf of Healthscope

October 2010 ■ 10298

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This report has been prepared by: Robert Stark

Signature



Date 08/10/10

This report has been reviewed by: Amanda Harvey

Signature



Date 08/10/10

Statement of Validity

This Environmental Assessment has been prepared and submitted under Part 3A of the *Environmental Planning and Assessment Act 1979* (as amended) by:

Environmental Assessment

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Qualifications	Senior Planner, BUrbRegPlan
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Address	Level 7, 77 Berry Street North Sydney NSW 2060
In respect of	Project Application for a Medical Facility

Project Application

Applicant name	Healthscope Hospitals Limited
Address address	Level 1, 312 St Kilda Road, Melbourne
Land to be developed	24-40 Bigge Street, Liverpool
Proposed development	Sydney Southwest Private Hospital - Building Extension

Environmental Assessment	An Environmental Assessment (EA) is attached
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Certificate	I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge:
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- It is in accordance with the Environmental Planning and Assessment Act and Regulation.
- It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Signature



Name

Robert Stark

Date

8 October 2010

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Executive Summary

Purpose of this Report

To seek the approval of the Minister for Planning under Part 3A of the EP&A Act of a Project Application for the construction of an extension to the existing Sydney Southwest Private Hospital (SSWPH) at Liverpool.

This report also responds to the Director General's Environmental Assessment Requirements which were issued on 27 July 2010.

The proponent

The proponent is Healthscope Hospitals Limited.

Project outline

The proposed development involves the construction of a four level hospital extension (plus two levels of car parking below and a single level of plant above) of approximately 4,414m² gross floor area.

Approval is sought for:

- construction of an extension to the existing hospital building, including:
 - two levels of parking;
 - operating theatres;
 - inpatient bedrooms;
 - a mental health unit;
 - medical consulting rooms; and
 - ancillary and support rooms.
- Landscaping of the site, including an internal courtyard; and
- Upgrading of all utilities to meet demands associated with the development.

The proposal provides in-patient services and is accordingly categorised as a hospital under the State Environmental Planning Policy (Major Development) 2005.

The site and locality

The site is located in the northern portion of the Liverpool Town Centre and has frontages to Bigge Street and the Goulburn Serviceway. It is a rectangular parcel of land with an area of approximately 6,962m².

The site comprises part of the current legal parcel of Lot 100 in DP87361 (the main existing hospital building) and Lot 112 in DP105982 (the site of the proposed extension).

A site analysis is provided in the Architectural Plans at **Appendix A**.

Statutory Planning Considerations

On 29 June 2010, the Director-General of the Department of Planning, as delegate of the Minister for Planning formed the opinion that the expansion of SSWPH was of the type listed in Schedule 1, Group 7, Clause 18 of the State Environmental Planning Policy (Major Development), was declared as a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies for the purposes of Section 75B of that Act.

Liverpool LEP 2008 is the principal planning instrument applying to the site and locality. The site is zoned Residential R4 (High Density Residential) by the LEP. Hospitals are not permitted in the zone. However, the Infrastructure SEPP prevails over the LEP and permits hospitals within the R4 zone.

The development is consistent with the objectives of the zone and is generally consistent with the planning controls applying to the land under Council's LEP and DCP.

Environmental Assessment

The environmental assessment concludes:

- The site is suitable for the proposed development in being located in close proximity to other complimentary medical facilities, having good accessibility nearby public transport, having utility infrastructure available, and being of a size and configuration able to accommodate the facility, with no significant environmental constraints that are so sensitive as to preclude the development.
- The scale, bulk, height and setbacks of the proposed building can be supported having regard to the proposed uses and the minimal impact on surrounding uses and development.
- The form and architecture of the proposed new building has been designed to optimise its strategic location within a medical precinct, whilst also responding to surrounding medical and residential uses.
- Suitable landscaping is provided around along the street frontage and within the proposed internal courtyard, so as to compliment the development and the public domain.
- The proposed development will have no significant additional impact on adjacent properties in terms of views, sunlight access or visual and acoustic privacy.
- The local road network has the capacity to accommodate traffic generated by the proposed hospital extension.
- A total of 34 additional car parking spaces are proposed on-site to meet the demands of the development and the requirements of Council's planning controls, thereby minimising any need for site users to park on surrounding streets. Delivery vehicles will be wholly accommodated on-site in the loading dock to minimise disruption to local traffic movements.
- The new facility is being designed to potentially achieve a Green Star Design rating of at least 4 stars under the Green Building Council of Australia's rating system to achieve a building with an efficient use of energy, water and materials, as well as a high level of internal amenity for occupants.
- A detailed construction management plan will be prepared in conjunction with the builder prior to works commencing to manage the potential impacts of construction activities in accordance with relevant standards including site security and safety, noise and vibration, construction traffic, soil and water management, dust and construction waste, and community consultation.
- The development will comply with the Building Code of Australia's deemed to satisfy provisions, and in some instances, performance based measures.
- The proposal includes a draft Statement of Commitments on future actions by the proponent.

Given the planning merits above, the proposed development is justified and warrants the approval of the Minister for Planning.

1.0 Introduction

This Project Application and Environmental Assessment Report (EAR) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment of a Project Application for an extension to the Sydney Southwest Private Hospital (SSWPH).

The report has been prepared by JBA Urban Planning Consultants Pty Ltd for the proponent, Healthscope Hospitals Limited, and is based on information provided by Healthscope, design information provided by Woods Bagot (**Appendix A**) and supporting technical documents provided by the expert consultant team.

This EAR describes the site, its environs and the proposed development, and includes an assessment of the proposal in accordance with the Director-General's Environmental Assessment Requirements under Part 3A of the EP&A Act. It should be read in conjunction with the information contained within and appended to this report.

The Project Application seeks approval for:

- excavation for and construction of basement car parking for 34 car parking spaces;
- construction of an extension to the existing hospital building comprising 4,878.3 m² of gross floor area; and
- provision of landscaping and construction of associated physical infrastructure.

The report is structured as follows:

Section 1: Introduction, overview of the environmental assessment and approvals process, overview of the project, project team, and capital investment value.

Section 2: Site location and context, landownership, existing development, surrounding development, summary of opportunities and constraints.

Section 3: Summary of key issues from consultation.

Section 4: Description of the proposed development.

Section 5: Summary of Director General's Requirements.

Section 6: Environmental Assessment of the Project Application.

Section 7: Draft Statement of Commitments.

Section 8: Conclusion.

The appendices include a range of technical studies undertaken to inform the Project Application and its environmental assessment. These studies address the Director General's requirements for the environmental assessment. They provide a technical assessment of the environmental impact of the proposed development, and recommend proposed mitigation measures to manage potential environmental impacts associated with the proposal.

1.1 Background

Healthscope currently operates the SSWPH on the southern portion of the subject site. SSWPH currently provides the following services:

- Children's services;
- Obstetrics
- Intensive care and high dependency units;
- Neonatal intensive care;
- General medical/surgical;
- Mental health;
- Cardiac catheterisation; and
- Interventional neuroradiology.

The expansion of the hospital's facilities is intended both support the growth of SSWPH and capitalise on the location's synergy with the NSW Health-operated Liverpool Hospital.

Previous Development Application

A development application for a commercial building to accommodate medical suites has previously been approved on the site (DA 998/04). The development was eight storeys in height and included two basement levels. The elevations for the development the subject of this Part 3A application (refer architectural plans at **Appendix A**) show the outline of this previously approved building for comparison. It should be noted that it is significantly higher than the current proposal. Furthermore, the gross floor area of the approved development is approximately twice that proposed under this application.

Liverpool City Council Fire

The offices of Liverpool City Council were destroyed by fire in the early hours of 15 August 2010. However, consultation had already been undertaken by the proponent with Council officers and furthermore it is anticipated Council will have the resources to provide additional comments during the exhibition period. Further details regarding consultation with Council are provided in Section 3.1.

1.2 Environmental Assessment and Approvals Process

The Major Development SEPP 2005 identifies development to which Part 3A of the EP&A Act applies, and for which the Minister is the consent authority.

Clause 6 of the SEPP states that development, which in the opinion of the Minister is development of a kind referred to in Schedule 1 (Classes of Development) of the SEPP, is declared to be a project to which Part 3A applies.

Clause 18 of Schedule 1 of the Major Development SEPP states that the Minister may declare as a Part 3A development:

“(1) Development that has a capital investment value of more than \$15 million for the purpose of providing professional health care services to people admitted as in-patients (whether or not out-patients are also cared for or treated there), including ancillary facilities for:

- (a) day surgery, day procedures or health consulting rooms, or*
- (b) accommodation for nurses or other health care workers, or*
- (c) accommodation for persons receiving health care or for their visitors, or*

- (d) *shops or refreshment rooms, or*
- (e) *transport of patients, including helipads and ambulance facilities, or*
- (f) *educational purposes, or*
- (g) *research purposes, whether or not they are used only by hospital staff or health care workers and whether or not any such use is a commercial use, or*
- (h) *any other health-related use.”*

On 21 June 2010 and in accordance with Section 75B of the EP&A Act, and Clause 6 of the Major Development SEPP, JBA Planning on behalf of Healthscope requested that the Minister:

- declare the project to be a Major Project subject to Part 3A of the EP&A Act; and
- issue environmental assessment requirements for the Project Application.

On 29 June 2010, the Minister declared the project was one to which Part 3A of the EP&A Act applied.

On 27 July 2010 in accordance with Section 75F of the EP&A Act, the Director-General of the Department of Planning issued the requirements for the preparation of an Environmental Assessment to accompany the Project Application project. A copy of the Director General’s Environmental Assessment requirements(DGRs) for the Project Application is included in **Appendix L**.

This report constitutes the Environmental Assessment Report (EAR) for a Project Application for the development.

1.3 Project Team

An expert project team has been formed to deliver the project and includes:

Proponent	Healthscope
Architecture	Woods Bagot
Urban Planning	JBA Planning
Land Surveyors	Lockley Land Title Solutions
Landscape Architects	Clouston Associates
Traffic and Transport	Transport and Traffic Planning Associates
ESD	AECOM
Contamination	Douglas Partners
Infrastructure	AECOM
Stormwater	AECOM
Quantity Surveyors	Padgham Sweett
Building Code of Australia	Blackett Maguire + Goldsmith

1.4 Capital Investment Value

The estimated capital investment value is \$36.892 million as detailed in the Quantity Surveyor’s Certificate prepared by Padgham Sweett (refer at **Appendix B**).

2.0 Site Analysis

2.1 Site Location and Context

The subject site is known as 24-40 Bigge Street, Liverpool. The site is located to the north east of the Liverpool town centre, and is located approximately 800 metres north of Liverpool railway station and approximately 750 metres south west of Warwick Farm railway station (**Figure 1**).

The site is to the north west of Liverpool Hospital, which is the tertiary referral hospital for south western Sydney. It provides medical, surgical, emergency medicine, intensive care, oncology, mental health, women's health and newborn care services, and is also a major trauma centre for NSW. Liverpool Hospital is currently undergoing a significant redevelopment, and when complete Liverpool Hospital will be the largest tertiary facility in NSW.

The SSWPH site is located within the Liverpool Local Government Area.

