


**ST GEORGE HOSPITAL ACUTE SERVICES BUILDING REDEVELOPMENT**  
STATE SIGNIFICANT DEVELOPMENT APPLICATION AND ENVIRONMENTAL IMPACT STATEMENT  
PROJECT REFERENCE: SSD 7024



 <p><b>LFA (PACIFIC) PTY LIMITED</b></p> <p>MASTERPLANNING URBAN DESIGN ARCHITECTURE LANDSCAPE ARCHITECTURE INTERIORS</p> <p><small>SUITE 4, EDGECLIFF COURT, 2 NEW McLEAN ST, EDGECLIFF NSW 2027 M PO BOX 259, EDGECLIFF NSW 2027 T 02 9327 6822 F 02 9327 5554 E lfa@lfa.com.au W www.lfa.com.au ABN 92 930 134 905 OM ISO 9001-2008</small></p> <p><small>NOMINATED ARCHITECTS ALF LESTER NO.2128 STEPHEN ANDERS NO.5764</small></p> <p><small>LFA (Pacific) Pty Ltd. All rights reserved. This work is covered by copyright and cannot be reproduced or copied in any form or by any means without written permission of LFA (Pacific) Pty Ltd.</small></p>	<b>Report</b>	<b>Development Application and Environmental Impact Statement</b>	Rev	Amendments	Date	
	<b>Project</b>	St George Hospital Acute Services Building Redevelopment	00	Draft Issue to Aurora Projects	12th Dec 2014	
	<b>Project Status</b>		01	Revised Draft Issue to Health Infrastructure	30th April 2015	
	<b>EA Director</b>	Alf Lester	02	Work In Progress Draft Issue to Health Infrastructure for HI Internal Review	15 June 2015	
	<b>Checked by</b>	Health Infrastructure / Johnstaff	03	Revised Draft Issue to Health Infrastructure for Review	16 June 2015	
	<b>Date Issued</b>	19 June 2015	04	For Public Exhibition	19 June 2015	
	<b>Issue Type</b>	For Public Exhibition	05	Revised for Public Exhibition	19 June 2015	
	<b>Applicant</b>	Health Infrastructure on behalf of Health Administration Corporation				

# TABLE OF CONTENTS

STATEMENT OF VALIDITY.....	V	3.4 BUILT FORM AND ARCHITECTURAL DESIGN.....	22	5.10 GROUNDWATER .....	51
EXECUTIVE SUMMARY.....	VI	3.5 REFURBISHMENT WORKS.....	31	5.11 HAZARDS .....	51
SCHEDULE OF SECRETARY’S ENVIRONMENTAL ASSESSMENT REQUIREMENTS.....	VII	3.6 ECOLOGICALLY SUSTAINABLE DESIGN.....	31	<b>6.0 ENVIRONMENTAL RISK ASSESSMENT.....</b>	<b>52</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>	3.7 DESIGN OPTIONS .....	32	<b>7.0 JUSTIFICATION OF THE DEVELOPMENT .....</b>	<b>55</b>
1.1 PURPOSE OF THE REPORT.....	1	3.8 CONSULTATION.....	33	7.1 PRECAUTIONARY PRINCIPLE .....	55
1.2 STRUCTURE OF THE REPORT .....	2	<b>4.0 ASSESSMENT OF ENVIRONMENTAL IMPACTS ....</b>	<b>34</b>	7.2 INTER-GENERATIONAL EQUITY .....	55
1.3 BACKGROUND.....	3	4.1 STATUTORY AND STRATEGIC CONTEXT .....	35	7.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY.....	55
1.4 ENABLING WORKS .....	4	4.2 POLICIES.....	35	7.4 IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS .....	55
1.5 FUTURE DEVELOPMENT.....	4	4.3 LOCAL PLANNING INSTRUMENTS AND PLANS .....	37	<b>8.0 CONCLUSION .....</b>	<b>56</b>
1.6 NEED FOR THE PROJECT.....	4	4.4 BUILT FORM AND URBAN DESIGN .....	38	SCHEDULE OF APPENDICES.....	57
1.7 THE HOSPITAL SITE .....	5	4.5 ENVIRONMENTAL AMENITY .....	41		
1.8 DEVELOPMENT FOR WHICH APPROVAL IS SOUGHT .....	5	4.6 TRANSPORT AND ACCESSIBILITY .....	41		
1.9 CONSULTATION.....	6	4.7 ECOLOGICAL SUSTAINABLE DEVELOPMENT (ESD).....	45		
1.10 THE PROPONENT AND STUDY TEAM.....	6	4.8 HERITAGE .....	46		
<b>2.0 SITE ANALYSIS .....</b>	<b>7</b>	4.9 NOISE AND VIBRATION.....	46		
2.1 REGIONAL CONTEXT.....	7	4.10 CONTAMINATION.....	47		
2.2 LOCAL CONTEXT.....	8	4.11 UTILITIES.....	47		
2.3 SITE CONTEXT .....	9	4.12 CONTRIBUTIONS.....	48		
2.4 ST GEORGE HOSPITAL.....	11	4.13 DRAINAGE.....	48		
2.5 ZONING .....	12	4.14 WASTE.....	49		
2.6 LAND OWNERSHIP.....	13	<b>5.0 MITIGATION MEASURES .....</b>	<b>50</b>		
2.7 ORIENTATION .....	14	5.1 BUILT FORM AND URBAN DESIGN .....	50		
2.8 ACCESS .....	15	5.2 ECOLOGICALLY SUSTAINABLE DEVELOPMENT .....	50		
<b>3.0 THE DEVELOPMENT PROPOSAL .....</b>	<b>18</b>	5.3 AMENITY .....	50		
3.1 INTRODUCTION.....	18	5.4 NOISE AND VIBRATION.....	50		
3.2 SITE PLANNING AND PHASING .....	19	5.5 TRANSPORT AND ACCESSIBILITY IMPACTS.....	51		
3.3 ACCESS.....	21	5.6 HERITAGE .....	51		
		5.7 EXISTING STRUCTURES ON SITE.....	51		
		5.8 INFRASTRUCTURE AND UTILITIES .....	51		
		5.9 SEDIMENT, EROSION AND DUST CONTROLS (CONSTRUCTION AND EXCAVATION).....	51		

## SCHEDULE OF FIGURES

FIGURE 01: SGH ASB Redevelopment Master Plan.....	3
FIGURE 02: St George Hospital Redevelopment Enabling Works .....	4
FIGURE 03: SGH ASB Redevelopment .....	5
FIGURE 04: Metropolitan Sydney Local Health Networks .....	7
FIGURE 05: South Eastern Sydney Local Health District .....	7
FIGURE 06: Local Context.....	8
FIGURE 07: Site Context .....	10
FIGURE 08: Zoning .....	12
FIGURE 09: Land Ownership.....	13
FIGURE 10: Solar Orientation.....	14
FIGURE 11: Public Transport .....	15
FIGURE 12: Vehicular Access.....	16
FIGURE 13: Pedestrian Access .....	17
FIGURE 14: Rendering of SGH ASB Redevelopment from Gray Street.....	18
FIGURE 15: Master Plan Zones.....	19
FIGURE 16: Elements of the SGH Master Plan for which approval is being sought .....	20
FIGURE 17: Sectional stacking diagram.....	22
FIGURE 18: Department Location Plans.....	23
FIGURE 19: Department Location Plans.....	24
FIGURE 20: Department Location Plans.....	25
FIGURE 21: ASB Redevelopment 3D Imagery .....	26
FIGURE 22: West Elevation Existing .....	27
FIGURE 23: St George Hospital Redevelopment ASB Elevations.....	28
FIGURE 24: St George Hospital Redevelopment Stage 2 Integration ..	29
FIGURE 25: Indicative Colours and Materials Palette.....	30
FIGURE 26: View of ASB from the junction of Belgrave Street and South Street .....	38
FIGURE 27: View of ASB site from the north on Gray Street.....	39
FIGURE 28: View of ASB site from the south on Gray Street .....	39

FIGURE 29: View of ASB from the corner of Short Street and Gray Street.....	40
FIGURE 30: View of ASB site from corner of Kensington Street and Belgrave Street .....	40
FIGURE 31: Proposed Traffic Circulation .....	42

## SCHEDULE OF TABLES

TABLE 01: Principal Consultant Team.....	6
TABLE 03: Future Parking Demand vs Supply (Source: Arup) .....	21
TABLE 04: Additional Parking Supply (Source: Arup) .....	21
TABLE 05: Analysis of Design Options.....	32
TABLE 06: Forecast Traffic Generation (Source: Arup).....	43
TABLE 07: Materials to be disposed of or recycled during construction phase (Source: Aurora).....	49
TABLE 08: Environmental Risk Assessment Values .....	52
TABLE 09: Environmental Risk Analysis .....	53

## STATEMENT OF VALIDITY

### Submission of State Significant Development Application and Environmental Impact Statement

Prepared under the Environmental Planning and Assessment Act 1979

#### Environmental Assessment prepared by

<b>Name</b>	Alf Lester
<b>Qualifications</b>	Bachelor of Architecture (Hons), University of NSW, 1964 Dip. Civic Design (Distinction), Edinburgh University, 1967 Fellow of the Australian Institute of Architects Member of Planning Institute of Australia
<b>Address</b>	LFA (Pacific) Pty Ltd 4/2 New McLean Street Edgecliff NSW 2027

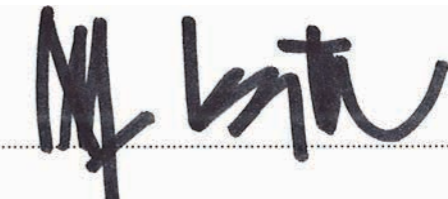
#### Applicant & Land Details

<b>Applicant Name</b>	Health Infrastructure on behalf of Health Administration Corporation (HAC)
<b>Applicant Address</b>	Level 6, 77 Pacific Highway NORTH SYDNEY NSW 2060
<b>Land to be developed</b>	St George Hospital, Gray Street, Kogarah NSW 2217
<b>Lot &amp; DP</b>	Lot 12 DP 800476, Lots 1-6 DP1130879, Lot 1 DP 791071, Lot 1 DP 791072, Lots 1-3 SEC C DP 976627, Lots 8-9 DP 976627, Lot 4 DP 971931, Lot 1-2 DP 971931, Lot 1 DP 971532, Lot 7 DP 1105995

#### Environmental Assessment

<b>Statement of Validity</b>	I certify that I have prepared the contents of this Application are in accordance with the Secretary's Environmental Assessment Requirements dated 14 May, 2015 and that to the best of my knowledge, the information contained in the environmental assessment is neither false nor misleading.
------------------------------	--

Signature



Date

19 June 2015

## EXECUTIVE SUMMARY

The proposed St George Hospital (SGH) Acute Services Building (ASB) Redevelopment forms part of a wider program for the delivery of improved health services in the South Eastern Sydney Local Health District (SESLHD).

