Liverpool Health and Academic Precinct
Multi-Story Car Park
Construction Management Plan

JOHNSTAFF

Document Control

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Prepared by:	SH	Ethos Urban
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Contents

1 Introduction

A $50M capital project has been announced by the NSW Government to develop a Multi-Storey Car Park (MSCP) to support the Liverpool Health and Academic Precinct (LHAP) project. The application seeks consent for the construction of a 6-storey car park, connections to the existing road work and associated landscaping. A detailed project description is provided by Ethos Urban within the EIS.

Liverpool Hospital is located within the Liverpool Central Business District (CBD), on the corner of Elizabeth Street and Goulburn Streets, Liverpool. The Hospital includes land east and west of the Main Southern Railway, which forms an eastern and western campus. The proposed works are located in the northern portion of the western campus which is currently occupied by an existing 4 storey car park and at-grade car parking. The site is legally described as Lot 501 in DP1165217.

This Preliminary Construction Management Plan (PCMP) has been developed during the schematic design stage and contains preliminary construction methodologies for the delivery of this project. It is envisaged that this PCMP will evolve and be further developed by the successful Main Contractor(s) during the project planning and start-up in conjunction with the design consultant team, project stakeholders, HI, SWSLHD and Johnstaff Projects (JSP). The following sections outline the delivery of the construction works being undertaken for the MSCP, and further outline key concerns and interfaces which require review and detailed strategies to enable the successful commencement, construction, commissioning and completion of this project.

A summary of the project scope is as follows;

- Demolition of the existing P2 carpark.
- Infrastructure and associated in-ground works.
- Construction of 6-level multi-storey carpark, circulation ramp and commissioning.
- Construction of the on-grade portion of the carpark.
- Associated landscaping.
- Connections to the existing road network.