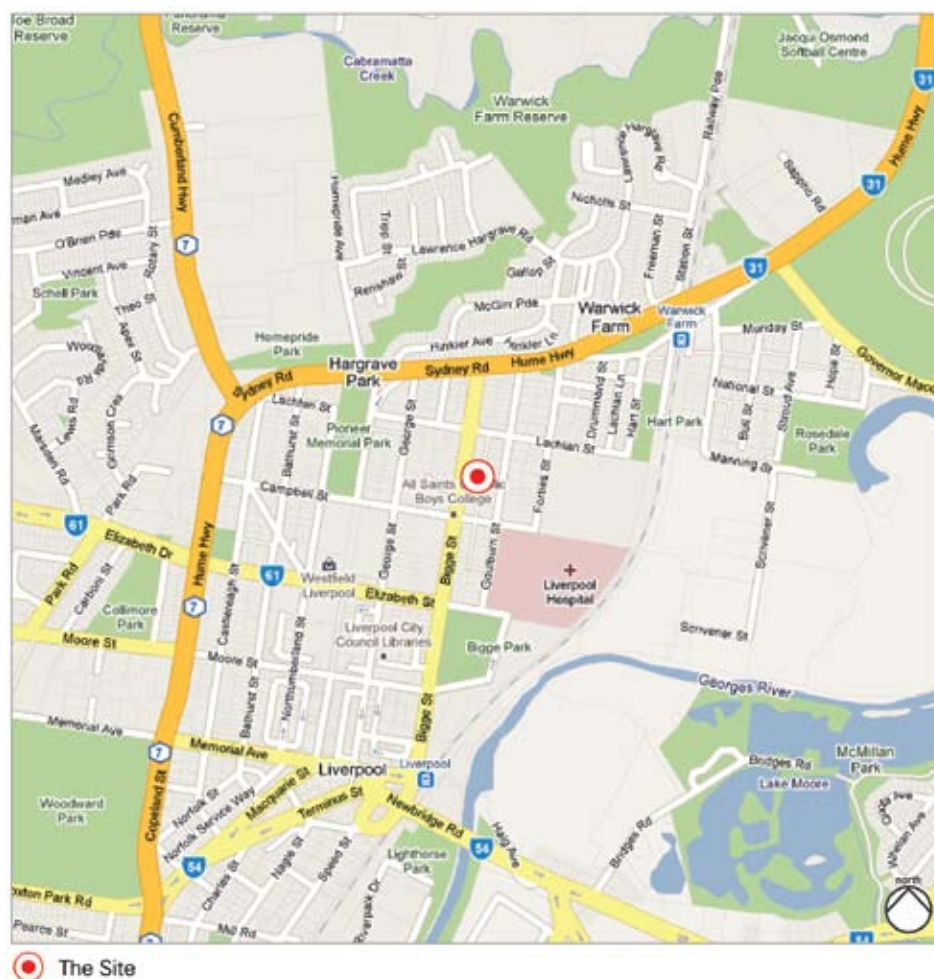


Figure 1 – Locality Plan

2.2 Land Ownership and Legal Description

The site is legally described as:

- Lot 100 in DP87361 (the main existing hospital building and associated infrastructure); and
- Lot 112 in DP105982 (the site of the proposed extension to the existing hospital building).

A site survey prepared by Lockley Land Title Solutions is included within the architectural drawings at **Appendix A**.

2.3 Existing Development

The Site Analysis Plan attached at **Appendix A** illustrates the existing distribution of buildings and uses on the site.

The site is regular in shape, has a total area of approximately 6,962m² and has a street frontage of 145 metres to Bigge Street. The site is bounded by Bigge Street to the west and a small public service lane (known as the Goulburn Serviceway) to the rear and eastern side of the site. An aerial plan showing the site and its surrounds is provided at **Figure 2**.



Figure 2 – Site Plan

The southern portion of the site (being Lot 100 in DP873631) is 5,526m² in area and comprises the existing hospital building and associated car parking. The building is a two, part three storey, building with a partially underground car parking area to the north of the site. The building is of relatively modern design and includes louvers over the main windows facing north and to Bigge Street (see **Figure 3**).

The main entry to the hospital building is made via Bigge Street. This is adjacent to the driveway access to the site, which serves both a drop off area at the main entry and egress to the basement parking area (see **Figure 4**). The hospital's existing loading area is adjacent and accessible via the Goulburn Serviceway lane at the rear of the site.

The existing hospital currently accommodates 93 patient beds spread across all three levels of the building. The hospital also accommodates the Southwest Clinic, which is an 18 bed mental health unit. The clinic caters for a variety of mental illnesses and disorders, and also offers detoxification and withdrawal management program.

The northern portion of the site (Lot 112 DP105982) is 1,436m² in area, is currently vacant and does not include any structures or significant vegetation (see **Figure 5**). This part of the site previously accommodated two residential dwellings that were demolished in accordance with DA 998/04, approved by Liverpool City Council. This approval also provided consent to construct an 8 storey building, which was to comprise of 10,000m² of floor area and to be utilised for various medical suites and consulting rooms. Other than demolition works, no other works in accordance with this consent have been progressed. This development was to be constructed and then operated by another consortium separate from the hospital. Healthscope is currently in the process of purchasing this site from Kordan Pty Ltd.



Figure 3 – Western facade of the existing hospital building.



Figure 4 – Existing entrance to partially underground car park.



Figure 5 – Vacant northern portion of site.

2.4 Topography

The topography of the site generally falls from the north to the south, with a gentle drop of approximately 3 metres. Site levels are shown on the Survey Plan within the architectural drawings at **Appendix A**.

2.5 Geology and Groundwater

The relevant geological map indicates that the site is most likely underlain by Bringelly Shale, which typically comprises siltstone, fine grained sandstone and laminates with some shale bands. The site is located near the boundary of Bringelly Shale and alluvium laid down in the floodplain of the nearby Georges River. However, on-site testing indicated that there are no extensive alluvial deposits on the site (refer to Geotechnical Investigation prepared by Douglas Partners at **Appendix C**).

2.6 Flooding

The nearest waterway to the site is Georges River, located approximately 600 metres to the south east. The site is not identified as being flood prone in the Liverpool LEP 2008.

2.7 Access and Transport

Vehicular Access and Road Conditions

The site has frontages to Bigge Street and the Goulburn Serviceway. The car park under the existing hospital building can be accessed from both Bigge Street and the Goulburn Serviceway, and the existing loading dock can be accessed from the serviceway.

Bigge Street forms part of the ring road that surrounds the Liverpool town centre. Significant roads in the area include the Hume Highway to the north, Elizabeth Drive to the south west and Newbridge Road to the south.

Car Parking Conditions

The existing car park accommodates 68 spaces and is available for SSWPH staff, patients and visitors. Dedicated parking for seven vehicles is also provided on land to the south of the existing hospital building. Restricted on street parking is available on Bigge Street and other streets in the vicinity of the site (but not in the Goulburn Serviceway) , however this parking is in high demand during business hours.

Pedestrian

The site is well connected through local pedestrian footpath networks. Signal controlled pedestrian crossings or pedestrian refuges are provided at the surrounding intersections to provide safe passage for pedestrians.

Rail and Bus

As previously described, the site is located approximately 800 metres from Liverpool railway station and 750 metres from Warwick Farm railway station. Liverpool railway station is a major station on the South, Cumberland, Bankstown and Inner West lines, and incorporates a transport interchange.

Many bus routes service the surrounding suburbs of Liverpool and connect to Liverpool railway station. Bus route 823 provides a connection from Liverpool railway station to bus stops located within 100 metres of SSWPH.

2.8 Heritage

The Liverpool Local Environmental Plan 2008 (Liverpool LEP) specifies heritage items and heritage conservation areas within Liverpool LGA. The subject site does not include a heritage item and is not located within a conservation area under the Liverpool LEP.

However, 13 Bigge Street is in the general vicinity of the subject site and is listed as an item of environmental heritage in the Liverpool LEP. Furthermore, Bigge Street forms part of the road network that defines the early town centre street layout of Liverpool, which is also listed as an item of environmental heritage in the Liverpool LEP.

A search of the NSW Heritage Branch Database reveals that the site also does not contain any items listed by the Heritage Council under the NSW *Heritage Act 1977*.

2.9 Utilities and Services

The site is currently served by a full range of utilities and services. A brief description of the service connections are set out in **Table 1** below.

Table 1 – Existing services conditions

Service	Current Supply
Sewer	The site is currently serviced by a 150 mm sewer main located in Goulburn Serviceway.
Water	The site is currently serviced by a 150mm potable water main in Bigge Street.
Electricity	The site is connected to existing electrical services provided by Integral Energy.
Gas	The site is under the authority of Jemena and is served by a gas main in Bigge Street.
Telecommunications	Telstra currently provides telecommunication services to the SSWPH site.

2.10 Surrounding Development

The site is surrounded by a mix of other medical associated developments, dilapidated single dwellings and new high rise residential flat development.

To the north of the site is an existing two storey building that it currently utilised as a day surgery and includes associated medical suites. This building operates as the South Western Day Surgical Centre. Further north is a 6 storey residential flat building of recent construction (see **Figure 6**).

To the north east of the site are a number of single storey dwellings than back onto the Goulburn Serviceway (see **Figure 7**) and front Goulburn Street. Directly east of the site is a 4 storey residential building of recent construction (see **Figure 8**), a dilapidated single storey dwelling and a single story pathology centre, which has rear access via the Goulburn Serviceway (see **Figure 9**).

Further south, is a large vacant allotment, which is understood to be owned by the South Western Area Health Service. At the corner of Goulburn and Campbell Streets are two 3 storey commercial buildings that accommodate various medical consulting suites and medical related services. (See **Figure 10**.)

Further east from the site along Campbell Street is Liverpool Hospital. The hospital has a recent \$500 million approval to upgrade and expand its facilities. On completion of the approved works the hospital will compromise a total of 940 beds, making it the largest hospital in NSW.

Directly west of the site, across Bigge Street, is a mix of new high rise residential development, medical suites and single storey dwellings (see **Figures 11 and 12**). It is understood that there is an approval for a new high rise residential flat building on the corner of Bigge and Lachlan Streets, north west of the site. To the south of the site is the Bigge Street Medical Centre, which is a two storey brick building that addresses both Bigge and Campbell Streets.



Figure 6 – Adjoining medical centre to the north of the site.



Figure 7 – Goulburn Serviceway with the site to the right.



Figure 8 – Residential development to the east of the site.



Figure 9 – Dilapidated buildings to the east of the site.



Figure 10 – Pathology centre, vacant lot & commercial development to the south east of the site.



Figure 11 – Residential development to the west of the site.



Figure 12 – Residential development to the west of the site.

2.11 Summary of Site Opportunities and Constraints

The site presents the following opportunities:

- The site is a relatively flat and regularly shaped landholding in an urban context that does not immediately adjoin any residential dwellings.
- The site is located within an existing medical support precinct that shares a strong nexus with the nearby Liverpool Hospital;
- The majority of the site is already used as a hospital by SSWPH;
- The site has a good level of access to public transport, with a bus stop less than 100 metres away and two railway stations located within 800 metres;
- The site is located nearby to a major centre (Liverpool);
- The site is located to the west of nearby residential dwellings, thereby reducing any potential impacts caused by the proposal in terms of solar access and overshadowing;

The main constraints to development are as follows:

- A residential building is located across the Goulburn Serviceway to the west; and
- On-street parking in the area is in high demand during business hours.

3.0 Consultation

In accordance with Part 3A of the EP&A Act, consultation is required to occur at the following stages:

- the Director General of the Department of Planning is required to consult with relevant public authorities in preparing the environmental assessment requirements for the Project Application; and
- the Director-General is required to advertise and exhibit the Environmental Assessment and appended reports and documentation.

In preparing the DGRs for the Environmental Assessment, the Department of Planning consulted with the relevant authorities. In particular, Liverpool City Council provided a detailed response. This response was followed up with a meeting between the proponent and the Council on 7 July 2010. At this meeting Council officers expressed support for the development on the basis that the development would strengthen the existing medical precinct in around Liverpool Hospital and would help to provide further job opportunities for the local area.

In particular, the following comments made by Council officers.

- The design of the building is driven by the operational requirements of the hospital.
- The front facade is to be appropriately set back from the boundary and appropriately landscaped. Compliance with the setback control of 4.0-4.5 metres should be achieved.
- The amenity of the surrounding residential properties is to be protected, particularly with regard to the visual privacy and access to sunlight for the residential building to the east.
- Traffic and parking requirements are to be assessed by an appropriately qualified consultant.
- The storage of dangerous goods and disposal of hazardous waste are to be addressed in the EAR.
- The development would attract section 94A contributions.
- The site is not subject to flooding, and the proposed development is not expected to impact on the heritage items in the vicinity.

Further discussions with Council staff following this meeting resulted in agreement with regard to the suitability of an on-street no parking zone (rather than an additional porte-cochere) and the planting requirement for the proposed street trees.

As noted in Section 1.1, further discussions with Council were hampered by the destruction by fire of the Council offices. However, it is considered that adequate consultation was undertaken up to that point, and furthermore Council will have an additional opportunity to respond when the application is exhibited.