The development for which approval is sought comprises:

- The ASB (approximately 28,500m<sup>2</sup> of new construction)
- Vertical expansion of the multi-level carpark on Gray Street with 128 new car spaces over 2 levels
- Refurbishment of approximately 4,800m<sup>2</sup> of the existing hospital buildings once those services are relocated to the ASB upon its completion

The St George Hospital (SGH) occupies a 5.17 hectare site, bounded by Gray Street to the southwest, Kensington Street to the north-west, as well as segments of Belgrave, South and Chapel Streets and St George Private Hospital to the south and east.

The main entry to the hospital is from Gray Street, with adjacent access to the multi-level carpark. The new Emergency Department (ED) was completed on the Gray Street frontage of the hospital in October 2014. Ambulance access to the covered ED ambulance bay is provided by a dedicated entry and exit point set apart from the main entrance driveway to the hospital.

THE SGH ASB Redevelopment is State Significant Development (SSD) under Clause 14 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2001, given the capital investment value is more than \$30 million. Accordingly planning approval is sought under the SSD provision of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The proposed SGH ASB Redevelopment will have an estimated capital investment in the order of \$204 million and will provide approximately 825 construction and 303 Full Time Equivalent operational jobs.

The key objective of the proposal is to deliver high quality integrated health services and clinical outcomes in the South Eastern Region and maximise the range and breadth of services available to the regional community.

The SGH ASB Redevelopment is an important follow-on to the opening of the new ED. It is the next step in a series of long-term major changes to the campus, establishing expansion zones and new facility development opportunities that provide the platform and environment in which new and more integrated models of care can be realised. It enables a significant improvement in capacity to respond to current and projected demand.

Master planning studies have identified opportunities to create a campus that can be progressively updated as facilities need replacement and refurbishment, ensuring a coherent plan to adapt to evolving models of care and changes in demand for particular services.

The principal drivers for the redevelopment planning are the future health services that the campus will deliver and how to best accommodate and adapt to changes in the delivery of these services – to have greater flexibility within what is already a highly congested arrangement.

In order to effectively manage current and future activity and ensure patients receive timely, safe and high quality care, the hospital has determined the following infrastructure is required to meet service priorities:

- Expansion of intensive care with 52 new ICU beds
- Operating theatre expansion with 8 new theatres
- Expansion of inpatient bed accommodation with 128 new IPU beds

In developing the design of the ASB Redevelopment, a range of development alternatives was explored. Systematic analysis determined that the only viable option was for the ASB to be collocated above the new ED and adjacent Clinical Services Building (CSB) and Tower Ward Block (TWB).

The consequences of not proceeding with the development would be that NSW Health will be unable to meet the future health care demands with serious implications for the health and wellbeing of the local and regional community.

The functional requirements of the proposed infrastructure have been carefully balanced against the need to safeguard the amenity and environmental quality of the site and its context.

An assessment of environmental impacts together with an environmental risk assessment has been carried out in accordance with the Secretary's Environmental Assessment Requirements (SEARs). The assessment demonstrates that apart from impacting on solar access to adjacent residential development there are no significant environmental impacts associated with the proposed works. Where relevant, a range of mitigation measures have either been integrated into the design approach or proposed to ensure that there are no adverse environmental impacts.

The proposed development is of great public benefit justified on the basis that it is in accordance with the Ecological Sustainable Development (ESD) principles of precaution, inter-generational equity, and improved valuation, pricing and incentive mechanisms.

Accordingly, the Minister's favourable consideration of the State Significant Development Application (SSDA) is sought.



REFER TO

<b>3.</b>	<b>Built Form and Urban Design</b>	<b>Section 4.4</b>
<ul style="list-style-type: none"> <li>• Address the height, density, bulk and scale, and setbacks of the proposal in relation to the locality and the surrounding development, topography and streetscape.</li> <li>• Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles.</li> <li>• Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.</li> </ul>		

<b>4.</b>	<b>Environmental Amenity</b>	<b>Section 4.5</b>
<p>Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, lighting impacts and wind impacts. A high level of environmental amenity for any immediately adjacent residential land uses must be demonstrated, or detailed justification provided where significant impacts cannot be avoided.</p>		

REFER TO

<b>5.</b>	<b>Transport and Accessibility</b>	<b>Section 4.6</b>
<p>Include a transport and accessibility assessment, which details, but is not limited to, the following:</p> <ul style="list-style-type: none"> <li>• the existing and proposed pedestrian and cycle movements within the vicinity of the site;</li> <li>• an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips;</li> <li>• the adequacy of public transport to meet the likely future demand of the proposed development;</li> <li>• measures to promote travel choices that support the achievement of State targets, such as a location-specific sustainable travel plan;</li> <li>• the daily and peak vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/ associated funding for upgrading or road improvement works (if required);</li> <li>• the proposed access arrangements and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks;</li> <li>• proposed car and bicycle parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards;</li> <li>• service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and</li> <li>• traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact.</li> <li>• <i>Relevant Policies and Guidelines:</i> <ul style="list-style-type: none"> <li>– <i>Guide to Traffic Generating Developments (RTA)</i></li> <li>– <i>EIS Guidelines – Road and Related Facilities (DoPI)</i></li> <li>– <i>NSW Planning Guidelines for Walking and Cycling</i></li> <li>– <i>Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development</i></li> </ul> </li> </ul>		

REFER TO	
<p><b>6. Ecologically Sustainable Development (ESD)</b></p> <ul style="list-style-type: none"> <li>Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development.</li> <li>Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.</li> <li>Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.</li> </ul>	<p><b>Section 4.7</b></p>
<p><b>7. Heritage</b></p> <p>The EIS shall include a statement of significance and an assessment of the impact on the heritage significance of any heritage items and/or conservation areas and/or potentially archaeologically significant areas in accordance with the guidelines in the NSW Heritage Manual.</p>	<p><b>Section 4.8</b></p>
<p><b>8. Noise and Vibration</b></p> <p>Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.</p> <p><i>Relevant Policies and Guidelines:</i></p> <ul style="list-style-type: none"> <li>NSW Industrial Noise Policy (EPA)</li> <li>Interim Construction Noise Guideline (DECC)</li> <li>Assessing Vibration: A Technical Guideline 2006</li> </ul>	<p><b>Section 4.9</b></p>
<p><b>9. Contamination</b></p> <p>Demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.</p> <p><i>Relevant Policies and Guidelines:</i></p> <ul style="list-style-type: none"> <li>Managing Land Contamination: Planning Guidelines - SEPP 55</li> <li>Remediation of Land (DUAP)</li> </ul>	<p><b>Section 4.10</b></p>

REFER TO	
<p><b>10. Utilities</b></p> <ul style="list-style-type: none"> <li>Preparation of an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure.</li> <li>Preparation of an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.</li> </ul>	<p><b>Section 4.11</b></p>
<p><b>11. Contributions</b></p> <p>Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.</p>	<p><b>Section 4.12</b></p>
<p><b>12. Drainage</b></p> <p>Detail drainage associated with the proposal, including stormwater and drainage infrastructure.</p>	<p><b>Section 4.13</b></p>
<p><b>13. Waste</b></p> <p>Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.</p>	<p><b>Section 4.14</b></p>

Plans and Documents	REFER TO
<p>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.</p> <p>In addition, the EIS must include the following:</p> <ul style="list-style-type: none"> <li>• Architectural drawings (dimensioned and including RLs);</li> <li>• Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries;</li> <li>• Site Analysis Plan;</li> <li>• Stormwater Concept Plan;</li> <li>• Sediment and Erosion Control Plan;</li> <li>• Shadow Diagrams;</li> <li>• View Analysis / Photomontages;</li> <li>• Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted);</li> <li>• Preliminary Construction Management Plan, inclusive of a Preliminary</li> <li>• Construction Traffic Management Plan;</li> <li>• Geotechnical and Structural Report;</li> <li>• Arborist Report;</li> <li>• Contaminated Soils Management Plan (if required);</li> <li>• Acid Sulphate Soils Management Plan (if required); and</li> <li>• Schedule of materials and finishes.</li> </ul>	<p><b>Appendices</b></p>

Consultation	REFER TO
<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular you must consult with:</p> <ul style="list-style-type: none"> <li>• Kogarah Council; and</li> <li>• Sydney Airport Corporation Limited.</li> </ul> <p>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided</p>	<p><b>Section 3.7</b></p>

## 1.0 INTRODUCTION

### 1.1 PURPOSE OF THE REPORT

This Environmental Impact Statement (EIS) has been prepared in support of a State Significant Development Application (SSDA) for the proposed development described in this report in accordance with Schedule 2, Clauses 3, 6 and 7 of the Environmental Planning and Assessment Regulation 2000 and the SEARs issued on 14 May 2015.

The purpose of this EIS is to provide:

- Details of the proposed development, including analysis of feasible alternatives;
- An assessment of environmental impacts in accordance with the SEARs;
- A description of measures proposed to mitigate any adverse impacts on the environment; and
- Justification for the development and recommendation for planning approval.