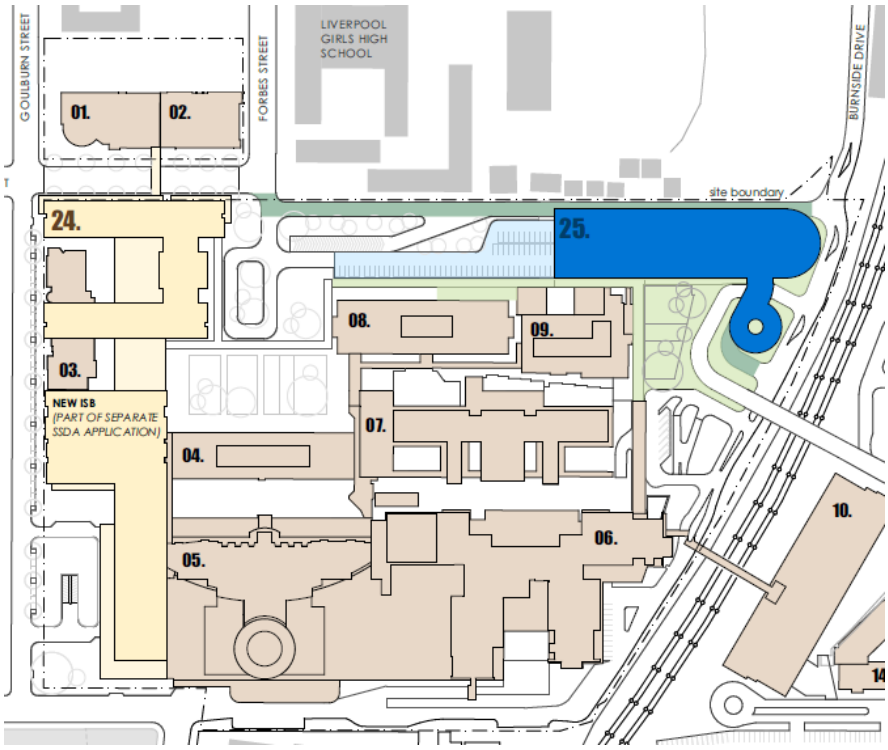


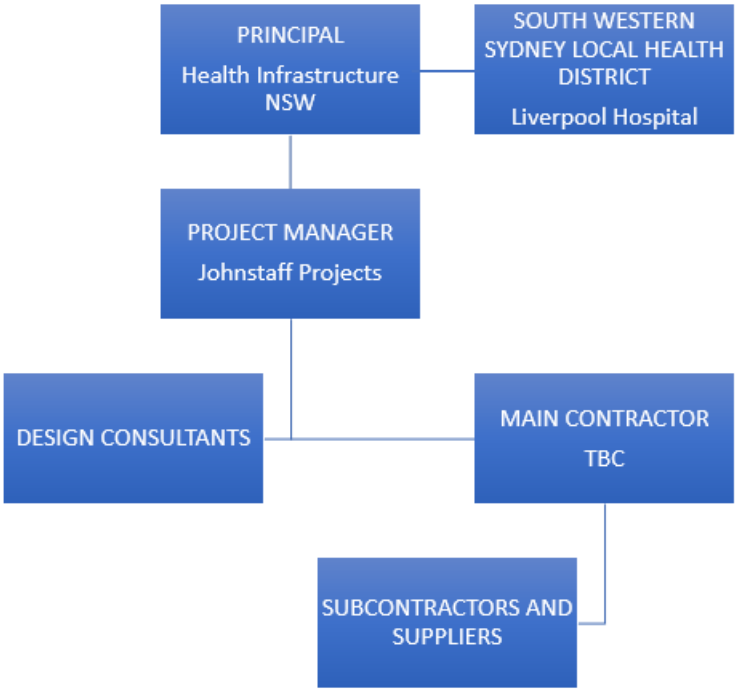
Figure 1: Site Plan – Liverpool Health and Academic Precinct Multi-Storey Car Park Reference 25.

2 Key Participants / Stakeholders

Stakeholder	Contact Details
Client(s)	Health Infrastructure
Client Representative(s)	Johnstaff Projects
Principal Contractor	To be appointed

3 Organisational Chart

Project Organisational Chart.



4 Key Milestones

Indicative program for the Multi-Storey Car Park scope as outlined in section 1, are as follows;

Works	Indicative Date
Commence MSCP	September 2020
Complete MSCP	May 2022

5 Construction Methodology

This PCMP has been compiled for the EIS to provide a high-level overview of the delivery of the works. The plan will be further developed by the Principal Contractor to respond to detailed site planning prior to the issuing of a construction certificate by the PCA. The CMP will then remain a 'live' document reflecting the site delivery parameters for the duration of the project.

The Plan covers the following areas of management:

a) Site Operations and Associated Risks
- Legislative and Regulatory Requirements
- Identification & Management of Key Project Risks
- Managing Risks within an Operational Hospital Environment
- Hazardous Materials
- Fencing and Hoarding
- Disruption Notices
- Site Amenities
- Site Inductions
- Service Diversions and Temporary Services
- Dilapidation Report
- Tree Protection

b) Operating Hours

c) Traffic/pedestrian management for the duration of the works;
- Traffic and Pedestrian Management Plan
- Pedestrian Protection
- Deliveries and Material Storage

d) Environmental Health and Safety:
- Environmental Impacts
- Noise and Vibration Management
- Odour control
- Waste Management and Recycling Principals
- Dust, Sediment and Erosion Controls

6 Operations and Risks

All statements and proposals documented in this Preliminary Construction Management Plan will be further detailed at the time of contract award for the Works to ensure alignment with the proposed methodologies and construction staging of the Contractor.

6.1 Legislative and Regulatory Requirements

The Works will be undertaken in accordance with the following legislative requirements and any others that must be complied with, as required:

- National Construction Code 2011 comprising the Building Code of Australia;
- Applicable Australian Standards;
- Protection of the Environment Operations Act and Regulations;
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA);
- Environmentally Hazardous Chemicals Materials Act 1985;
- Protection of the Environment Administration Act and Regulations;
- Work, Health and Safety Act 2011 and relevant codes of practice and Standards;
- Work Health and Safety Regulation 2017;
- Code of Practice for the Safe Removal of Asbestos (NOHSC:2002(1998));
- Resource and Recovery Act 2001;
- Environmental Planning and Assessment Act 1987;
- Heritage Act 1997;
- Local Government Act 1993;

6.2 Identification & Management of Key Project Risks

Construction of the MSCP presents a number of challenges that need to be delivered through a planned and structured approach. During the detailed design and pre-construction phase an extensive analysis of the project documents will need to be undertaken including multiple site inspections to thoroughly understand and plan the project to mitigate the key risks.

An initial assessment has been carried out of such risks and include but are not limited to:

- Impact on hospital operations
- Infection control
- Environmental conditions; noise, duct, vibration
- Damage to existing buildings and equipment
- Construction workers access and egress affecting daily hospital operations and the local road, cyclists and pedestrian network.
- Ensuring residents are well supported through appropriate management and notification of construction activities
- Working around children
- Interface with rail operations and ensure business continuity for Sydney Trains
- Unauthorised access to the construction site
- Demarcation and coordination between LHAP and MSCP works
- Disruption to staff access to Eastern Campus

The contractor must prepare a detailed Risk Assessment during the pre-construction phase to inform the construction methodology, eliminate or manage risks appropriately and to ensure a smooth interface with the existing hospital campus.