AECOM have consulted with a number of service agencies during the preparation of the application (refer **Appendix E**), including the following:

- Sydney Water
- Integral Energy
- Jemena Gas
- Liverpool City Council

The Department of Planning will advertise and exhibit the Environmental Assessment and appended reports and documentation, thereby providing relevant State Government agencies with an opportunity to review the proposal and prepare a submission. During the exhibition period, community members will also be able to make submissions on the Project Application.

Following Project Application approval, consultation will continue throughout the duration of the project with relevant service providers, NSW Health, and surrounding neighbours.

4.0 Proposed Project

The Project Application seeks approval for the following development:

- excavation for and construction of basement car parking for 34 spaces over one level;
- construction of an extension to the existing hospital building comprising 4,878.3m² of gross floor area¹ and four storeys; and
- provision of landscaping and construction of associated physical infrastructure.

Put simply, this proposal involves the expansion of the existing Sydney Southwest Private Hospital. The range of services and functions currently provided by SSWPH (refer to Section 1.1) will continue to be provided and expanded within the redeveloped building. A photomontage of the proposed addition is provided in **Figure 13** below. It is not proposed to stage the construction of the development.

This section of the report provides a detailed description of the proposed development and should be read in conjunction with the architectural drawings prepared by Woods Bagot for the proposed development at **Appendix A**, the landscape drawings prepared by Clouston Associates included at **Appendix D**, and the supporting technical reports as detailed in the Table of Contents.



Figure 13 – Photomontage of proposed development

-
- 1** Gross floor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:
- (a) the area of a mezzanine,
 - (b) habitable rooms in a basement or an attic,
 - (c) any shop, auditorium, cinema, and the like, in a basement or attic,
- but excludes:
- (d) any area for common vertical circulation, such as lifts and stairs,
 - (e) any basement (i) storage, and (ii) vehicular access, loading areas, garbage and services,
 - (f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting,
 - (g) car parking to meet any requirements of the consent authority (including access to that car parking),
 - (h) any space used for the loading or unloading of goods (including access to it),
 - (i) terraces and balconies with outer walls less than 1.4 metres high,
 - (j) voids above a floor at the level of a storey or storey above.

4.1 Numeric Overview

A numeric overview of the proposed development is provided in **Table 2** below.

Table 2 – Numeric overview of the proposed development

Component	Proposal
Site area	
- Existing hospital site	- 5,526m ²
- Vacant site for proposed extension	- 1,436 m ²
- Total	- 6,962 m ²
Gross Floor Area	
- Existing	- 7,164m ²
- Proposed Addition	- 4,414.5m ²
- Total	- 11,578.5m ²
Floor Space Ratio	- 1.66:1
Building Height ²	- 23 metres
Additional Vehicle Parking	- 34 car parking spaces for visitors, patients, and staff (including 2 disabled spaces). - 6 motorcycle spaces - 10 bicycle spaces - (Post development, SSWPH will have a total of 109 car parking spaces)

4.2 Building Description

The proposed additions to the hospital incorporate a four level building with a single level of basement car parking below. A single level of plant is provided above the uppermost habitable floor of the building.

The proposed expansion is intended to be undertaken to allow the existing activities of the hospital to expand, providing patients with a continuous and seamless level of service throughout the project.

A level by level breakdown of the proposal is summarised in **Table 3** overleaf.

Due to the topography of the site and the need to provide a logical extension to the existing hospital, the Ground Level car park will actually be predominately located below natural ground level. Accordingly, Level 1 can be conveniently accessed from Bigge Street.

This means that the building will be visually interpreted as a four storey building with an additional stepped back level of plant when viewed from Bigge Street. The maximum height of the building is approximately 23 metres above existing ground level to the top of the plant room. It is anticipated that two exhaust stacks from the plant room cooling towers will exceed this height by approximately 2.6 metres.

The building is proposed to be constructed to the side (northern) and rear (eastern) boundaries, and will also be constructed to the southern boundary where it will link in to the existing hospital building. It is proposed to setback the front facade by 4.0 metres from the boundary. Additional setbacks and articulation are provided at the street level entry.

² Building height means the vertical distance between ground level (existing) at any point to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.

Table 3 – Key scheme details

Element	Details	GFA
Ground Floor Car Park	- connections to existing car park - 34 car parking spaces - 10 bicycle spaces - cyclist change rooms - 6 motorcycle spaces - lift lobby - sprinkler pump room - main switchroom	0m ²
Level 1 Operating Theatres	- connections to existing hospital building - 3 general operating theatres - space for 1 future operating theatre - sterile stock room - controlled entry foyer - medical consultant suite	1,086.9m ²
Level 2 Inpatient Units	- connections to existing hospital building - 20 one bed rooms - 5 two bed rooms - staff hub and ancillary support rooms - staff courtyard	1,141.1m ²
Level 3 Mental Health Unit	- 13 one bed rooms - 6 two bed rooms - group therapy rooms - staff hub and ancillary support rooms	1,104.3m ²
Level 3 Medical Consultant Suites	- 13 medical consultant suites - shared multi-purpose room - ancillary support rooms	1,082.2m ²
Level 4 Plant Room	- plant - cooling towers	0m ²

4.3 Facade Design

The facades have been designed to respond to the following issues:

- the functional requirements of the hospital services within the building;
- provision of appropriate levels of privacy to surrounding properties and for patients within the building;
- reflect the aspect and location of the site to maximise environmental benefits (such as access to sunlight and views); and
- contribution to an interesting and lively streetscape.

These various factors have resulted in each facade utilising different details, although they are all consistent with an overall theme. The four elevations are shown in **Figures 14 to 17** below.

The northern elevation is highly articulated to ensure that patient rooms have adequate separation from the boundary to maintain privacy. The materials proposed for this facade are predominately face brick, pre-cast concrete and clear glazing.

Similarly the eastern and southern facades will be predominately constructed of face brick, pre-cast concrete and clear glazing. The western (Bigge Street) frontage will mainly utilise pre-cast concrete and clear and opaque glazing. Louvers will be used to screen the plant room located at the top of the building.

These facade treatments have been selected to provide an interesting building that is visually integrated with the existing hospital building. To further strengthen the visual connection, the existing hospital building will be repainted to provide consistency.

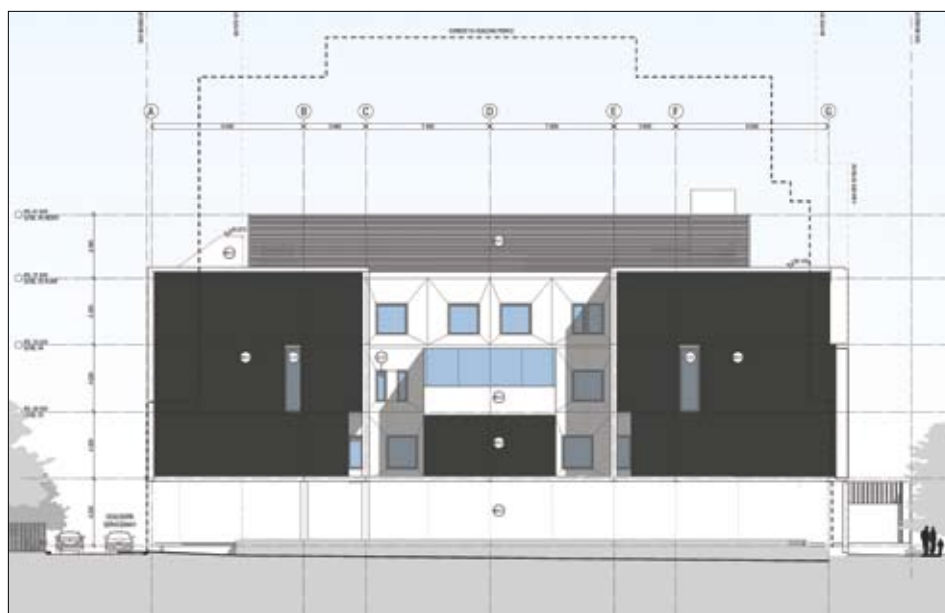


Figure 14 – Northern elevation



Figure 15 – Eastern elevation

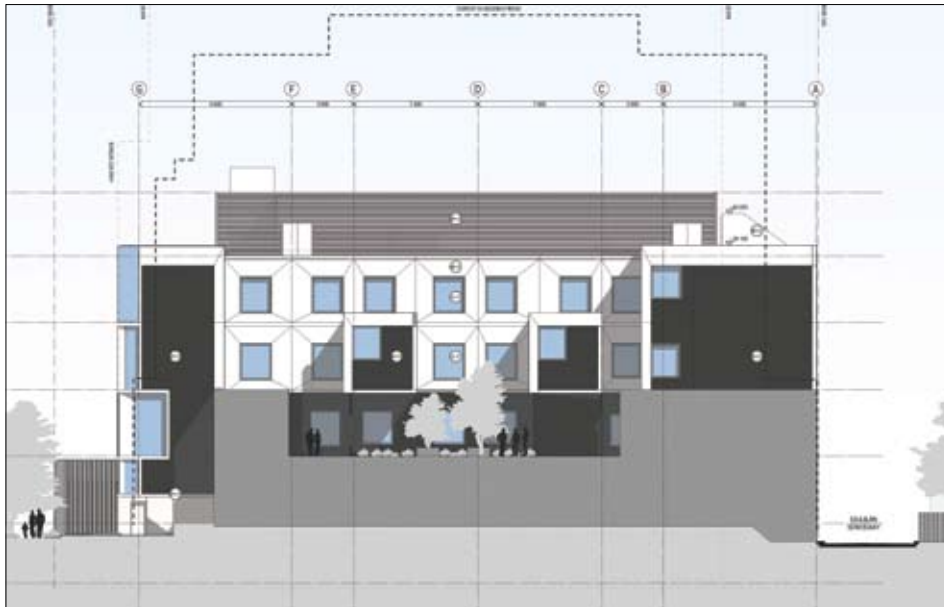


Figure 16 – Southern elevation



Figure 17 – Western elevation

4.4 Access, Loading and Parking

Vehicular Access

The proposed new car parking levels have been designed to link into the existing SSWPH car park. Accordingly, no new vehicle access points to either Bigge Street or the Goulburn Serviceway are proposed. The proposed connection ramps between the existing and proposed car parks have a gradient of 1:15, and have been located to ensure the entire car park can be navigated logically.

It is not proposed to provide a porte-cochere for the extension building, as the main entry for the hospital will remain as existing. However, it is proposed to provide a 7 metre length (equivalent to two car spaces) of 'no parking' zone on Bigge Street in front of the proposed works

Pedestrian Access

The main pedestrian entry to SSWPH will remain in its existing location on Bigge Street. An additional entry from Bigge Street is proposed to be incorporated into Level 1 of the new building, which will be used for inpatients and the medical consulting suites only.

Delivery and Servicing

Delivery and servicing vehicles will continue to access the hospital's existing loading dock from the Goulburn Serviceway.

Car Parking

A total of 34 additional undercover car parking spaces will be provided in the basement level of the building. This quantum of parking includes two disabled car spaces and two small car spaces, and will increase the total number of car parking spaces for SSWPH to 109.

Bicycle Facilities

The proposed redevelopment will have weather-protected, secure parking for 10 bicycles for staff/visitors located within the car park levels. Change rooms are provided in the ground level car park for the convenience of cyclists.

4.5 Landscaping

A plan of the proposed landscaping for the development is included within the Landscape Plans and specifications, prepared by Clouston Associates, included within **Appendix D**.

The nature of the proposed building extension results in limited opportunities for landscaping along the street frontages. However, it is proposed that the full length of the Bigge Street frontage will be landscaped in front of the existing and proposed buildings. The proposed planting includes trees (White Cloud Tree), shrubs (Grevillea 'Sandra Gordon') and ground covers and grasses (Blue Flax Lily, Grevillea 'Bronze Rambler' and Spiney-Head Mat-Rush).

The staff and patient courtyard at Level 2 will also be planted with trees and shrubs, including Downy Japanese Maples, Blue Flax Lilies, Black Leas and Dwarf Mondo Grass. The northern facade of Level 2 incorporates two small non-accessible courtyards that provide a pleasant outlook from the surrounding windows. These small courtyards are to be planted with Black Lea and Dwarf Mondo Grass.