The St George Hospital Acute Services Building (SGH ASB) Redevelopment is State Significant Development in accordance with Schedule 1, Clause 14 of State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP):

*Hospitals, medical centres and health research facilities*

*Development that has a capital investment value of more than \$30 million for any of the following purposes:*

- (a) hospitals,*
- (b) medical centres,*
- (c) health, medical or related research facilities (which may also be associated with the facilities or research activities of a NSW local health district board, a University or an independent medical research institute).*

The SGH ASB Redevelopment has an estimated Capital Investment Value (CIV) of \$204 million and will involve:

- Construction of the 7 storey Acute Services Building with roof top helipad (ASB) above the recently completed Emergency Department
- Refurbishment of areas within the existing buildings
- Vertical expansion of the Gray Street Car Park
- Gray Street Main Entry Upgrade

## 1.2 STRUCTURE OF THE REPORT

This EIS is structured as follows:

PART	DESCRIPTION
<b>Introduction</b>	Provides an overview of the hospital campus redevelopment and relevant site planning background information.
<b>Site Analysis</b>	Provides details of the hospital context together with a social, economic and environmental overview.
<b>The Development Proposal</b>	Provides an overview of the proposed development, as well as analysis of feasible alternatives.
<b>Assessment of Environmental Impacts</b>	Responds to the Secretary's Environmental Assessment Requirements.
<b>Mitigation Measures</b>	Identifies the mitigation measures proposed.
<b>Environmental Risk Analysis</b>	Summarises environmental risks identified in Section 4 and identifies level of risk remaining following the implementation of mitigation and management measures outlined in Section 5.
<b>Justification of the Development</b>	Provides justification for the proposed development with respect to the principles of Ecologically Sustainable Development.

<b>Conclusion</b>	Summarises the key issues and provides a recommendation to approve the proposals outlined in this SSDA and EIS.
<b>Appendices</b>	Includes plans and documentation specified in the SEARs together with technical studies supporting this application.

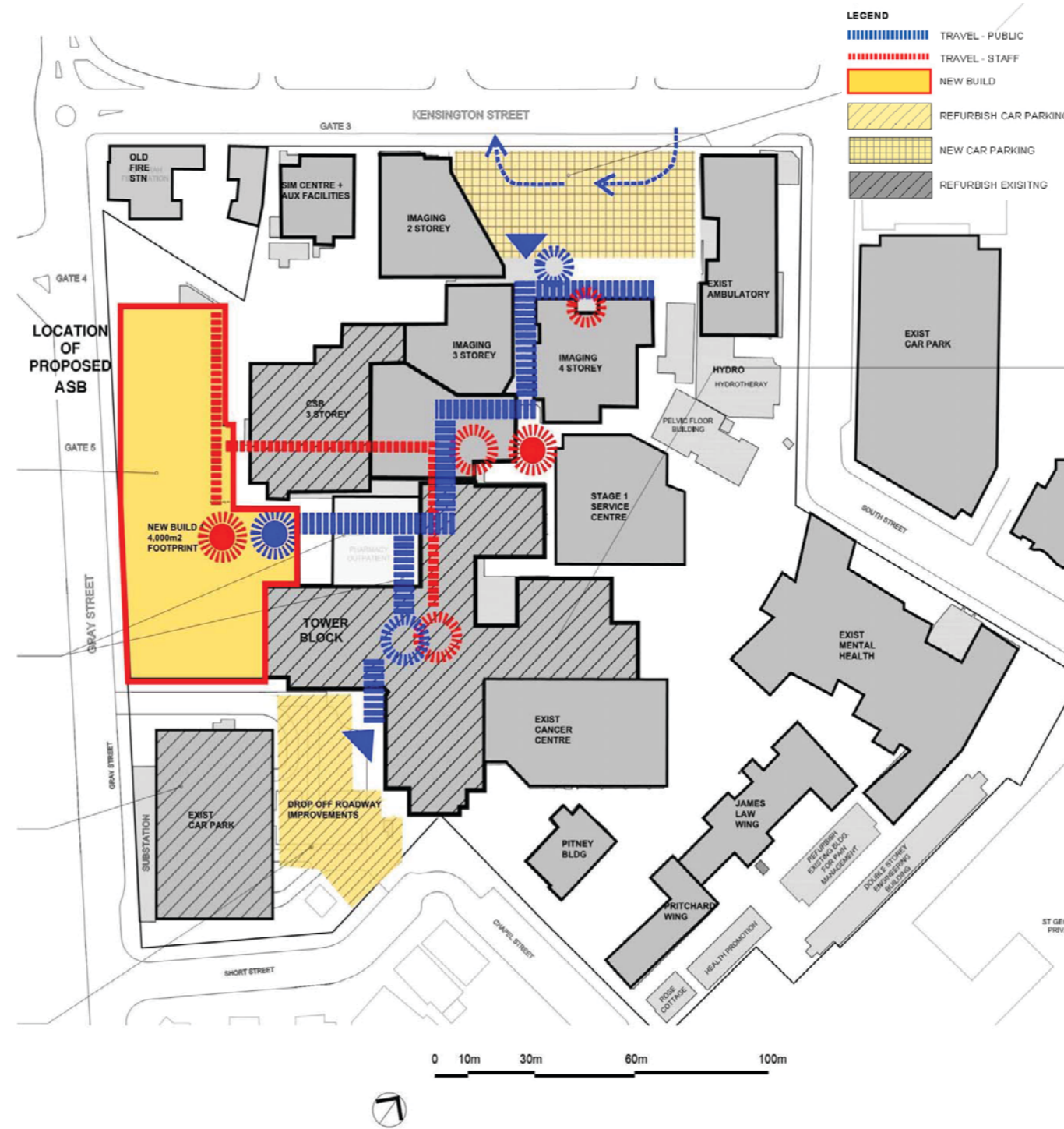


FIGURE 01: SGH ASB Redevelopment Master Plan

(Source: Jacobs)

### 1.3 BACKGROUND

The ASB Redevelopment is an important follow-on to the opening of the new Emergency Department in October 2014 and an integral part of the masterplan for the redevelopment of St George Hospital. As the designated level 1 trauma centre for the South Eastern Sydney Local Health District, it is the next step in a series of long-term major changes to the campus, establishing expansion zones and new facility development opportunities that provide the platform and environment in which new and more integrated models of care can be realised. It enables a significant improvement in capacity to respond to current and projected demand.

Business continuity and master plan studies identified the necessity for the existing hospital to maintain its service provision throughout the construction phases of any of the new facilities. This resulted in the staging of the SGH Redevelopment, which provides for the progressive redevelopment of existing buildings, the demolition of identified buildings and the construction of new facilities within the existing hospital site.

### PREVIOUS WORKS

The recently completed Emergency Department (ED) adjacent to Gray Street provides the important foundation for the removal of the existing Emergency building in Kensington Street, and thus the opening up of the campus for the required logical development pathway. The ED was completed in October 2014. As part of this work, the future construction above was identified and the ED constructed to take into account the future development of the ASB above.

### ASB REDEVELOPMENT

The ASB Redevelopment comprises construction of the new Acute Services Building over the new ED building. Interfaces between the existing facilities and the new ASB are a critical feature of the design strategy.

In addition, there will be refurbishment of some areas in the existing Clinical Services Building (CSB) and Tower Ward Block (TWB), and expansion of kitchen, linen stores, etc. in the new Services Centre as part of the ASB Redevelopment.

### 1.4 ENABLING WORKS

ASB enabling works not covered by this application including demolition of the old ED in Kensington Street, construction of a new public entry including a drop-off and pick-up zone and car parking, are being progressed under Part 5 of the EP&A Act 1979.

They include:

- Demolition of the existing Emergency Department and EMU Building along Kensington Street.
- Construction of a new at grade car park and entrance at Kensington Street.

- External works at the Gray Street entrance including modification of vehicle areas within the site and at the adjacent part of Short Street
- Replacement of the Fire Indicator Panel and dry fire detection system in existing TWB and CSB
- Services diversion for new ASB lift core

### 1.5 FUTURE DEVELOPMENT

Apart from the clinical drivers described in this EIS, the campus wide Master Plan relies on co-location of acute services within the ASB to allow the future redevelopment of the Hospital to include new ambulatory care facilities on the old ED site fronting Kensington Street. The location of an ambulatory zone immediately adjacent to the new ASB enables the sharing of the central imaging services, cardiac catheterisation and day surgery and other key functions.

The 'ambulatory zone' is the key next step enabled by the ASB - allowing long term consolidation and redevelopment of existing ambulatory facilities in the remaining undeveloped areas of the campus, which has been assessed as the key challenge to maintaining St George hospital as the major health service facility in the region.

It also facilitates the realignment of ambulatory services away from Gray Street (which will become the main acute care entrance due to the location of ambulance entry and the new emergency department entrance). This will ensure that current congestion issues around Gray Street are reduced, access to the Gray Street car park improved and traffic flow in the Chapel/Short Gray Street area is better able to be managed in the future.

The ability to create this ambulatory entrance at Kensington St will also:

- Facilitate transition to public transport by creating better access to the hospital from Kogarah town centre services including the railway station;
- Limit the need for outpatients to 'penetrate' deeper into the hospital campus (if they had entered from Gray Street) – improving public and staff flows within the hospital (currently a critical issue for patient flow and safety);
- Improve logistics services moving across the campus from the Belgrave Street facilities management zone; and
- Provide patient drop off and additional car parking off-street.

### 1.6 NEED FOR THE PROJECT

St George Hospital is a 627-bed major teaching hospital of the University of NSW and a tertiary referral hospital. It is the Level 1 Trauma Centre for SESLHD and has one of

the busiest Emergency Departments (EDs) in the state.

St George Hospital infrastructure is currently being impacted by a range of issues, including:

- Increasing trauma presentations.
- Changes in the local demography and disease patterns as the population ages, and the increasing burden of aged related chronic disease.
- Ageing infrastructure, including aging buildings, land lock, lack of single rooms and isolation rooms, and outdated ward layouts.
- Utilisation of ward areas which are not fit-for purpose for growing demands in critical care and other services with infection control, OH&S and other clinical implications.
- Rising consumer expectations.
- Need to implement medical advances and install new technology.
- Need to increase patient flow to meet demand. This increased demand and flow increases infrastructure "wear and tear".
- Imperative for maintaining quality and safety of health services.