6.3 Managing Risks within an Operational Hospital Environment

The project has critical construction and services interfaces and non-negotiable stakeholder requirements to ensure operational continuity is maintained.

Upon receipt of the Detailed Design and during the pre-construction phase the Contractor must work in a collaborative manner with HI, JSP, SWSLHD and the greater Liverpool Hospital Campus to develop a stakeholder communication structure to address all stakeholder requirements and concerns.

The activities below have the potential to significantly impact on the operation of the hospital, the wider precinct and neighbours, if not managed effectively and communicated proactively with stakeholders:

- Disruption Notices time frames
- Access and traffic management;
- Planning and management of any major shutdowns;
- Minimising and controlling disruptions;
- Protection of existing hospital assets;
- Maintenance of existing patient and staff privacy and security;
- Emergency after-hours call-out;
- Hazardous material identification and removal;
- Noise, dust and vibration control; air monitoring (for contaminants) and
- Out of hours work.

The following management plans should be developed as a minimum during pre-construction planning, incorporating stakeholder input and establish clear and concise communication channels for each area of interface works to support the ongoing operation of the hospital:

- Risk Management Plan;
- Disruptive Works Notification Procedure; and
- Work, Health and Safety (WHS) Management Plan.
- Works Methodology plans

6.4 Hazardous Materials

To manage hazardous material on the project the contractor(s) shall develop a site-specific Hazardous Material and Unexpected Find protocol. The Contractor(s) protocol shall cover hazardous material removal including investigation, identification, testing, removal, final testing and clearance certificate prior to subsequent works commencing.

Ongoing investigations will be required to be undertaken by the Contractor prior to commencement and further through the MSCP project.

Initial investigations have identified hazardous materials likely to be encountered including:

- Asbestos Containing Material (ACM) encountered in the demolition of the existing buildings and in-ground services (insulation);
- Contaminated fill material;
- Lead paint that may have been used on some of the existing buildings;
- Needles and sharps located around the campus

The Contractor(s) site-specific methodology for removal of hazardous waste and unexpected finds shall ensure that waste is disposed of correctly and efficiently including:

- Review and revision of the Asbestos Management Plan and Register, and continual validation of the material data that has been captured to date;
- Ensure the Asbestos Remediation Contractor is appropriately licensed, and the chain of custody is documented with the landfill facility to ensure the asbestos is appropriately and lawfully disposed of;
- Review all site occupational and environmental management and monitoring programmes;
- Review and revision of communications and Industrial Relations strategies;

Of major importance in managing the removal of hazardous materials is communicating the works activity to the stakeholders. This is compounded for projects located adjacent public health facilities due to perceived potential public health risks. To this end appropriate and responsive communication protocols will need to be addressed in the Contractors Management Plan.

6.5 Fencing and Hoarding

Maintaining a secure and safe perimeter line to protect the public and staff from construction activities will be of critical importance to on-going safe hospital operation. Further secure hoardings and fencing will prevent unauthorised access into the construction site 24 hours a day. Site security is paramount for public safety and the Contractor shall prevent unauthorised access. Vehicle entrances will be managed by Traffic Controllers. All traffic signage will be installed and maintained for the duration of the works.

Appropriate hoarding/fencing (as specified in Australian Standards and SafeWork NSW requirements) will be installed to prevent public and staff access and to maintain security for the various areas of the works.

Site Notices will be erected at the boundary of the works. The site notices will include details of; Principal Contractor details, name of Site Manager and 24-hour contact number, approved hours of work, and details of the Principal and other appropriate stakeholders. Safety related statutory signage will also be erected on the boundary of the site in accordance with WorkCover requirements.

The Contractor is responsible for maintaining safe access around the site and the safe movement of vehicles and pedestrians around the site, without any substantial detrimental effect to the operation of the Hospital. This safe access must be documented by the Contractor as part of its Construction Methodology Plan. The Contractor is responsible for maintaining clear access to walkways and vehicle movements throughout the duration of the works. Methodologies indicated will be reviewed throughout the project.

6.6 Disruption Notices

Any planned disruptions to hospital operations will be managed through the process of Disruption Notices (DNs). For such stoppages, the DN will describe the applicable works, timetable, issues and risk management plans.

DNs are submitted by the contractor to the project manager and hospital stakeholders for approval. Depending on the nature of the works these may be required between 48hrs and 6 weeks prior to commencement of works.

6.7 Site Amenities

The site amenities and compounds erected will accommodate lunch, bathroom and change facilities for the duration of the project.