The purpose of the staff and patient courtyard at Level 2 is to provide a place for relaxation outside. This courtyard, in addition to the two small non-accessible courtyards on the northern side of the building, will also provide a pleasant outlook from overlooking rooms.

4.6 Operational Details

The hospital will continue to operate 24 hours per day, seven days per week service providing inpatient and day admissions. It is expected that the expanded facilities will enable SSWPH to increase patient admissions from 11,255 per year to 14,500 per year³.

There is also an expected corresponding increase in the number of staff from the current 237 to approximately 340, in addition to an expected increase of 12 nursing students per year. In terms of equivalent full-time staff, the increase is anticipated to be from 232.6 staff to 260.8 staff.

3 DSU - Day Surgery Unit

In addition to the works the subject of this application, SSWPH intends to undertake reconfiguration works within the existing hospital building. These works will be the subject of a separate complying development certificate or development application as appropriate. The result of this redistribution is that some services will be relocated into the new extension building.

Table 4 overleaf details the proposed changes from the existing facility to the expanded facility for each class of service.

Table 4 – Existing and proposed hospital services

Class	Current		Proposed	
	Overnight Accommodation	Patient is admitted and discharged same day	Overnight Accommodation	Patient is admitted and discharged same day
Child patients	14	6	14	6
Obstetrics	22 and 3 delivery rooms	-	23 and 3 delivery rooms	-
Intensive care Level 1	Decommissioned – Now used as DSU	-	6 (relocation to Level 1South)	-
Neonatal Intensive Care	6	-	6	-
Medical/Surgical	47	1 st stage DSU ⁴ 4 bays 2 nd stage DSU 8 chairs	59	1 st stage DSU 4 bays 2 nd stage DSU 8 chairs
Mental Health	18 beds	1 group room	24 beds	3 group rooms
Cardiac Catheterisation	18 medical beds	1 x P/Room 2 x 1 st stage 9 x 2 nd stage	2 x ICU ⁵ 8 x HDU ⁶ 8 x medical beds	1 x P/Room, 2 x 1 st stage 9 x 2 nd stage
High Dependency Unit	4 double bed rooms of existing beds.	-	Overnight accommodation standards	
Interventional Neuroradiology			Extended recovery accommodation standard	

4.7 Ecological Sustainable Development

As set out in the ESD Submission prepared by AECOM (Appendix E), the proposed development incorporates a number of ESD initiatives into the design and operation of the proposed development. These related to thermal efficiency, energy efficiency and waste management and are discussed in further detail in Section 6.8.

4.8 Stormwater Drainage

AECOM have prepared a hydraulic services scope of works for the proposed development (refer Stormwater Management Plan at **Appendix F**). In summary, surface water drainage will discharge by gravity into the storm water system within the Goulburn Serviceway via an on-site detention tank.

⁴ DSU - Day Surgery Unit

⁵ ICU - Intensive Care Unit

⁶ HDU - High Dependency Unit

4.9 Utilities and Services

The following paragraphs summarise how the proposed development will be serviced and protected from fire.

Water

The proposed potable cold water will be connected to the Sydney Water mains and reticulated to all fixtures and equipment that requires cold water. Fixtures and equipment that may present a source of contamination will be fitted with a backflow prevention device suitable for the hazard rating of the procedure.

Sewer Drainage

The proposed sewer pipe work shall connect to the existing Authority sewer main, located in the Goulburn Serviceway. Fixtures and equipment that generate grease and/or high temperature discharges will be treated on site to the requirements of the Liverpool City Council trade waste policy.

Electricity

The existing supply to the facility originates from a kiosk substation which supplies an existing main switchroom in the existing hospital. A new 1,200kVA kiosk substation is required for the extension with associated new switchroom. The proposed location for the kiosk is the north western corner of the site, adjacent to Bigge Street.

Gas

The proposed development will connect to the existing gas mains that serves the site from Bigge Street.

Fire Protection

The proposed works will be linked into the fire protection system of the existing hospital. A fire sprinkler system, fire hydrant and hose reel system, fire detection and alarm system and intercom system will be designed and installed in accordance with relevant Australian standards and BCA requirements.

4.10 Construction and Site Management

Construction Management

A detailed Construction Management Plan will be prepared by the appointed contractor prior to commencement of works and will address:

- traffic and pedestrian construction routes;
- storage and handling of construction materials;
- waste handling procedures; and
- proposed hours of construction.

Hoardings, erosion and sediment control measures, site fencing and tree and root protection zones will be installed as part of the demolition and construction process to ensure the site remains safe at all times.

Construction of the basement will require part of the site to be excavated. This will necessitate the installation of temporary shoring, batters and permanent retaining walls across the site.

A Sediment and Erosion Control Plan is included within the Stormwater Management Plan (refer **Appendix F**).

Operation

Handling and storage of waste during the operation of the redeveloped SSWPH will be managed internally, however existing waste removal practices will be continued and overseen by the hospital's existing waste contractor.

Clinical and medical wastes will be stored in secured areas before being disposed of by specialist contractors and transported for treatment or incineration.

General waste will be stored within the hospital's existing storeroom. Provision will be made throughout the new building for the sorting of recyclables from general waste.

4.11 Developer Contributions

The Liverpool Contributions Plan 2007 (Liverpool City Centre) sets out the contribution levies sought for development within the Liverpool town centre. The Contributions Plan specifies that development within the R4 zone (such as the proposed development) attracts a levy of 2 percent of the total cost of development.

The expected demands on local infrastructure normally associated with commercial development, being for public domain and town centre improvements, is not considered applicable to the proposed development on the basis that it will seek to provide its own public domain enhancements within the development. Furthermore, the development is a medical facility that has wide community health benefits.

It is therefore considered reasonable that the proponent be exempt from paying Section 94 Contributions.

5.0 Director General's Requirements

Table 5 provides a detailed summary of the individual matters listed in the Director General's Environmental Assessment Requirements (refer **Appendix L**) and / or identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 5 – Director General's Environmental Assessment Requirements

Director-General's Requirements	Report Location
General Requirements	
Executive Summary	Page ii
Site analysis	Section 2 and Appendix A
Description of the proposed development	Section 4
Assessment of potential impacts and draft Statement of Commitments	Sections 6 and 7
Statement of validity	Page i
QS Certificate of Cost	Appendix B
Conclusion and justification of suitability of the site for proposal	Section 6.23 and Section 8
Key Issues	
Relevant EPIs, policies and guidelines	Sections 6.1 - 6.4
Built Form	
- Height, bulk and scale	Section 6.5
- Setbacks	Section 6.4.1
- Contextual studies	Appendix A
- Integration with existing hospital	Section 4 and Appendix A
- Design quality	Section 6.4.1
- View analysis	Section 6.5
Environmental and Residential Amenity	
- Solar access	Section 6.5
- Acoustic impacts	Section 6.12
- Visual privacy	Section 6.5
- View loss	Section 6.5
- Wind impacts	Section 6.5
Transport and Accessibility	Section 6.6
ESD	Section 6.8
Contributions	Section 4.11
Contamination	Section 6.10
Heritage	Section 6.18
Aboriginal Heritage	Section 6.18
Drainage	Section 6.9
Flooding	Section 6.4.1
Utilities	Section 6.21

Director-General's Requirements	Report Location
Staging	Section 4.0
Flora and Fauna	Section 6.17
Air and Odour Quality	Section 6.16
Noise and Vibration	Section 6.12
Salinity	Section 6.11
Waste	Section 6.15
Hazards	Section 6.19
Consultation	Section 3.0
Plans and Documents	
- Site Survey	Appendix A
- Site Analysis Plan	Appendix A
- Locality Plan	Appendix A
- Architectural Drawings	Appendix A
- Stormwater Concept Plan	Appendix F
- Erosion and Sediment Control Plan	Appendix F
- Geotechnical Report	Appendix C
- View Analysis	Section 6.5 and Appendix A
- Landscape Plan	Appendix D
- Shadow Diagrams	Appendix A

6.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the Project Application proposal. It addresses the matters for consideration set out in the Director-General's Environmental Assessment Requirements (DGRs). The draft Statement of Commitments complements the findings of this section.

6.1 State Legislation

6.1.1 Environmental Planning & Assessment Act 1979

The objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act) are:

- (a) *to encourage:*
 - (i) *the proper management, development and conservation of natural and artificial resources including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
 - (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
 - (iii) *the protection, provision and co-ordination of communication and utility services,*
 - (iv) *the provision of land for public purposes,*
 - (v) *the provision and co-ordination of community services and facilities, and*
 - (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
 - (vii) *ecologically sustainable development, and*
 - (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

The proposed development is consistent with the relevant objects of the EP&A Act, particularly for the following reasons:

- The development sees the expansion of the SSWPH within the existing medical precinct that shares close ties with Liverpool Hospital, and provides for the orderly and co-ordinated use of land by allowing for the growth of the existing hospital.
- It provides social and economic benefits through the investment by the Healthscope in providing expanded medical facilities to serve the local and wider community and through generating substantial and real employment benefits.
- The development is being provided with little or no significant environmental impact arising from the construction and operation of the development.
- Ecologically sustainable development initiatives are to be incorporated into the design, construction, and operation of the development.

Part 3A of the EP&A Act outlines the process for considering applications under the Major Development SEPP. In particular it outlines:

- What development constitutes a Major Development;
- The matters which the Minister must take into account when assessing a major application;
- Information which must be submitted with an major Project Application;
- The environmental assessment requirements for approval;
- Public exhibition of Major Project Applications;
- Assessment report procedures; and
- Appeals under Part 3A.

This report responds to these requirements.

6.2 Strategic Implications

State Plan

The New South Wales State Plan was released in March 2010. The Plan sets a strategic direction and goals for the NSW Government across a broad range of services and infrastructure. The challenge set by the Plan is to balance competing demands in an environment of change, high expectations and limited resources.

The expansion of the SSWPH will assist in implementing solutions to these challenges. Specifically, the proposal will provide a new and modern hospital facility in a medical precinct, which is well connected to public transport links and in close proximity to the major centre of Liverpool. The proposal also seeks to provide expanded medical facilities for a growing urban population. It will also demonstrate a high level of sustainability with the provision of those measures indicated within the ESD Submission (refer to **Appendix E**) and other various management plans (refer to draft Statement of Commitments and relevant appendices).

The Part 3A Project Application satisfies key priorities of the State Plan, namely:

- *Increase the number of jobs closer to home* – the proposal will increase the provision of jobs within an employment node, in a location with good connections to public transport.
- *Maintain and invest in infrastructure* – the provision of the enlarged SSWPH will assist in equipping NSW with the infrastructure to support growth;
- *Improve and maintain access to quality healthcare in the face of increasing demand* – the provision of the enlarged SSWPH responds to the increasing demand for healthcare services from an increasing population base.
- *Tackle climate change* – the design of the proposal seeks to reduce reliance on energy consumption for heating/cooling purposes.
- *Secure sustainable supplies of water and use our water more wisely* – the proposal will incorporate water efficient fixtures to minimise water consumption where appropriate.

Sydney Metropolitan Strategy (2005)

The two most pertinent strategies within the NSW Metropolitan Strategy in relation to the proposed development relate to 'Economy and Employment' and 'Centres and Corridors'.

The Metropolitan Strategy's vision for the Economy and Employment is summarised below:

- Sydney will have a competitive, innovative and adaptable economy which underpins its success in the global economy;
- Sydney will continue to offer opportunities for value-added investment, more good jobs, innovation and learning;
- Economic spaces will strengthen globally competitive industry networks and clusters. An advanced infrastructure network will support the flow of ideas, people and products.

Relevant objectives of the Metropolitan Strategy for Economy and Employment are summarised as follows:

- Provide suitable commercial sites and employment lands in strategic areas; and
- Increase innovation and skills development.

Liverpool Hospital is a key generator of employment within the Liverpool LGA and wider subregion. Significant opportunities exist for uses aligned with the public hospital to be developed on surrounding land, which will further support job creation in the area and Sydney more broadly. The proposed expansion of SSWPH, involving the provision of over 80 additional jobs, will therefore contribute to the Sydney economy and further support its role as a Global City.

Liverpool Hospital has in the past acted as a type of 'magnet infrastructure', drawing a range of medical uses which share a nexus with and support the Hospital to establish within adjoining lands. The past clustering of uses has enabled this medical precinct to distinguish itself from other medical centres in the region. The extension to the SSWPH will further strengthen this industry cluster through improving the quality and quantum of medical support services surrounding the large public hospital.