The Acute Services Building Redevelopment Project will ensure SGH can function as the Level 1 Trauma Centre and the tertiary referral hospital by creating capacity to expand high priority clinical services in intensive care, high dependency and cardiac care as well as operating theatres and to enhance inpatient units.

#### 1.6.1 Intended Benefits

The principal drivers for the redevelopment planning are the future health services that the campus will deliver and how to best accommodate and adapt to changes in the delivery of these services.

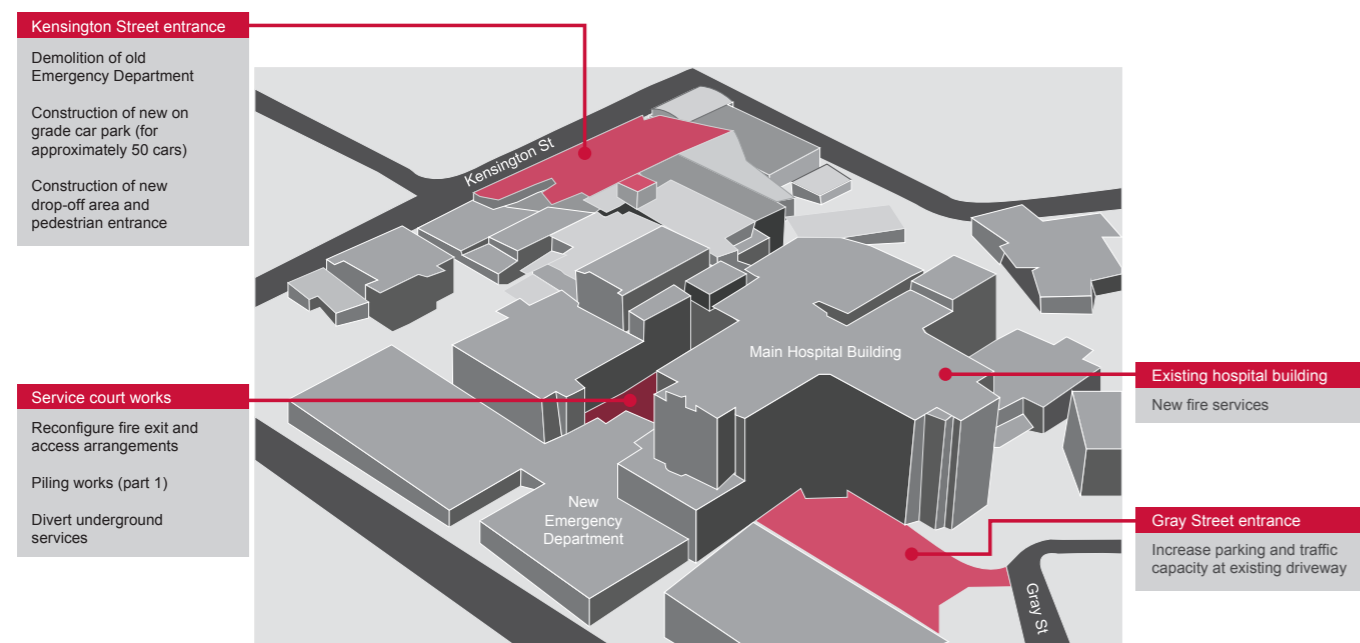


FIGURE 02: St George Hospital Redevelopment Enabling Works

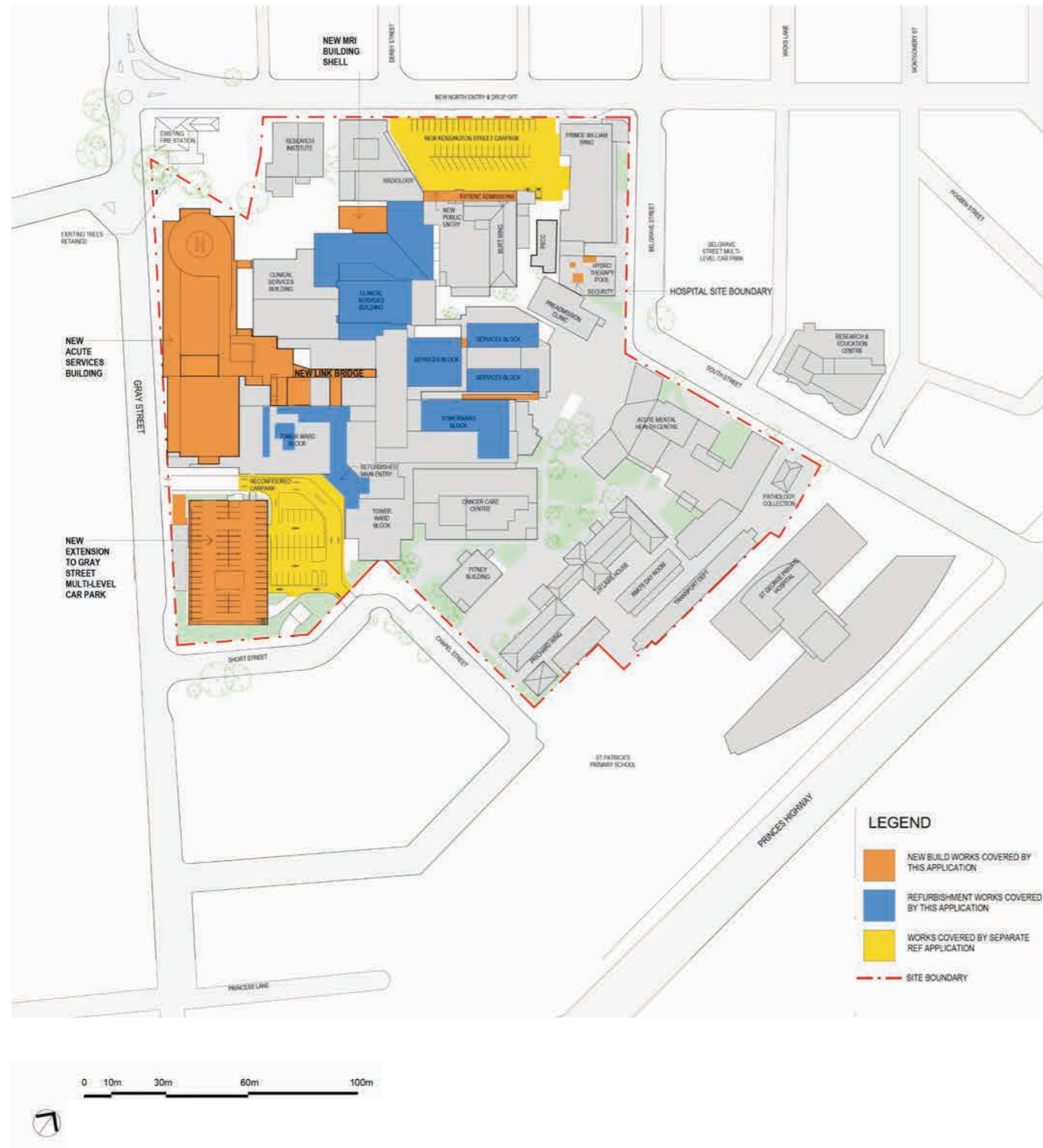


FIGURE 03: SGH ASB Redevelopment

(Source: Jacobs)

### 1.7 THE HOSPITAL SITE

The St George Hospital at Kogarah occupies a 5.17 hectare site in Kogarah, approximately 17.5 km from Sydney CBD, just west of the Princes Highway. The site is bounded by Gray Street to the south-west, Kensington Street to the north-west, as well as segments of Belgrave, South and Chapel Streets and St George Private Hospital to the south and east. The main entry to the hospital is from Gray Street, with adjacent access to the multi-level carpark.

The site is well serviced by public transport. It is within a 5 minute walk from Kogarah train station, which has connections to CBD trains. In addition there is a bus route connection to the train station.

The hospital campus houses a mix of buildings of varying ages ranging from the original nursing accommodation, now used for administration, to the relatively new cancer centre, mental health facility, hydrotherapy pool and service centre (all completed within the last 10 years).

There is a significant fall across the site from the western corner to the eastern corner (of around 10 metres). This change in level has resulted over time in buildings being constructed at different levels requiring complicated ramping between the buildings and between critical departments.

The ad hoc nature of development on the site over time has resulted in multiple entries to the site contributing to difficult control of the campus, confusing wayfinding, particularly for ambulatory care services across the site, and cross overs between patient and public circulation.

Existing departments are congested with poor opportunities for expansion and there is a lack of appropriate public space both for staff and for visitors to the site.

The most recently completed project involved relocating the ED to Gray Street. This provides the platform for the acute services co-location into the ASB as well as freeing up the Kensington Street frontage for car parking and redevelopment.

### 1.8 DEVELOPMENT FOR WHICH APPROVAL IS SOUGHT

This Development Application seeks approval for the St George Hospital Acute Services Building Redevelopment including:

- Approximately 28,500m<sup>2</sup> of new construction within a 7 storey expansion above the recently completed ED
- Expansion of intensive care with 52 new ICU beds
- Expansion of operating theatre with 8 new theatres
- Expansion of inpatient bed accommodation with 128 new IPU beds
- Refurbishment of approximately 4,800m<sup>2</sup> of existing hospital facilities following relocation of specific services to the ASB
- The vertical expansion of the multi-level carpark on Gray Street with 128 new car spaces following relocation of emergency helicopter landing facilities to the ASB.

## 1.9 CONSULTATION

A range of agencies have been consulted. Consultations have ranged from broad strategic issues associated with precinct and urban planning, to specific service infrastructure issues associated with the redevelopment of the hospital site.

The Agencies consulted include:

- Kogarah City Council
- Transport for NSW
- Roads and Maritime Services
- Sydney Airport Corporation Limited

A summary of the consultation process carried out for the proposed development is provided in Section 3.7.