Accommodation and amenities for the construction workforce will be provided in demountable site sheds. These site sheds will be erected, relocated and removed throughout the redevelopment to cater for fluctuating workforce demand and moving work areas.

In an effort to mitigate any further congestion around the already busy Liverpool Hospital campus, the Contractor and sub-contractors will be advised during their site inductions that there is no parking within the Liverpool Hospital site, or within the adjacent streets. To minimise impact on street parking, contractors and sub-contractors will be encouraged to use public transport or car share as the site is within close proximity to Warwick Farm and Liverpool Train Stations. Additionally, contractors will be encouraged to park at various parking stations such as Remembrance Avenue car park, Warwick Farm Commuter car park, Collimore Park garage, Bathurst St garage, Liverpool Westfield car park, Warren Service Way car park and Liverpool Plaza car park.

Contractors will be requested within the tender to submit a plan outlining a strategy to minimise street parking.

6.8 Site Inductions

Inductions for the project should be specifically tailored to inform workers of their obligations working within a live hospital environment. The content of the induction will be reviewed with HI and SWSLHD's project team to ensure the strategies imposed by the Contractor are aligned with the requirements of the Hospital.

- The project induction will train new workers on project specific safety and emergency procedures; and address key interface controls, including:
- Working in a live environment: Maintaining business continuity for the Hospital is a key to the successful project and will be the underlying theme of the induction procedure for every worker on site;
- Infection control: Content within the induction should focus on the importance of infection control and the risk to the existing Hospital from construction works. It should also focus on work methodologies and quality procedures to ensure the end product delivered to the client has been constructed in accordance with the documentation and without risk of infection to end users;
- Access within the existing Hospital: The induction needs to provide clarity regarding no access into existing Hospital areas. There shall be clear 'no-go' zones identified including the travel path for all emergency vehicles to and from the Hospital;
- Separation of construction works from Hospital Operations: Access to and from site will be defined and out of bounds areas clarified for workers;
- Disruptive works procedure: All workers shall be made aware of their responsibilities towards understanding what constitutes disruptive works and understand the timeframes associated with preparing to carry out any such works;
- Working around children: All workers will be made aware of their responsibilities towards working in facilities with children and;
- Minimising disruptions to Liverpool Hospital's parking and access for staff.

6.9 Service Diversions and Temporary Services

During the Works, service diversions will be undertaken. In general, the following principles will be adopted when diverting services:

- Services impacts on the existing Liverpool Hospital campus facilities will be undertaken with full coordination, development and input with relevant hospital and authority stakeholders and will only proceed with approval, via a Disruption Notice process and appropriate consultation with the relevant service providers
- Impacts on the hospital will be kept to the absolute minimum, which may result in 'Out of Hours' work. Hospital 'business continuity' must be maintained at all times, unless agreed prior via a Disruption Notice.

6.10 Dilapidation Reports

Prior to commencing the works onsite and at completion, the Contractor will undertake a Pre and Post Dilapidation Report. The following areas are to be covered at a minimum;

- Existing surrounding roads and internal hospital roads;
- Adjacent hospital buildings, including buildings adjacent to each subsequent staging;
- Existing landscape, including trees being retained;
- Services mains;
- Stormwater systems; and
- Existing utilities and authority services.

The full extent of the Dilapidation reports will be agreed with the Principal prior to investigations proceeding.

6.11 Tree Protection

A number of existing trees in the vicinity of the work zones have been identified to be retained and protected during the works. As such protection of these trees in accordance with the statutory requirements and in line with the Arboricultural Assessment Report and Biodiversity Assessment Report strategy should be maintained by the contractor.

7 Operating Hours

Monday to Friday	0700 – 1800
Saturday	0800 – 1500
Sunday	No Work

In addition to regular working hours, there will be occasions where specific out of hours works are required. These out of hours works will be further developed as the projects deign is developed and interfacing works become better understood.

Prior to commencement of the project, the contractor shall agree an out of hour's works process with HI and SWSLHD, Liverpool City Council and all other necessary stakeholders to address the notification and approvals process for out of hour working.

8 Traffic Management

8.1 Traffic Management Plan

Note: This section is to be read in conjunction with the Transport Assessment appended to the EIS prepared by GTA consultants.

One of the key requirements to achieve the successful delivery of the MSCP will be managing the flow of materials and equipment into and out of the construction site with as little impact on the existing hospital operations and minimising further congestion on the neighbouring roads.

Prior to construction works commencing, a detailed Traffic Management Plan shall be prepared by the Contractor for each package of the project during its start-up/ planning phase to ensure coordination between the sites and the Hospitals operation.