The SSWPH development collectively satisfies the Metropolitan Strategy's vision for Centres as summarised below:

- It reinforces Liverpool as an attractive place to live, work and invest;
- It facilitates the provision and creation of high skilled, high quality jobs, strong education and health facilities, attractive streets, good urban design and high quality public places;
- It will offer a range of health care opportunities and experiences for people of different ages, background and circumstances.
- It provides a place and location for economic activity and employment within the Sydney Region;
- It optimises the opportunities available to cluster business and knowledge based activities in strategic centres; and
- It concentrates activity near public transport connections.

The proposed development will capitalise on the site's strategic location within the Liverpool Town Centre, with its high level of public transport links.

Draft South West Sub-regional Strategy

The Draft South West Subregional Strategy was released in December 2007. It forms a key part of the implementation of the Metropolitan Strategy and when adopted is intended to guide land use planning in the Liverpool local government area to 2031.

Economy and Employment

The Draft South West Subregional Strategy sets an employment capacity target of 35,000 new jobs for the Liverpool LGA by 2031. Liverpool Hospital and the Liverpool TAFE campus are identified as the major employers in the sub region.

Approximately 80 additional jobs will be generated by the expansion of the SSWPH, bringing the total workforce of the hospital to 350. This will support the employment capacity target for Liverpool. Furthermore, a number of direct and indirect jobs will also be generated during construction of the proposal.

Centres and Corridors

The provision of the enlarged SSWPH will support and reinforce the role of the Liverpool as a Regional City and the focus of economic development in the sub-region.

6.3 Relevant State Environmental Planning Policies

The following State Environmental Planning Policies are relevant to the proposal and are discussed further below:

- SEPP (Major Development) 2005
- SEPP (Infrastructure) 2007
- SEPP 33 – Hazardous and Offensive Development
- SEPP 55 – Remediation of Land

6.3.1 State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Major Development) 2005 (Major Development SEPP) together with EP&A Act provides the planning framework for the assessment of State and regionally significant projects.

Clause 18 of Schedule 1 of the Major Development SEPP provides for hospital development with a Capital Investment Value (CIV) greater than \$15 million to be considered as a Major Project under Part 3A of the Act. The proposed development has an estimated CIV of \$36.892 million. A copy of the quantity surveyors certificate (by Padgham Sweett) is provided at **Appendix B**.

Development on the site has been declared a Major Project by the Minister. This EAR has been prepared in response to the Director General's Environmental Assessment Requirements in accordance with Part 3A of the EP&A Act.

6.3.2 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) came into force in December 2007. The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across the State and identifies matters to be considered in the assessment of development adjacent to particular types of infrastructure development.

Division 10 (Health services facilities) of the Infrastructure SEPP relates to development for the purposes of a health care facility (including a hospital). Under Clause 57, development for the purpose of health services facilities may be carried out by any person with consent on land in a prescribed zone. The subject site falls within a prescribed zone (being R4 High Density Residential). The proposal is therefore a permissible use subject to consent under the Infrastructure SEPP.

The proposal does not qualify as Traffic Generating Development under Clause 104 of the Infrastructure SEPP as the site does not have access to classified roads or access to a road that connects to a classified road. Further, the proposal does not involve the addition of more than 200 beds or more than 200 vehicles, and accordingly referral of the Project Application to the Roads and Traffic Authority (RTA) is therefore not required under the Infrastructure SEPP. Notwithstanding, we note that the Department of Planning is likely to refer a copy of the application to the RTA during the statutory exhibition period.

6.3.3 State Environmental Planning Policy No 55 – Remediation of Land

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The DGRs require the EAR to consider whether the land is contaminated, and that if the land is contaminated whether or not the land can be made suitable for the proposed use.

The Waste Classification Assessment prepared by Douglas Partners (refer to **Appendix H**) identifies fill on the site as 'general solid waste' and natural soil as 'VENM', and therefore the site as suitable for use as a hospital.

6.3.4 State Environmental Planning Policy No 33 – Hazardous and Offensive Development

The Director General's requirements list State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) as a relevant consideration in relation to the proposed development. However, the proposed hospital is not a hazardous or offensive industry as the type of dangerous goods to be stored and used on site (oxygen) are not captured by SEPP 33. More detail on this matter is provided at Section 6.17 of this report.

6.4 Liverpool City Council Planning Controls

We note that in determining a major project, the Minister for Planning is not bound by the provisions of an environmental planning instrument, other than a State Environmental Planning Policy (refer to Section 75R(3) of the EP&A Act). In the giving of approval for a Project Application the Minister may take into account (but is not required to) the provisions of any environmental planning instrument that would apply but for the application of Section 75R.

The following discussion addresses the Director General's requirement of the proposal to justify any proposed departures from the development standards in Liverpool LEP 2008 and any relevant Liverpool DCPs.

Liverpool LEP 2008

The Liverpool LEP 2008, as the principal environmental planning instrument applicable to the site, establishes the permissibility of uses in particular zones, and prescribes a small range of general and specific controls in relation to development. **Table 6** summarises the proposal's compliance with the applicable controls of the Liverpool LEP 2008.

Table 6 – Liverpool LEP 2008 planning controls

Standard / Control	Requirements	Compliance
Zoning	The site is zoned R4 High Density Residential. This zone permits with consent a large range of uses but not hospitals. Schedule 1 of LEP 2008 also allows development for the following purposes: - light industry, but only if the industry is medical research and development; and - office premises, but only with respect to the medical or health industries.	The proposal is defined as a hospital and is therefore not permissible within the zone. However, as detailed in Section 6.3.2 the provisions of the ISEPP override this prohibition, making the development permissible.
Zoning Objectives	Zone objectives for R4 High Density Residential Zone: - To provide for the housing needs of the community within a high density residential environment. - To provide a variety of housing types within a high density residential environment. - To enable other land uses that provide facilities or services to meet the day to day needs of residents. - To provide for a high concentration of housing with good access to transport, services and facilities. - To minimise the fragmentation of land that would prevent the achievement of high density residential development.	The proposal involves the provision of the redeveloped SSWPH that will continue to serve the needs of the Liverpool and wider community. The following sections of this chapter demonstrate the proposal's compatibility with the surrounding area.
Height of buildings	The height of a building on the site is not to exceed 35 metres.	The proposed extension building has a height of approximately 23 metres.
Floor Space Ratio	The maximum permitted floor space ratio on the site is 2.0:1.	With a total floor space ratio of 1.66:1, the SSWPH will comply with the maximum permitted FSR.
Building Separation	The separation distance from neighbouring buildings is to be at least 9 metres for parts of buildings between 12 metres and 25 metres above ground level.	The proposed building is 23 metres tall, so the appropriate separation distance is at least 9 metres to the residential building to the east. The proposed minimum separation distance is approximately 10 metres and therefore the proposal complies.
Design Excellence	The highest standard of architectural and urban design is to be achieved, and any development must exhibit design excellence.	The proposed development achieves design excellence as described in Section 6.4.1.

Liverpool Development Control Plan 2008

The Liverpool Development Control Plan 2008 (Liverpool DCP) provides more specific and detailed controls to support the Liverpool LEP 2008. The relevant section of the DCP is Part 4 - Liverpool City Centre. Controls address the following issues:

- street alignment and setback;
- street frontage heights;
- boundary setbacks;
- landscape design;
- active street frontages;
- building exteriors;
- on-site parking;
- wind impacts.

These issues are discussed in the following sections.

6.4.1 Compliance with Key Local Planning Controls

Street Alignment and Setback

The proposed building extension will appropriately address Bigge Street as required by the DCP. The proposed front setback is 4.0 metres, which is also consistent with the 4.0-4.5 metre requirement of the DCP.

A pad mounted substation is required to be located within the front setback to service the proposed development. The substation will be located within a dedicated enclosure to ensure that it is appropriately secured and screened from view.

Street Frontage Heights

The DCP specifies a street frontage height of between 15 and 25 metres. With a street frontage height of approximately 19.7 metres, the proposal is consistent with this control.

Boundary Setbacks

The DCP provides the following controls in relation to setbacks:

- Side setback minimums:
 - 3 metres up to a building height of 12 metres
 - 4.5 metres for the portion of the building between 12-25 metres in height
- Rear setback minimums:
 - 6 metres for building heights from existing ground level to 35 metres

These controls are shown on the elevations included in the architectural drawings at **Attachment A**, and for side setbacks are 3.0 metres for the lower levels and 4.5 metres for the upper levels. The rear setback requirement is 6.0 metres for all levels. The proposed development is not consistent with these controls as it is generally built to the side and rear boundaries.

These setbacks are considered appropriate in the context of the site for the following reasons:

- The development to the north is a medical centre (i.e. non-residential) and is a complimentary use to that proposed.
- The northern facade of the proposed development is extensively articulated to ensure that bedroom windows are either orientated away from the boundary or are located 3.0 metres or more from the boundary.
- The residential development to the east is separated by the Goulburn Serviceway. It should be noted that in relation to these dwellings the proposed development complies with the building separation requirements of the Liverpool LEP 2008.
- The proposed extension obviously requires a zero setback at the southern boundary to enable the building to link into the existing hospital.

The plant room at the highest level is setback from the perimeter of the building and complies with the side and rear setback requirements.

Landscape Design

The design of the proposed landscaping, as described in Section 4.5, is consistent with the DCP provision requiring planting to be incorporated into accessible outdoor spaces. This landscaping will be particularly appreciated by staff and recuperating patients who access the courtyard.

Active Street Frontages

The development is consistent with the DCP requirement to generate an active street front by incorporating the following:

- a clear entry is provided with access from the footpath;
- an active use (a medical consulting suite) is provided addressing the street; and
- As the SSWPH is considered a large development and has a long street frontage, it is appropriate that a secondary entrance is provided

Building Exteriors

The DCP requires that roof top structures, such as air conditioning, lift motor rooms, and the like are to be incorporated into the architectural design of the building. The proposed development has a plant room at the uppermost level that is shielded from view by louvers that are integrated into the design of the building.

On-site Parking

The parking requirements for the proposed development are discussed in detail in Section 6.6. In summary, the proposal is generally consistent with the required number of car parking spaces.

Wind Impacts

The wind impacts of the development are discussed in Section 6.5. As the proposed building height is less than 35 metres, the DCP does not require a wind impact assessment to be prepared.

Flooding

The site is not identified as being flood prone in the Liverpool LEP 2008. Accordingly, further flood investigations are not required in relation to the proposed development.

Design Excellence

The development is considered to achieve design excellence for the following reasons:

- a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved;
- the form and external appearance of the proposed development will improve the quality and amenity of the public domain;
- the proposed development does not detrimentally impacts on view corridors;
- the proposed development responds to streetscape constraints and presents appropriate bulk, massing and modulation; and
- environmental impacts have been appropriately managed and principles of ecologically sustainable development incorporated.

6.5 Built Form

This section of the report provides an assessment of the proposed hospital and particularly provides an assessment of the following:

- Size, scale, height and form of the hospital;
- Building facade design and visual impact;
- Overshadowing;
- Views;
- Visual privacy; and
- Wind impacts.

Height, Bulk and Scale of the Proposal

The existing hospital building on the site was built in two phases, the most recent of which was completed in the 1980s. The building is a two storey structure built over a level of semi-excavated car parking.

The proposed development seeks to respond to the characteristics of the existing building and provide an interesting structure that provides for the requirements of the expanded hospital and respects the context of the site.

The extension is designed to closely interact with the existing building, and is connected at the car parking level and the two lower operational levels. The extension delivers an architectural form that responds to the functional demands of the hospital, the local environmental and contextual conditions, and seeks existing (and growing) medical precinct.

The building form is consistent with the bulk and scale of recent development in the area, and will contribute to the revitalisation of this precinct of the Liverpool Town Centre. The proposed building setbacks, articulated facades, and materials will also deliver a built form that is consistent with the desired future character of the area.

The scale of the proposed building envelope is proportionate to the existing scale and massing of development within the locality, including buildings that accommodate medical services and residential dwellings.