## 1.10 THE PROPONENT AND STUDY TEAM

This Development Application and Environmental Impact Statement has been prepared for Health Infrastructure on behalf of HAC.

The principal consultant team for the project includes:

ROLE	COMPANY
Development Application and Environmental Impact Statement	LFA (Pacific) Pty Ltd
Hospital Planning and Architecture	Jacobs
Transport and Accessibility	Arup
ESD / Electrical Services	Jacobs
Heritage	Urbis/Artefact Heritage
Civil / Structural / Stormwater	Enstruct
Utilities	Acor
Noise and Vibration	Acoustic Logic
Contamination	
Waste / Hazards	AECOM
Groundwater	Coffey
Cost Consultant	APK
Contamination	CH2M Hill

TABLE 01: Principal Consultant Team

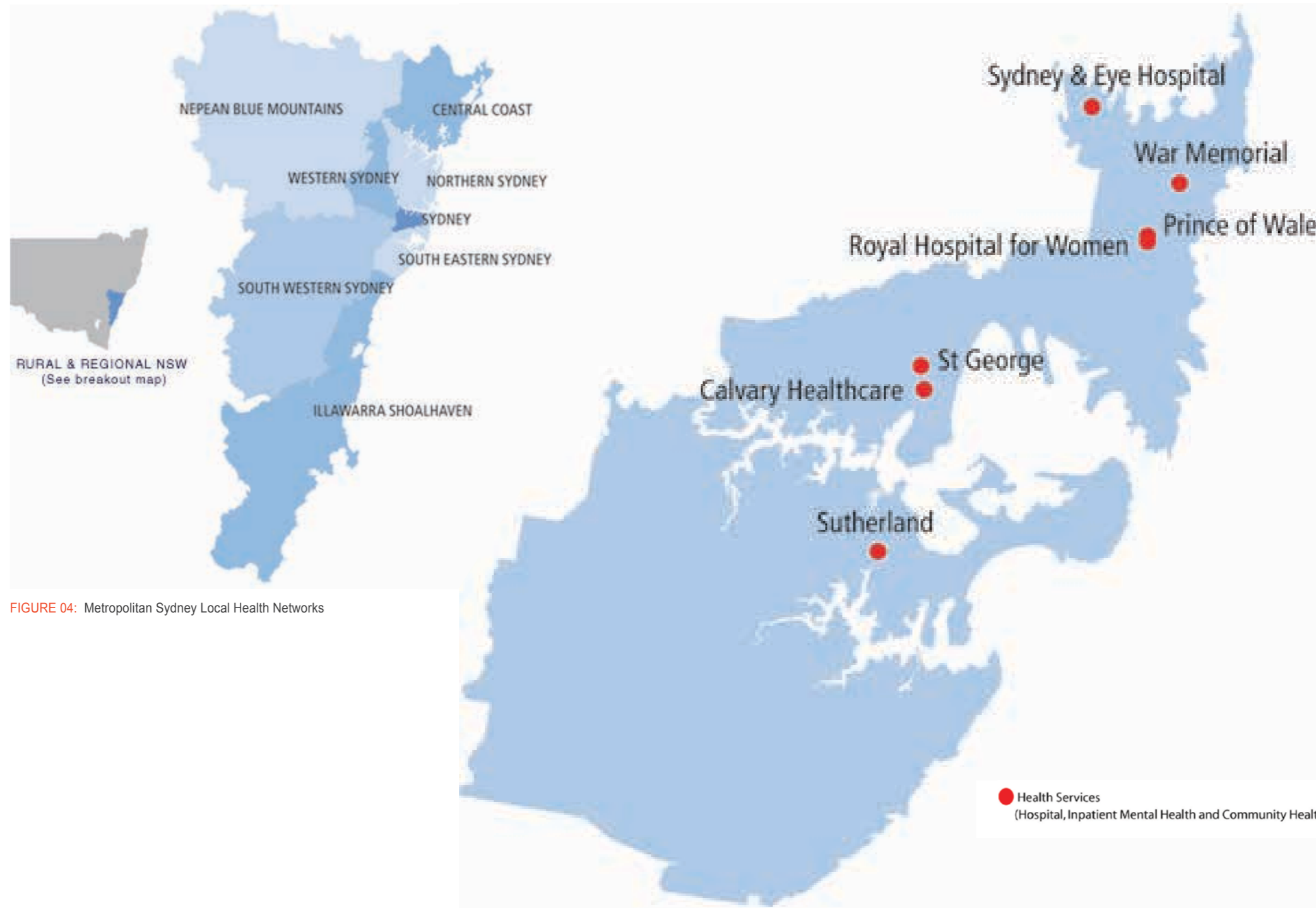


FIGURE 04: Metropolitan Sydney Local Health Networks

FIGURE 05: South Eastern Sydney Local Health District

Source: NSW Government

## 2.0 SITE ANALYSIS

### 2.1 REGIONAL CONTEXT

St George Hospital is located in the South Eastern Sydney Local Health District (SESLHD), one of eight local health districts that make up the Sydney Metropolitan Local Health Network. SESLHD covers nine Local Government Areas from Sydney's Central Business District to the Royal National Park and has a culturally and linguistically diverse population of over 830,000 people. It includes highly urbanised areas of eastern Sydney, southern Sydney and industrialised areas around Port Botany.

SESLHD covers urban and suburban communities and manages eight public hospitals and one public nursing home including:

- Prince of Wales Hospital
- Royal Hospital for Women
- St George Hospital
- Sutherland Hospital
- Sydney Eye Hospital
- Calvary Healthcare Sydney
- War Memorial Hospital
- Gower Wilson Memorial
- Garrawarra Centre

SESLHD also operates 28 Child and Family Health Centres, 12 Community Health Centres and nine Oral Health Clinics; providing prevention, early intervention and community-based treatment, palliative care and rehabilitation services.

Drug and Alcohol, Mental Health, Breast Screening, HIV/AIDS, Public Health, Women's Health, Youth Health, Sexual Health, Imaging and Pathology services are provided at a number of facilities across SESLHD.

## 2.2 LOCAL CONTEXT

SGH is within the southern boundary of Kogarah Town Centre boundary. The hospital and city centre have a close, mutually supportive relationship, with common interests and a shared urban trajectory. The building typology of both is changing character over time from a predominantly suburban to a more urban environment.

Kogarah townscape exhibits:

- A variety of building styles that together appear ad-hoc or casual rather than formal.
- Horizontal banding on facades is common to both historic and new buildings (e.g. the adjacent heritage significant Fire Station).

The core elements of the local context are shown in Figure 6 and described below.

### Movement

- Good rail and road connections via the Bondi Junction to Cronulla railway line, President Avenue and Princes Highway.

### Land use

- Business, commercial and retail uses are concentrated in the Kogarah Town Centre, near Kogarah Station and along Railway Parade;
- Surrounding residential areas where urban infill development is occurring primarily near Kogarah Town Centre and St George Hospital;
- Educational uses including St Patricks Primary School, Moorefield Girls High School, James Cook Boys Technology High School and Kogarah TAFE to the south of the Hospital and west of Princes Highway

### Environmental

- Scarborough Park and associated drainage system.
- Kogarah Park.

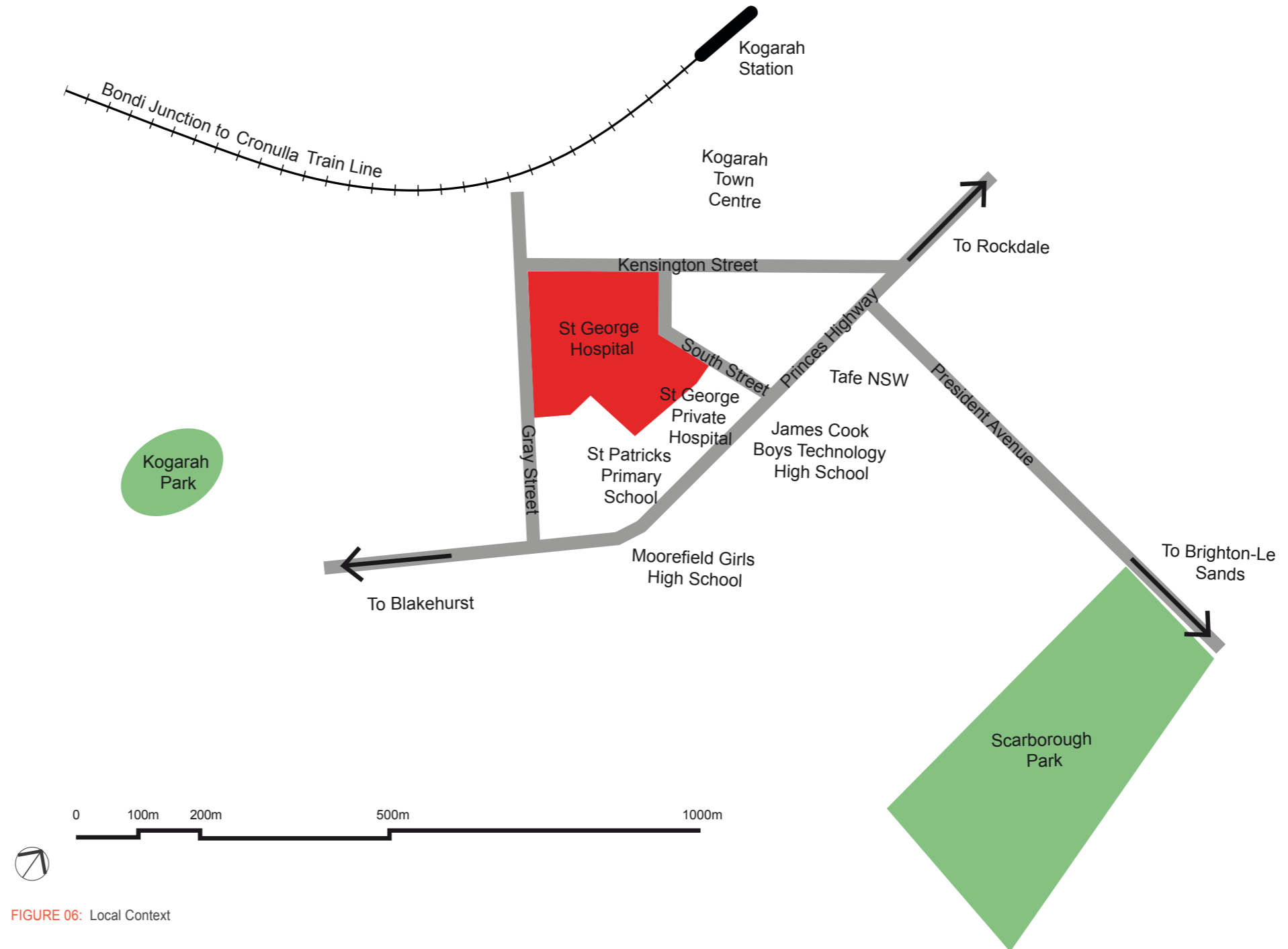


FIGURE 06: Local Context



Adjacent development along Gray Street



View of hospital from southern end of Gray Street



Adjacent cafe located on the corner of Gray Street and Queens Avenue

### 2.3 SITE CONTEXT

The hospital is sited close to main transportation links including rail (500m from Kogarah Station) and within 200m of the Princes Highway for private transport access as well as for ambulance and patient transport. The main entry to the hospital is from Gray Street, with access to the multi-storey car park also available adjacent to the main Gray Street entrance.