The built form of the proposed building is considered acceptable for the following reasons:

- The development is of similar scale to those in the immediate locality which are generally four to six storeys in height.
- The site is located in a precinct that shares a strong nexus with and provides medical support services to Liverpool Public Hospital. The built form proposed reflects this relationship and connection.
- The proposed building makes efficient use of the land, capitalising on the location of a vacant lot immediately adjacent to the existing hospital.
- The proposed building height and density of development is appropriate given the site's accessibility to public transport.
- The viability of the hospital's expanded operations relies on a critical mass of functions and design requirements, which cannot be accommodated in the existing building.
- The height of the building is influenced by the demand for higher floor to ceiling heights in order to accommodate the surgical equipment and services associated with the operation of a hospital. The floor to floor height of the proposed building is 4.2 metres.
- The bulk and scale of the proposal ensures minimal impact on adjacent residential dwellings in terms of views, solar access and overshadowing.
- It complies with the Liverpool LEP 2008 building height development standard, being less than 35 metres in height.
- The resulting built form provides a positive urban design outcome.

Ultimately, the design and configuration of the extension to the SSWPH represents a balance between providing an improved hospital facility that serves the growing medical needs of the community, providing high quality and modern health care services, respecting the character of the surrounding area, taking advantage of an vacant site strategically located within a medical cluster of uses, minimising impacts on surrounding residential dwellings, and providing a building of a size that ensures the project is commercially viable.

Overshadowing

The shadow diagrams included with the architectural drawings at **Appendix A** illustrate that during the winter solstice (21 June) the proposed development will generally cast shadows towards the south across the Goulburn Serviceway and Bigge Street.

It should be noted that the closest residential dwellings to the east are located on the corner of the residential flat building, and as such have a dual aspect. This minimises any negative impacts on these dwellings building in terms of overshadowing. The shadow diagrams demonstrate that these dwellings will predominately not be overshadowed until mid afternoon, if at all.

The residential dwellings to the west of the proposed works are separated by such a distance that any overshadowing impacts will be minimal.

Given that there will be no significant shadowing impacts on any adjacent residential dwellings, the proposal and its resulting built form is considered to be acceptable and will not cause undue overshadowing or solar access impacts on any nearby sensitive land uses.

Building Facade Design and Visual Impact

The architectural drawings at **Appendix A** include elevations and materials for the development as well as a photomontage and a three-dimensional context model. These images show how the palette of materials selected creates a distinct and identifiable presence for SSWPH, while maintaining a human scale that responds to nearby properties.

The composition of the façade of the building has been developed to respond to the internal arrangements whilst also responding to the scale of the existing hospital and surrounding buildings. The combination of a face brick, pre-cast concrete panels and glazing provides visual interest.

Landscaping along the full extent of the Bigge Street frontage will be utilised to integrate the existing hospital building and the proposed extension. The landscaping will also be used to highlight the entrances of to the hospital.

View Loss and Privacy Impacts

In terms of potential view loss from the residential dwellings to the east, the dwellings closest to the proposed works have dual aspects, and so will retain views to the north or south. The proposed building, with a height of approximately 23 metres, is below the prescribed maximum height of 35 metres for the site and that previously approved under DA 998/04. As such, it would be unreasonable for the occupants of these dwellings to expect a vacant site to remain undeveloped indefinitely.

The same characteristics of the proposed development and its context that minimise impacts on views also mitigate any potential privacy impacts. The closes residential dwellings (located to the east of the site) have deep balconies that prevent overlooking into living rooms, and as described above they have dual aspects which also reduces the potential impacts of any overlooking.

Internal Amenity

The proposed layout maximises the use of the site whilst providing good amenity for staff, patients and visitors. For example, all patient rooms are located on the perimeter of the building to maximise access to daylight. Windows to these rooms have been carefully located to provide views for patients in bed.

The general layout of the development has been configured to accommodate the particular medical needs of the SSWPH. The floor plates have been sized to accommodate the required operating theatres, inpatient units, mental health units, consulting suites and associated support areas. The proposal is consistent with the relevant health facility standards.

The internal courtyard at Level 2 has areas for staff and patients to enjoy the outdoors. A series of circular blade walls are proposed within the courtyard to provide visual interest and increased privacy.

The entry foyer to the building provides a clear entry to the building, and serves to separate uses within the building, whilst also denoting public and staff/patient areas. Amenities are spread throughout the development to adequately serve the needs of staff, patients, and visitors.

The provision of change room facilities for cyclists will not only serve to encourage staff and visitors to cycle to the development, but will also serve the needs of those staff wishing to exercise during work hours.

Wind Impact

The relevant winds affecting the site are typical within the Sydney region, as follows:

- summer winds are from the northeast with the strongest summer gusts from the south and south east; and
- winds during early spring / winter are mainly from the west and south, with the strongest gusts also from the west and south.

Close to the ground, the Sydney regional wind patterns described above are affected by the local terrain and topography. Due to the terrain, topography and surrounding developments, the local wind environment would receive reasonable shielding at lower levels from the developments surrounding the development site. As such, winds at ground level are likely to be acceptable for pedestrians.

Due to the context and scale of the proposed development, it is considered that further investigations into potential wind impacts are unnecessary. It is noted that the Liverpool DCP 2008 does not require a wind impact assessment to be prepared for buildings less than 35 metres in height (the proposed development is 23 metres in height).

6.6 Traffic, Transport and Parking

A Traffic, Transport and Parking Assessment Report has been prepared by Transport and Traffic Planning Associates (**Appendix I**) to ensure that adequate parking has been provided on site to accommodate the proposed development and to assess the impact of the proposed development on the surrounding road network.

Parking

The proposed access and parking arrangements have been described in Section 4.4. In summary, a total of 118 spaces are proposed to be provided for the hospital. The Liverpool DCP 2008 provides the following parking rates for hospitals within the Liverpool CBD:

- 1 space per 100m² of floor area;
- 3 spaces per 100 spaces provided for disabled parking;
- 1 motorcycle space per 20 car parking spaces; and
- 1 bicycle space per 200m² of floor area.

The existing hospital building has a floor area of 7,164m² and has 68 parking spaces, which equates to a shortfall of four spaces. The proposed extension to the hospital will result in a total floor area of 11,400m² and provide 109 spaces, which results in a shortfall of ten spaces. It is proposed to provide two accessible spaces for people with a disability, which is consistent with the requirements of the DCP.

The proposed parking arrangements include the provision of six motorcycle spaces and ten bicycle spaces. The number of motorcycle spaces proposed is consistent with the requirements of the DCP, however the amount of gross floor area proposed generates a requirement for 22 bicycle spaces. It is considered that the shortfall of spaces is acceptable in the context of the development, being a hospital. Patients are not expected to cycle to the hospital, and so it is anticipated that the ten spaces proposed will be adequate for staff and visitors.

It is not proposed to provide a porte-cochere for the extension building, as the main entry for the hospital will remain as existing. However, it is proposed to provide a 7 metre length (equivalent to two car spaces) of 'no parking' zone on Bigge Street in front of the proposed works. Liverpool City Council was consulted in relation to this proposed arrangement and it was agreed that it was an appropriate solution (refer to **Appendix I**).

Access, Internal Circulation and Servicing

The proposed extension to the car parking area is to be accessed from the existing car park, and therefore the existing access provisions are to be maintained. The vehicular access points are as follows:

- main car park, staff car park and porte-cochere access from Bigge Street;
- main car park and staff car park access from the Goulburn Serviceway; the
- loading dock access from the Goulburn Serviceway.

The Traffic, Transport and Parking Assessment Report has considered the design of the new car parking area, and this will comply with the requirements of Australian Standard 2890.1 and the Liverpool DCP 2008, including:

- bay dimensions;
- aisles;
- ramps; and
- manoeuvring areas.

The assessment report notes that the servicing of the extension will be undertaken through the existing loading dock, and comments that this arrangement is suitable in terms of the capacity of the Goulburn Serviceway and the size of vehicles that will be required to access the loading dock.

Traffic Generation

Traffic surveys were undertaken to measure the number of vehicle accessing the existing car park areas and porte-cochere during both the morning and afternoon peak periods. The results of the surveys are as detailed in **Table 7** below.

Table 7 – Existing traffic movement survey results

Area	Morning		Afternoon	
	In	Out	In	Out
Car park	28	18	20	24
Porte-cochere	13	13	11	11
Total	41	31	31	35

The expanded hospital facilities are anticipated to generate additional traffic movements as detailed in **Table 8** below.

Table 8 – Anticipated additional traffic movements

Area	Morning		Afternoon	
	In	Out	In	Out
Car park	19	11	14	14
Porte-cochere	5	5	4	4
Total	24	16	18	18

The assessment report notes that these additional traffic movements will be split between multiple access points on both the Bigge Street and the Goulburn Serviceway frontages. The report concludes that it is apparent that there will not be any adverse traffic consequences as a result of the proposed development scheme.

Public Transport

There are several modes of transport available for patients, visitors and staff of the SSWPH. The site is located approximately 800 metres from Liverpool railway station and 750 metres from Warwick Farm railway station. Liverpool railway station is a major station on the South, Cumberland, Bankstown and Inner West lines, and incorporates a transport interchange.

Many bus routes service the surrounding suburbs of Liverpool and connect to Liverpool railway station, which is an 800 metre walk from the site. Bus route 823 provides a connection from Liverpool railway station to bus stops located within 100 metres of SSWPH.

These factors demonstrate that the site has excellent access to public transport services.

Pedestrians and Cyclists

The site is well connected through local pedestrian footpath networks. Signal controlled pedestrian crossings or pedestrian refuges are provided at the surrounding intersections to provide safe passage for pedestrians. The nature of the surrounding pedestrian network and the close proximity of bus stops to the site (as detailed above) are particularly important given that pedestrians visiting the site are likely to be vulnerable, impaired or elderly.

Cycling is facilitated in the area with dropped kerbs and slow speed limits encouraging cycling as a mode of transport. Similarly, the roads are relatively wide, providing ample space for cyclists and motorists to share the road safely. The NSW Planning Guidelines for Walking and Cycling sets the bicycle catchment for a five minute ride at approximately 1.5 kilometres. Liverpool and Warwick Farm railway stations are both located within 1.5 kilometres of the site meaning that cyclists can access rail services to the greater Sydney area.

Transport Access Guide and Workplace Travel Plan

The Traffic, Transport and Parking Assessment Report recommends that a Transport Access Guide and a Workplace Travel Plan be developed for the site to promote the use of public transport, walking and cycling for work related trips. It is anticipated that these documents would incorporate the following:

- public transport timetables and maps;
- key local walking and cycling routes;
- consideration regarding subsidising / salary sacrificing the cost of public transport tickets for staff;
- development of a travel plan booklet for staff and visitors; and
- establishment of transport information packs to new staff explaining the various ways (other than motor vehicle) of travelling to the site.

Implementing these measures would reduce the reliance on private vehicles, and would increase the use of non-care modes of travel for staff and patients. The preparation and implementation of these documents has been included in the draft Statement of Commitments at Section 7.0.

Traffic and Transport Conclusions

Overall, the Traffic, Transport and Parking Assessment Report concludes that:

- travel choices will be ensured by the convenient high capacity public transport services as well as the facilities available for pedestrians and cyclists;
- there will be no adverse traffic implications and no requirement for upgrading road works;
- the proposed parking provision will be constrained but adequate to avoid any excessive on-street demand; and
- the vehicle access, internal circulation and servicing arrangements will be satisfactorily and appropriate.

6.7 Crime and Public Safety

The proposal has been assessed against the core principles of Crime Prevention Through Environmental Design (CPTED):

Principle 1 – Natural Surveillance

The extension building has been designed so that a medical consultant suite at ground level overlooks the entrance. Visual barriers at this entrance to the building have been removed where possible to ensure that patients and visitors entering the building can be clearly seen.

At upper levels, windows to patient rooms and medical suites will provide a degree of overlooking and hence casual surveillance of the public domain.

Principle 2 – Access Control

The main pedestrian entry to the hospital will remain in its existing location. The extension to the hospital will have a secondary pedestrian access. This access will have controlled entry and is overlooked by a medical consulting suite. This will ensure that people entering and existing the building can be clearly seen and monitored if necessary. Access to the new car park areas will be via the existing controlled vehicular access points.

Staff reception areas are located in the vicinity of public access lifts to provide additional monitoring. Furthermore, all lifts will be capable of being access controlled to ensure that patients, staff and visitors can only enter permitted areas. In particular, access to the mental health unit and operating theatres will be restricted as appropriate.

Principle 3 – Territorial Reinforcement

Landscaping along the Bigge Street frontage and the provision of steps up to the entry foyer will reinforce the separation of the hospital from the public domain and adjoining footpath. The provision of security-controlled entrances to the car park will also emphasise the separation of the public and private domain.

Principle 4 – Maintenance

Durable and high-quality materials are proposed which will ensure that minimal maintenance is required for the proposed development. The use of varied facade treatments and provision of landscaping along the Bigge Street facade will discourage graffiti or the vandalism of the building.

The landscaping will be well-maintained by a landscaping contractor and the maintenance of the hospital buildings will be controlled by dedicated facilities manager. The continued maintenance of the building and its grounds will ensure that it does not become degraded and will ensure that vandalism of the property is strongly discouraged.

6.8 Ecologically Sustainable Development

AECOM have prepared an Ecologically Sustainable Development (ESD) Submission outlining the ESD initiatives to be incorporated into the development (refer to **Appendix E**). The proposed development has the potential to achieve a minimum 4 star Green Star Design rating (under the Green Building council of Australia's Green Star Healthcare v1 Design Tool).

A Part J compliance statement in accordance with the provision of the BCA will be required at the Construction Certificate stage. This is consistent with the recommendations of the BCA report at Section 6.12. The ESD measures to be adopted are described below.

Energy

- All patient wards and recovery rooms are strategically located on the perimeter of the building, maximising day light penetration and reducing the need for artificial lighting.
- Glazing will comply with Part J of the Building Code of Australia or better, improving the efficiency of climate control technology.
- Insulation will comply with Part J of the Building Code of Australia or better, reducing the heating and cooling load of mechanical systems and improving energy efficiency.
- Installed heating, cooling and ventilation systems will require minimum energy input.
- Artificial light fittings, lighting layout and lighting levels will be designed and specified to comply with Part J Energy Efficiency provisions of the Building Code of Australia (BCA) or better.
- Energy efficient lighting will be provided linked to daylight levels and movement activated controls will be installed in appropriate areas such as store rooms.
- Separate air conditioning systems for areas with different operating times to avoid wasting power, and thermal zoning on each air conditioned floor to allow energy efficient operation.
- Energy efficient mechanical system including outdoor air economy cycle where appropriate, heat recovery options, pressure sensing filters, variable speed drives.
- Power factor correction will be included on the mains supply;
- Car park mechanical ventilation system will include CO sensors to minimise wasteful operation.
- A smart building management system will be provided for assisting in the following:
 - Optimal start/stop time for air conditioning unit;
 - Economy cycles and night purge;
 - Cooling and heating lockouts, based on outdoor conditions to minimise energy wastage;
 - Indoor temperature set-point based on functionality and season; and
 - Monitor lighting consumption for undue use.

Water

- Significant reductions in potable water use will be made through the selection of water efficient faucets, toilet cisterns, low water use urinals, showerheads and water using appliances.
- Efficient landscape watering systems, such as soil moisture sensors, will be installed where appropriate. Planting will be zoned to optimise water efficiency.

Indoor Environment Quality

- Natural day lighting has been prioritised in the layout spaces of the building
- Patient bedrooms are situated to facilitate access to views to aid patient recovery.
- The design of the development will incorporate good practice sound attenuation levels in accordance with, or better than, AS2107 -2000 Acoustics.
- Where appropriate glare control devices, such as external louvers or internal blinds, will be installed.
- Where possible, staff and patients will be given individual control over heating, cooling, ventilation and lighting systems to minimise usage where not required.

Transport

- The site has excellent public transport access and is located within walking distance of two train stations.
- The proposed development will have weather-protected, secure parking for bicycles for staff and visitors on the basement level. Change rooms will also be provided for cyclists.
- Total additional car parking provision will consist of 34 car parking spaces. The provision of dedicated spaces for small cars (also suitable for hybrid and electric cars, motorbikes, mopeds and scooters) aims to encourage more efficient use of private transport.

Materials, Waste and Resources

- Preference will be given to building materials that are recycled, recyclable, renewable, locally sourced or have a reduced impact upon the environment.
- A Construction Waste Management Plan will be prepared and waste reduction targets set.
- Dedicated spaces will be provided within the development to facilitate recycling. An Operational Waste Management Plan will be prepared.
- Steps will be taken to reduce the amount of PVC and other harmful materials used during the construction and fit out of the proposed development.

Social Issues Health and Well Being

- The building extension incorporates an internal courtyard, providing opportunities for staff, patients and visitors to relax and socialise. This may lead to reduced recovery time for patients.
- A Building User's Guide will be provided for the management and staff of SSWPH. The Guide would contain information on the building's architectural design and engineering systems and how they are operated to optimise sustainability performance during the operational phase of the development.

Recommendations

The following measures from the above assessment have been included in the draft Statement of Commitments at Section 7.0.

- Preparation of a Construction Waste Management Plan and Operational Waste Management Plan prior to issue of a construction certificate.
- Preparation of a Building User's Guide prior to issue of the occupation certificate.

6.9 Stormwater and Drainage

As described in Section 4.8, AECOM have advised that surface water drainage will discharge by gravity into the storm water system in the Goulburn Serviceway via an on-site detention tank. A Stormwater Management Plan prepared by Aecom is provided at **Appendix F**.

The stormwater drainage system will be sized for a 1 in 20 year rainfall intensity. Over flow systems will be sized for a rainfall intensity in excess of the 1 in 100 years. The design will minimise negative impacts on surrounding neighbours. The final design of the stormwater infrastructure will be developed and integrated into the ground plane design as part of construction works.

6.10 Contamination and Geotechnical Assessment

Douglas Partners have undertaken a Waste Classification Assessment of the site, included within **Appendix H**. Seven samples were obtained from across the site, and the following findings were made:

- The site has been covered with a shallow layer of fill that mainly consists of sand, clay, and gravel with some charcoal, roots and anthropogenic material. The thickness of the fill ranges from 0.2 to 0.7 metres.
- The fill material can be classified as 'general solid waste (non-putrescible)' and is therefore not contaminated.
- The natural soil under the fill can be classified as VENM, and therefore is also considered not to be contaminated.

Douglas Partners have also undertaken a geotechnical assessment of the site (refer **Appendix C**). This investigation consisted of drilling five test bores followed by testing and evaluation. The results show relatively uniform conditions across the site, with stiff or hard clay or shaly clay to depths of 1.8 to 3.0 metres overlaying extremely low strength siltstone.

The report was prepared for the previously approved development on the site, and as such it contains design recommendations and protection measures relating to that development. The draft Statement of Commitments (refer Section 7.0) includes a measure to ensure the preparation of a revised geotechnical investigation to detail appropriate design requirements and mitigation measures for the proposed works.

6.11 Salinity

A Report on Salinity Assessment was prepared by Douglas Partners (refer **Appendix J**) to assess the potential impacts of saline soils on the proposed development and consider the impact of the works on the existing salinity characteristics of the site.

The site was identified as being located in an area of moderate salinity potential, due primarily to the fact that it is underlain by weathered shale from the Wianamatta Group of rocks.

Investigations on the site have shown that the proposed excavation and basement will not penetrate into the permanent groundwater table and rainwater infiltration into the site will be greatly reduced by the proposed building. Provided appropriate design and construction measures are adopted to allow for concrete to be in contact with moderately saline soils and to minimise water infiltration into the soils, then it is considered that no further action is required.

The Salinity Assessment also provides a number of management practices to be implemented to both minimise the impact of the development on site salinity and minimise the impact of salinity on the development. These measures are referred to in the draft Statement of Commitments at Section 7.0.

6.12 Noise

An Acoustic Submission has been prepared for the proposed development by AECOM (**Appendix G**). The submission addresses the following acoustic issues in relation to the proposed development:

- environmental noise monitoring;
- acoustic design criteria;
- construction noise and vibration criteria; and
- noise assessment and recommendations.

The submission concludes that appropriate environmental noise emission criteria for the development have been established and are based upon the measured background noise level, Liverpool City Council guidelines and the Department of Environment, Climate Change and Water's Industrial Noise Policy. Recommendations are provided to ensure environmental noise emissions from mechanical services and the operation of the development do not exceed relevant criteria. Importantly, there are no acoustic conditions that would preclude the proposed development from proceeding.

The requirement for a Construction Noise and Vibration Management Plan are included in the draft Statement of Commitments at Section 7.0.

6.13 BCA

Blackett Maguire + Goldsmith has undertaken a review of the proposal for compliance with the Building Code of Australia (BCA) and prepared a Preliminary Report (**Appendix K**).

The building is assessed as a 'health care building' in accordance with the provisions of the BCA and contains Class 5, 7a and 9a facilities for the purposes of the BCA. The report provides measures to be incorporated into the detailed design documentation to achieve compliance with the BCA. It is considered that any required changes can be adequately addressed at the construction certificate stage without generating any inconsistencies with the Project Approval.

The report deems the proposal capable of satisfying the relevant fire and life safety and health and amenity requirements of the BCA. It is noted that the proposed development will be in accordance with Part J of the BCA 2010 which relates to energy efficiency, and that statements of compliance for this part will be required before a construction certificate is issued for the project.

Compliance with the recommendations of the BCA Report has been included in the draft Statement of Commitments at Section 7.0.

6.14 Accessibility

The proposed development has been designed with due consideration to the requirements of the Federal Disability Discrimination Act (DDA), the Building Code of Australia (BCA), the Australian Standards (AS) 1428.1 (Design for Access and Mobility) and 1428.2 (Enhanced and additional requirements – buildings and facilities) and the Liverpool DCP 2008.

The particular elements of the building that are to achieve compliance include site access, ingress and egress, circulation areas, passenger lifts, accessible car parking, accessible sanitary facilities, lighting and signage. Continuous accessible paths of travel are designed within the building, and the proposal demonstrates a reasonable degree of accessibility.

To ensure that the development achieves the required level of accessibility, the following recommendations have been included in the draft Statement of Commitments at Section 7.0:

- The development will achieve optimum compliance with the following standards:
 - AS 1428.1 – (80% of people with disabilities accommodated)
 - AS1428.2 – (90% of people with disabilities accommodated)
 - AS1735.12- (Lifts, Escalators and Moving Walks – Facilities for Persons With Disabilities)
 - Building Code of Australia
 - Disability Discrimination Act
- Two of the proposed additional car parking spaces will be designated as accessible parking and be reasonably located adjacent to the passenger lifts.
- The accessible parking bays will comply with AS2890.6 (2.4m wide bay with an adjoining 2.4m wide shared zone).

6.15 Waste

The following indicates the procedures to be implemented to manage waste through the construction and operational phases of the development. A formal Waste Management Plan will be prepared prior to the commencement of works, (as reflected in the draft Statement of Commitments at Section 7.0), however it should be noted that that construction waste will be handled according to industry best practice and operational waste management will be incorporated into SSWPH's existing systems.

Demolition and Site Preparation

As the site is currently vacant, no major demolition is required. Minor demolition works will be required to the existing hospital buildings to allow the proposed extension to be appropriately integrated. Where appropriate, materials will be reused or recycled, including the following:

- concrete;
- steel;
- green waste;
- bricks and tiles;
- plasterboard; and
- timber.

Any material that cannot be recycled or reused will be disposed to an approved landfill facility. Any asbestos, hazardous materials and/or intractable wastes will be disposed of in accordance with Workcover Authority and EPA requirements to licensed off-site facilities.

Construction

The long-term management of the site during the construction stage will be by the Head Contractor. The Head Contractor will prepare operating plans that will identify the following:

- environmental objectives;
- control systems supporting each objective;
- maintenance requirements for each control system;
- routine monitoring requirements for each control system;
- range of acceptable values for monitored parameters;
- action levels which trigger intervention in response to monitoring observation;
- a documentation protocol to record maintenance activities, monitoring results, non-conformances, and actions to rectify any non-conformance; and
- a reporting procedure to ensure effective communication of information.

Operational Waste

The existing hospital currently generates the following streams of waste:

- clinical waste;
- co-mingled recycling;
- paper for shredding then recycling; and
- general sewage wastes.