The new entrance/drop off area on Kensington Street provides improved connection and access to Kogarah Town Centre. This has progressed as part of the enabling works.

The urban context of the Hospital campus is characterised by a mix of residential, commercial and retail uses with a number of medical centres and doctors' offices located in the vicinity of the hospital.

The solar orientation means that the existing hospital buildings partially impede solar access to neighbouring buildings in Gray Street, Short Street and Chapel Street.

The St George Private Hospital is located adjacent to St Patricks Primary School and Bethany College are nearby in Chapel Street and the Princes Highway respectively.

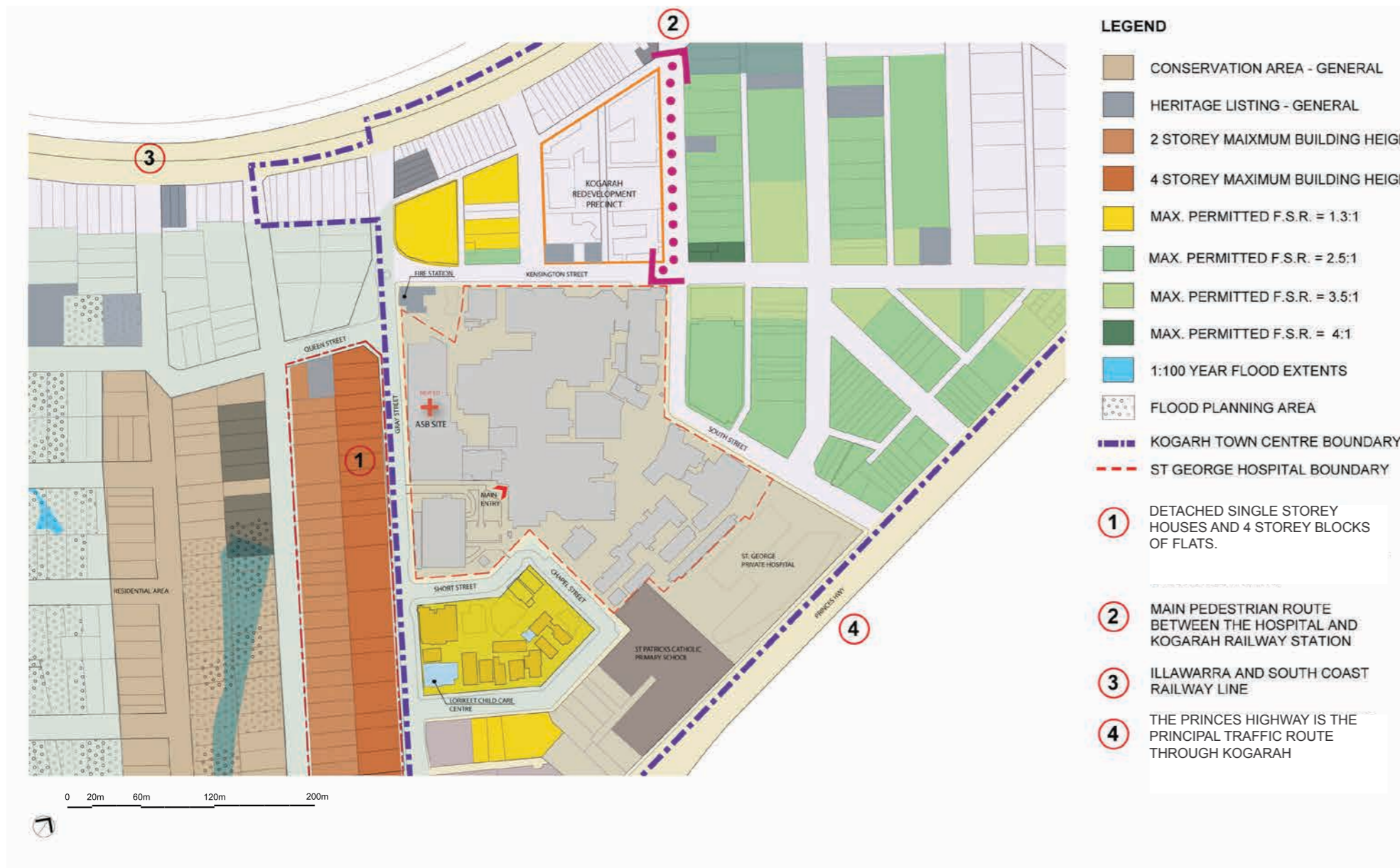


FIGURE 07: Site Context

Source: Jacobs



Main Entrance Forecourt at St George Hospital



New Emergency Department building at St George Hospital



Fire Station at the corner of Gray Street and Kensington Street



Detail of Ward Block parapet



View north along Chapel Street towards the main entrance

## 2.4 ST GEORGE HOSPITAL

The hospital covers an area of approximately 5.17 hectares with the main entry off Gray Street.

The campus offers a comprehensive range of specialist inpatient and community services; including critical care, surgery, cancer care, medical, women's and children's health, mental health, community health and medical imaging, bone marrow transplant, peritonectomy surgery, brachytherapy and trauma. The campus also provides a level 1 trauma service for the District and surrounding suburbs and to Illawarra/Shoalhaven and Murrumbidgee Local Health Districts in accordance with the NSW State Trauma Plan. The Level 1 Trauma Service requires the support of a full range of critical care, rehabilitation and surgical services. The St George Hospital currently hosts the NSW Medical Retrieval Network.

The main public entrance to the hospital is off Gray Street although many pedestrians coming to the hospital, including those travelling by train, arrive via Belgrave Street or South Street using alternative entrances on Belgrave and Kensington Streets.

## 2.5 ZONING

The hospital site is zoned SP2 Infrastructure (Health Services Facilities) under the Kogarah Local Environmental Plan 2012. The proposed development is permissible with consent under the current LEP.

Land uses immediately adjacent to the hospital site include:

- B4 Mixed Use to the north
- R3 Medium Density Residential to the west
- SP2 Education Establishment to the south

Refer to Figure 8.

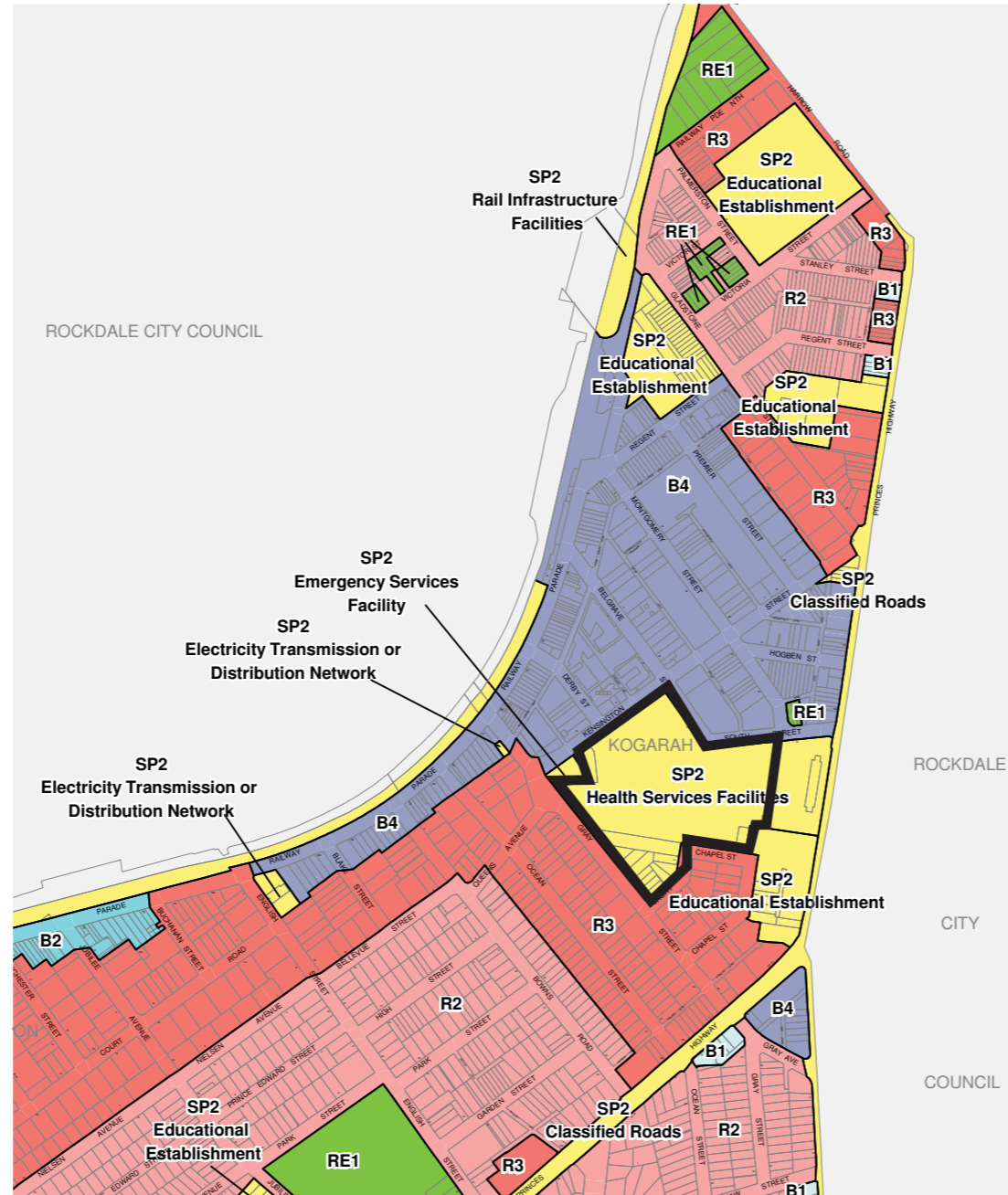


FIGURE 08: Zoning

Source: NSW Legislation

## 2.6 LAND OWNERSHIP

The land on which the overall hospital is located is owned by the St George Hospital and the Health Administration Corporation of NSW Health and includes:

- Lot 12 DP 800476
- Lots 1-6 DP1130879
- Lot 1 DP 791072
- Lots 1-3 SEC C DP 976627
- Lots 8-9 DP 976627
- Lot 4 DP 971931
- Lot 1 DP 971532
- Lot 1 DP 973811
- Lot 1 DP 976627

Refer to Figure 9.

A Site Survey is provided in Appendix A (Drawing ASB DA 0003 Lots & Titles Plan).

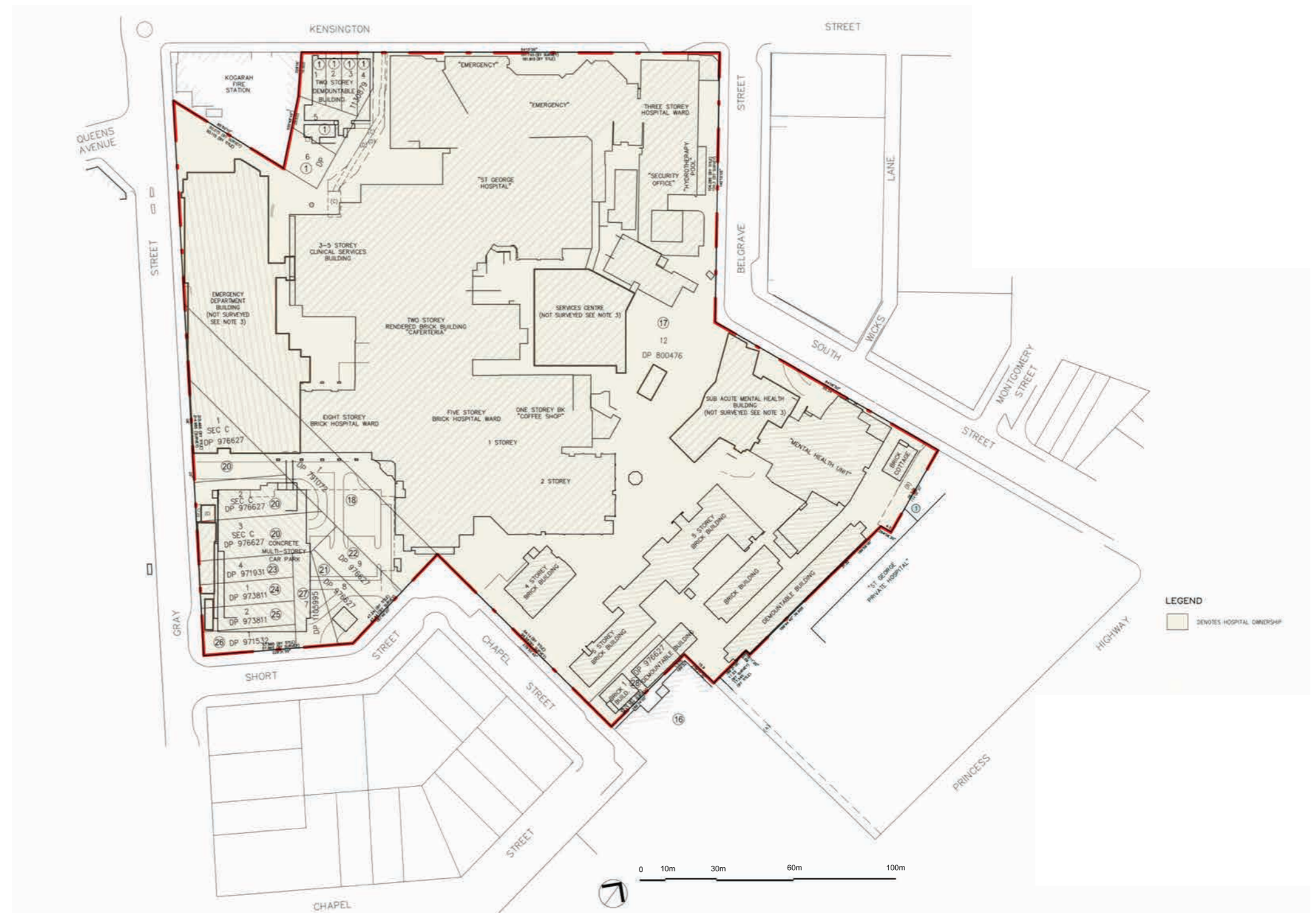


FIGURE 09: Land Ownership

Source: Jacobs

## 2.7 ORIENTATION

The hospital campus site is oriented in a north-east and south-west direction, as established by the existing road pattern. The majority of buildings within the site are oriented accordingly.

Given the surrounding low scale development, the hospital site has good solar access.

Refer to Figure 10.

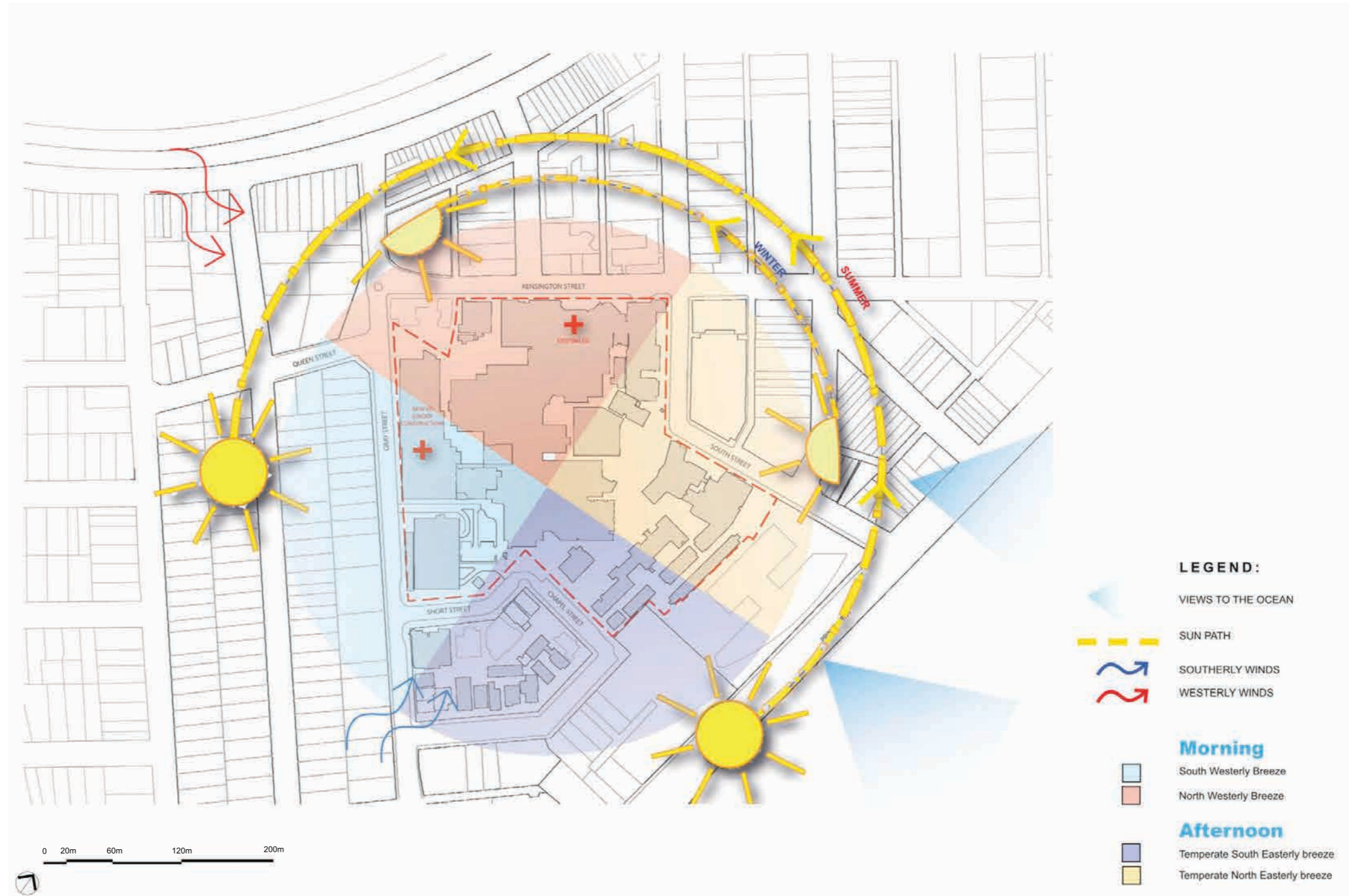


FIGURE 10: Solar Orientation

Source: Jacobs

## 2.8 ACCESS

### 2.8.1 Regional and Local Access

#### Road

The existing St George Hospital site has good access to the arterial road system being located close to the Princes Highway. Main vehicular access to Kogarah Town Centre from the ASB is via Gray Street and along Railway Parade/Kensington Street.