The extension to the hospital will not generate any new streams of waste, rather more waste will be generated in each of these existing streams. It should be noted that SSWPH does not (and will not) use any nuclear materials for its operations, and as such collection for this material is not required.

The contaminated and biological waste system is not connected to the sewage discharge system and consist of solids and liquid containers for the retention of wastes. These containers are collected by a registered and approved biological hazards waste contractor (currently SteriCorp). The existing collection arrangements will be extended to cover the expanded operations of the hospital.

General sewage will be connected to the Sydney Water Sewer. Only general sewage articles will be permitted for discharge to the sewer. Measures to be adopted to ensure the appropriate disposal of waste will include:

- Training of staff to dispose of contaminated and potentially contaminated wastes (including biological hazard wastes) into the appropriate receptacles for collection by the biowastes and contaminated wastes contractor.
- Erection of signs all discharge points to sewer indicating that "Non-Hazardous Wastes Only" shall be discharged to sewer points.

The above procedures and actions in relation to the appropriate handling, storage and disposal of hazardous wastes are included within the draft Statement of Commitments as Section 7.0.

6.16 Air and Odour Quality

The proposed development will not give rise to any unacceptable odour impacts. In terms of impacts on the development from the Liverpool Sewerage Treatment Plant, the facilities are separated by a distance of approximately 900 metres. At this distance, odour impacts on the development from the plant are unlikely. Furthermore, the site is well outside the buffer zone for the treatment plant as identified on the *Draft NSW Best Practice Odour Guideline* (April 2010).

6.17 Flora and Fauna

The proposed works are to be undertaken on a currently vacant site that has been filled and is vegetated with introduced weeds and grasses. It is therefore not considered necessary to assess the proposal in terms of its impacts on flora and fauna, including threatened species, populations and endangered ecological communities and their habitats.

6.18 Heritage

European Heritage

As noted in Section 2.8, the subject site does not include a heritage item and is not located within a conservation area under Liverpool LEP 2008. However, 13 Bigge Street is in the general vicinity of the subject site and is listed as an item of environmental heritage in the LEP. Furthermore, Bigge Street forms part of the road network that defines the early town centre street layout of Liverpool, which is also listed as an item of environmental heritage in the Liverpool LEP.

The proposed work will not materially affect the heritage significance of either 13 Bigge Street or the road network of the early town centre. The proposed development is located on the other side of the road and at a distance of approximately 50 metres from 13 Bigge Street, and furthermore there are already a number of buildings of a similar bulk and scale to that proposed in the immediate vicinity of the heritage item.

The proposed works do not seek to amend the alignment of Bigge Street, and hence the heritage significance of the early road network will be preserved.

Aboriginal Heritage

The Waste Classification and Geotechnical Assessments carried out by Douglas Partners (refer **Appendix H** and **C**) indicated that the site is highly disturbed and has been filled to a depth of 0.2 to 0.7 metres. Such site conditions do not generally match the description of landscape where aboriginal sites would typically occur, and therefore the potential for the site to contain aboriginal archaeology is limited. Furthermore, the Section 149 Certifies issued by Liverpool City Council revealed that there are no known Aboriginal sites or places on the land.

6.19 Hazardous Goods

No hazardous goods are to be stored within the proposed building extension. It should be noted that the existing hospital does incorporate medical oxygen storage. This oxygen is a dangerous good as defined under the provisions of the *Australian Dangerous Goods Code*. However, Class 2.2 gases (which includes oxygen) are not captured by SEPP 33.

6.20 Construction Management

It is anticipated that a conventional building contract will be let for the construction of the extension to SSWPH. It is this builder who will resolve the exact details of the construction management approach, however it is anticipated that the following measures will be addressed:

- As the footprint of the basement generally covers the whole of the site, construction accommodation will be located above the Bigge Street footpath;
- Given the limited width of and current use of Goulburn Serviceway, it is anticipated that most construction access will be via Bigge Street across construction crossings to be installed by the builder;
- Limited access may be required to the Goulburn Serviceway for works such as the installation of the rear facade elements;
- Soldier piling will be required to support the sidewalls of the excavation for the basement levels;
- Dust suppression techniques will be employed throughout the excavation process;
- Construction will be carried out during the normal working hours adopted by the building industry. However, the work required to link the new building into the existing hospital will be required to be carried out at times of low levels of activity within the hospital. Christmas or school holiday periods are preferred but some works on the linkages may be required, outside of normal working hours.
- Noise generation will be minimised throughout the construction period for the consideration for existing hospital patients and staff, as well as surrounding building occupants. A construction management plan will be prepared prior to the commencement of works that incorporates a construction noise and vibration management control plan (refer to draft Statement of Commitments at Section 7.0).

Sedimentation Control

To control erosion and sedimentation, the following measures will be in the construction management plan.

- All stormwater inlets servicing the project area will be sealed to prevent ingress of any runoff;
- Disturbed sections of the site will be surrounded with a small bund of clean earth to capture eroded material runoff in the event of an intense rainfall event. Once completed the embankment will be immediately covered with a geofabric barrier which will stabilise the surface;
- A dust suppressant comprising will be applied over the clean soil cover following placement to stabilise the ground surface;
- Truck loads will be covered with tarpaulins prior to leaving the site to prevent dust emissions whilst in transit;
- Trucks will exit through a vehicle shakedown area to remove any material that may be adhering to tyres and wheels. The shakedown will be self contained with a sealed base to prevent leaching into the soil; and
- The road condition at the entrance and exit to the work site will be monitored and swept or washed as necessary.

In relation to construction management, the following documents will be prepared as detailed in the draft Statement of Commitments (refer Section 7.0):

- Construction traffic management plan;
- Construction waste management plan;
- Construction noise and vibration management control plan; and
- Erosion and sedimentation control plan.

6.21 Utilities

As described in Section 4.9, the proposed development will connect to existing water, gas, electrical and telecommunications services in the vicinity. To ensure these connections are approved by the relevant authorities, appropriate requirements have been included within the draft Statement of Commitments at Section 7.0.

6.22 Economic and Social Benefits

The Liverpool medical precinct is one of the major employers in the south western subregion. The expansion of the existing SSWPH will deliver a number of economic and social benefits for the region, including:

- Providing a modern, enlarged, high quality, and attractive hospital within a cluster of existing medical uses, further strengthening the medical role of the centre;
- Generating approximately 80 new jobs, together with creating a number of construction jobs;
- Strengthening the role of Liverpool as the main employment hub of the region;
- Providing additional health care services to a growing population;
- Providing new employment opportunities in an area well connected to public transport; and
- Improving the quality of medical facilities available to the public.

6.23 Site Suitability and Project Justification

The suitability of the site has been considered from a medical operational perspective as well as from a site, development and environmental capacity perspective. The site is considered suitable for the Project for the following reasons:

- The subject site is currently used for medical related purposes, being the SSWPH;
- The site forms part of a medical and knowledge cluster that provides important economic and social benefits to the community;
- The provision of a new and modern medical facility will further support and strengthen the medical cluster of uses;
- The proposal will strengthen the identity of SSWPH, so as to improve the profile of the medical cluster and its association with high quality health care;
- The site is well connected to public transport and is located in close proximity to a Major Centre (Liverpool);
- The area and shape of the site allows for the provision of an enlarged hospital building that meets the special design requirements of a medical facility, whilst not resulting in any significant adverse impacts on surrounding residential dwellings in terms of overshadowing or view loss;

- The site does not share any common boundaries with any properties currently developed for residential purposes;
- Buildings with large site coverage and of a relative scale are a feature within the medical precinct;
- The provision of dedicated car parking on site to serve the needs of the expanded SSWPH will not contribute to parking stress in the surrounding streets;
- The environmental investigations of the site and soil conditions demonstrate that the proposed use and design of the building is suitable for the site based on contamination and salinity; and
- The proposal further supports the use and viability of local public transport infrastructure through the provision of additional patronage.

7.0 Draft Statement of Commitments

7.1 Traffic Management

The proponent commits to the following:

- preparation and adoption of a Transport Access Guide and a Workplace Travel Plan prior to the issue of an occupation certificate;
- preparation and adoption of a construction traffic management plan prior to issue of a construction certificate.

7.2 Ecologically Sustainable Development

The proponent commits to the following:

- Preparation of a Construction Waste Management Plan and Operational Waste Management Plan prior to issue of a construction certificate.
- Preparation of a Building User's Guide prior to issue of the occupation certificate.

7.3 Geotechnical Investigation

The proponent commits to the following:

- Preparation of a revised geotechnical investigation to detail appropriate design requirements and mitigation measures for the proposed works.

7.4 BCA and Accessibility

BCA

The proponent commits to providing a development which is compliant with the BCA 2010 and developing alternative solutions where practicable as outlined in the BCA Report prepared by Blackett Maguire + Goldsmith.

Fire Safety

The proponent commits to constructing a building in accordance with the BCA, and where required to developing alternative solutions which comply with the relevant performance requirements of the BCA 2010.

Energy Efficiency

The proponent commits to providing a development that at a minimum complies with Part J of the BCA 2010.

Accessibility

- The development will achieve optimum compliance with the following standards:
 - AS 1428.1 – (80% of people with disabilities accommodated)
 - AS1428.2 – (90% of people with disabilities accommodated)
 - AS1735.12- (Lifts, Escalators and Moving Walks – Facilities for Persons With Disabilities)
 - Building Code of Australia
 - Disability Discrimination Act
- Two of the proposed additional car parking spaces will be designated as accessible parking and be reasonably located adjacent to the passenger lifts.
- The accessible parking bays will comply with AS2890.6 (2.4m wide bay with an adjoining 2.4m wide shared zone).

7.5 Construction Management

The proponent commits to implementing the following plans during the construction phase. The following documents will be prepared prior to the commencement of works:

- Construction traffic management plan;
- Construction waste management plan;
- Construction noise and vibration management control plan; and
- Erosion and sedimentation control plan.

7.6 Waste Management

The proponent commits to the following:

- Preparing a detailed operational waste management plan prior to issue of a occupation certificate;
- Employing a registered and approved biological hazards waste contractor for the collection of contaminated and biological waste generated by the operation of the development;
- Training staff to dispose of contaminated and potentially contaminated wastes (including biological hazard wastes) into the appropriate receptacles for collection by the biowastes and contaminated wastes contractor; and
- Erecting signs on all discharge points to sewer indicating that “Non-Hazardous Wastes Only” shall be discharged to sewer points.

7.7 Utilities

The proponent commits to liaise and obtain approval from all relevant service providers in regard to the provision of utility services to the site.

7.8 Consultation

This Project Application commits to ongoing public consultation throughout the process as considered relevant and that builds upon the findings and recommendations of the Project Application and supporting appendices.

8.0 Conclusion

Healthscope seeks approval for the following works to extend the existing Sydney Southwest Private Hospital (SSWOPH) at 24-40 Bigge Street, Liverpool:

- excavation for and construction of a basement car park with 34 car parking spaces;
- construction of an extension to the existing hospital building comprising 4,878.3 m² of gross floor area; and
- provision of landscaping and construction of associated physical infrastructure.

The expanded SSWPH presents a significant opportunity to improve medical services to the community. The internal design will provide the SSWPH with the facilities to provide increased operating theatre, inpatient, mental health and medical consulting services.

The development is permissible under the ISEPP within the R4 zone and complies with the zone objectives, as well as State Government strategic planning documents for the site. The proposal is of significant merit and will provide an expanded modern hospital that guarantees the long term viability of the SSWPH. The design demonstrates design excellence and minimal visual and overshadowing impacts.

The environmental impacts of the proposal including traffic generation and car parking; acoustic, wind impacts; contamination and geotechnical matters; stormwater, drainage, heritage; and construction are negligible or can be appropriately managed through the adoption of the sub-consultants recommendations and/or preparation of relevant plans of management.

The significant economic and social impacts including the creation of construction and operational jobs, strengthening the role of Liverpool as the main employment hub of the region; providing additional health care services to a growing population; providing new employment opportunities in an area well connected to public transport; and improving the quality of medical facilities available to the public.

Having regard to the above, it is considered that the project will provide environmental, social and economic benefits and accordingly we recommend the Minister for Planning approve the application.