#### Rail

The Hospital is located some 500m south of the Kogarah Railway Station. Kogarah railway station is on the T4 Eastern Suburbs and Illawarra line which runs between Waterfall/Cronulla into Central and Town Hall and through to Bondi Junction. Services run to Kogarah Station every 10 minutes in both directions during peak hours. The station was recently equipped with Opal Card ticket readers as part of the implementation of Sydney's new integrated public transport ticketing system.

#### Other Public Transport

A number of bus stops are provided in the immediate proximity of the campus.

The bus routes servicing these stops are as follows:

- 422: Kogarah to City via Newtown
- 430: Kogarah Local Loop Service
- 476: Rockdale to Dolls Point Loop
- 477: Rockdale to Miranda

Service frequencies vary for each of these routes, with the 422 service running at 15 minute intervals throughout the day. The remaining three routes typically run at less frequent 30 minute intervals. Refer to Figure 11.

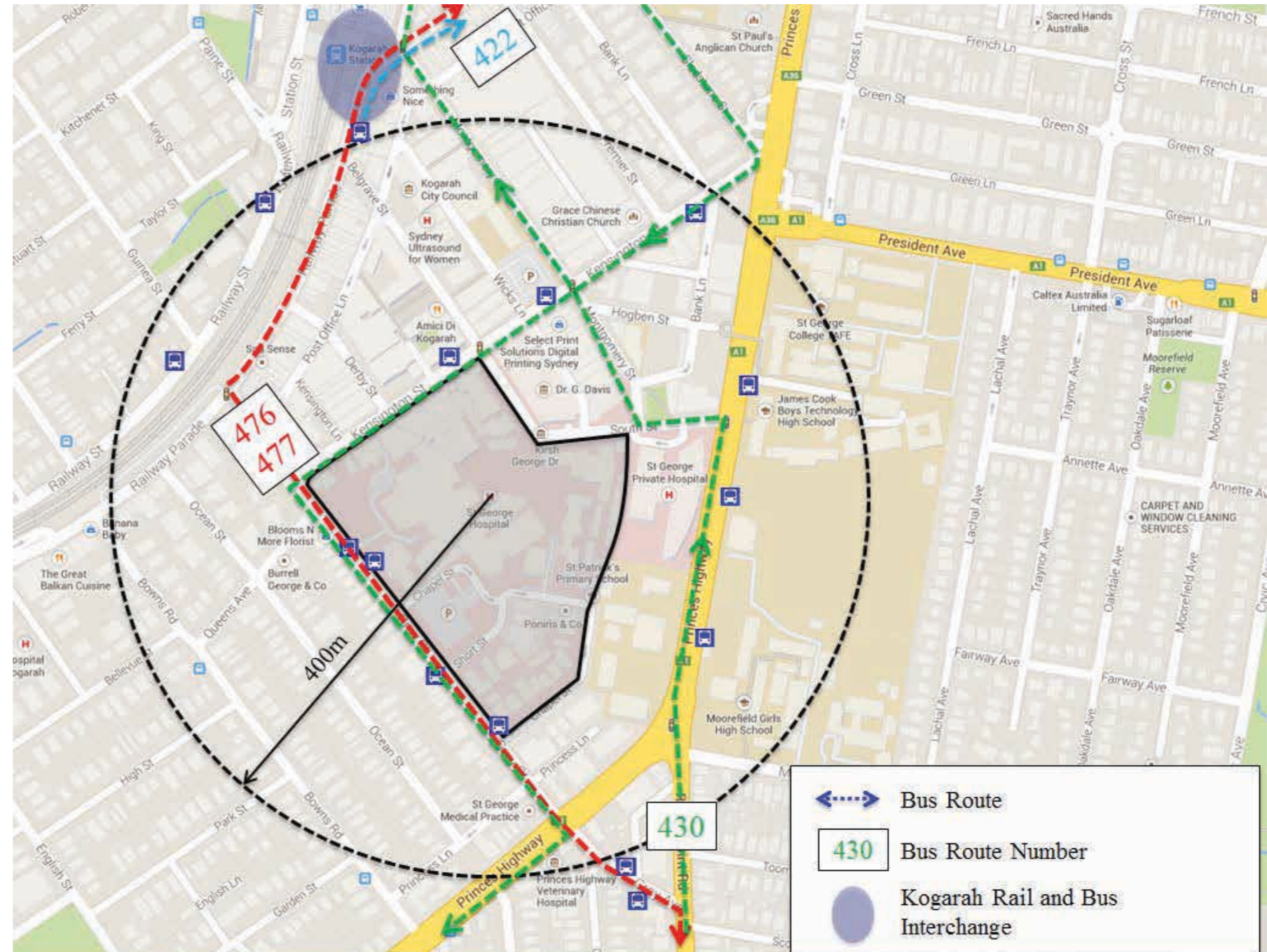


FIGURE 11: Public Transport

Source: ARUP

### Emergency Helicopter

Emergency helicopter services currently operate to and from a concrete helipad located on top of the Gray Street Carpark.

### Pedestrian and Cycle

The Hospital is within walking distance of Kogarah Station and Bus Interchange. There is a dedicated cycle lane along the northern section of Gray Street, between Railway Parade and Kensington Street.

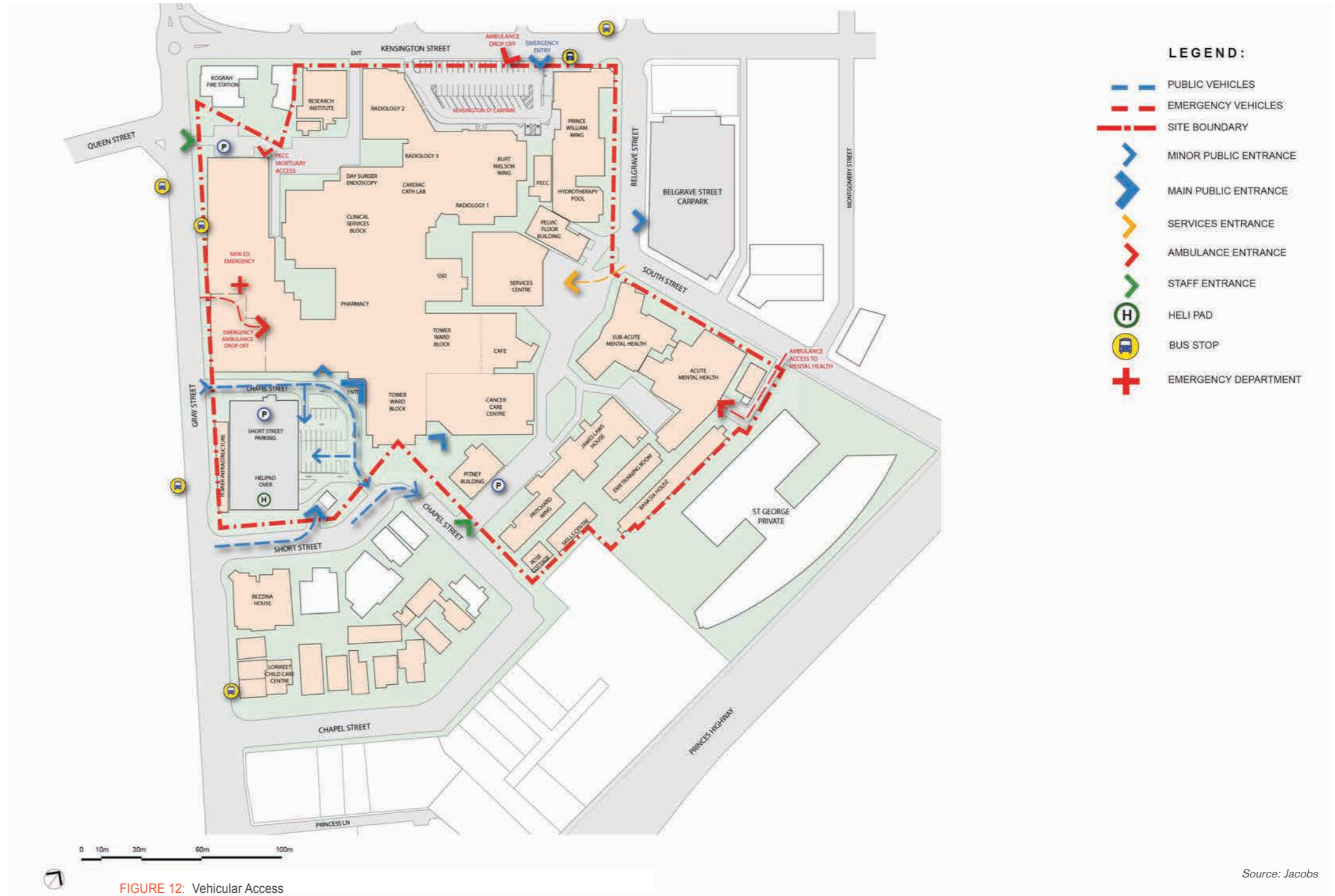
### 2.8.2 Site Access and Parking

#### Vehicular

Vehicular access to car parking is off Short and Belgrave Streets. Vehicles exit the site via local roads to the east and south of the site.

Ambulance entry to the New Emergency Department is via Gray Street. Service vehicles enter the site via Gray, Belgrave and Kensington Streets.

Refer to Figure 12.



**Pedestrian**

Paved pedestrian footpaths are provided on all road approaches to the hospital. There is a signalised pedestrian crossing at the intersection of Belgrave Street and Kensington Street. A pedestrian crossing is provided between the multi-storey carpark on Belgrave Street and the Hospital. Refer to Figure 13.

**Car Parking**

Public parking is located at Belgrave and Short Streets in two multi-storey car parks. Other car parking is available at-grade within the campus including on Chapel Street and off Kensington Street at completion of the enabling works.