Key issues for traffic and pedestrian management during construction to be considered in the Traffic Management Plan include, but is not limited to:

- Provide safe and uninterrupted access for pedestrians and vehicles moving around the construction site and hospital site;
- Carpark entry and egress;
- Ensure maximum safety of site personnel, pedestrians, and drivers;
- Outline construction vehicle paths of travel;
- Minimise environmental nuisance and impact as a result of construction traffic;
- Pedestrian access routes including the relocation of crossings away from the site but remaining within the vicinity of existing pedestrian routes;
- Ensure construction traffic does not unduly interrupt existing traffic flows on the local road network;
- Have no vehicles arrive at the site, without prior arrangement, outside the approved working hours;
- Maintain Patient Transfer Routes or provide alternatives with agreement from the Hospital;
- Encourage site workers to utilise local public transport system and car sharing wherever possible;
- Timely and effective implementation of traffic management measures; and
- Maintain access at all times for hospital and stakeholder's deliveries; and

8.2 Pedestrian Protection

Pedestrian and vehicular movements for areas around the hospital (ex. construction zones) will be maintained, or alternate routes determined where necessary, and be defined by clear signage. If necessary, physical traffic management personnel will be used to guide pedestrians and vehicles safely.

Temporary hoarding appropriate to the interaction between pedestrians and construction works (as per Workcover requirements and Australian Standards) will be constructed to prevent unauthorized access to the construction site. These hoardings and fences may be staged to allow for appropriate construction methodologies to be planned.

8.3 Deliveries and Materials Storage

Deliveries to within the site will be managed through dedicated site entrances and exits. These will be outlined by the Principal Contractor and agreed by the Hospital.

Materials will be staged and stored in such a way to promote a clear and safe work site. At all times, materials are to be stored within the confines of the site. While loading and unloading vehicles, it will be clearly stated that vehicles must not obstruct roads, driveways and escape routes from the building or fire protection equipment.

9 Environmental Health and Safety

9.1 Environmental impacts

An Environmental Management Plan (EMP) that complies with environmental legislation will be developed by the Principal Contractor. The EMP will describe the environmental strategy, methods, controls, and requirements for the execution of the Works. It will stand alone as the master document for site environmental activities.

The primary aim and objective of the EMP will be to provide a framework of procedures to minimise the impacts of the construction of the project on the environment. The environmental performance of the contractor will be monitored throughout the Works.

9.2 Noise and Vibration Management

Note: This section is to be read in conjunction with the Noise and Vibration Report appended to the SSDA prepared by Acoustic Logic.

Noise from the construction site shall not exceed the limits set out in the Interim Construction Noise Guidelines, EPA and Australian Standards. No machine work will occur outside the approved working hours set unless approval has been given through the DN process.

The noise and vibration from the use of any plant equipment and/or building services associated with the premises shall not give rise to an offensive noise as defined under the provisions of the Interim Construction Noise Guidelines, EPA and Australian Standards.

As part of noise mitigation for the project, the contractor will be responsible for the management, checking of compliant maintenance regimes and statutory supervision of all equipment, such as making sure all trucks and machinery involved in the Works will be checked for defective exhaust systems and general servicing.

Guidelines for operational limits, identification of at-risk receivers and implementation of mitigation measures will be provided in a project Nosie and Vibration Management Plan. The objectives of the Construction Noise and Vibration Management Plan will be to:

- Ensure that construction works do not significantly impact background noise levels around the hospital precinct, and that applicable guidelines and regulations are met;
- Ensure all equipment operates within the applicable noise levels;
- Vibration does not affect occupiers of the hospital; and
- Ensure construction methodologies adopted minimise the impact of noise, dust and vibration.

9.3 Odour Control

Odours associated with demolition for the site will be assessed and minimised. All plant and machinery involved in the works will be regularly serviced and checked for exhaust emissions and catalytic converters are to be utilised.

9.4 Waste Management and Recycling Principles

The Contractor will be required to recycle and reuse materials where possible. The contractor will be required to arrange for the sorting and recycling of waste materials and packaging to ensure maximum recycling is achieved. The contractor will be committed to achieving compliance with the EPA guidelines. All packaging is to be removed before materials are delivered to site to minimise waste generation on site.

9.5 Dust, Sediment and Erosion Controls

The appointed Principal Contractor will develop a strategy in accordance to the statutory regulations for dust control, and a comprehensive Soil and Water Management Plan, both of which will be included in the EMP. This strategy will include control measures and document how these measures are to be implemented and monitored.

Appendix A

Site Plan

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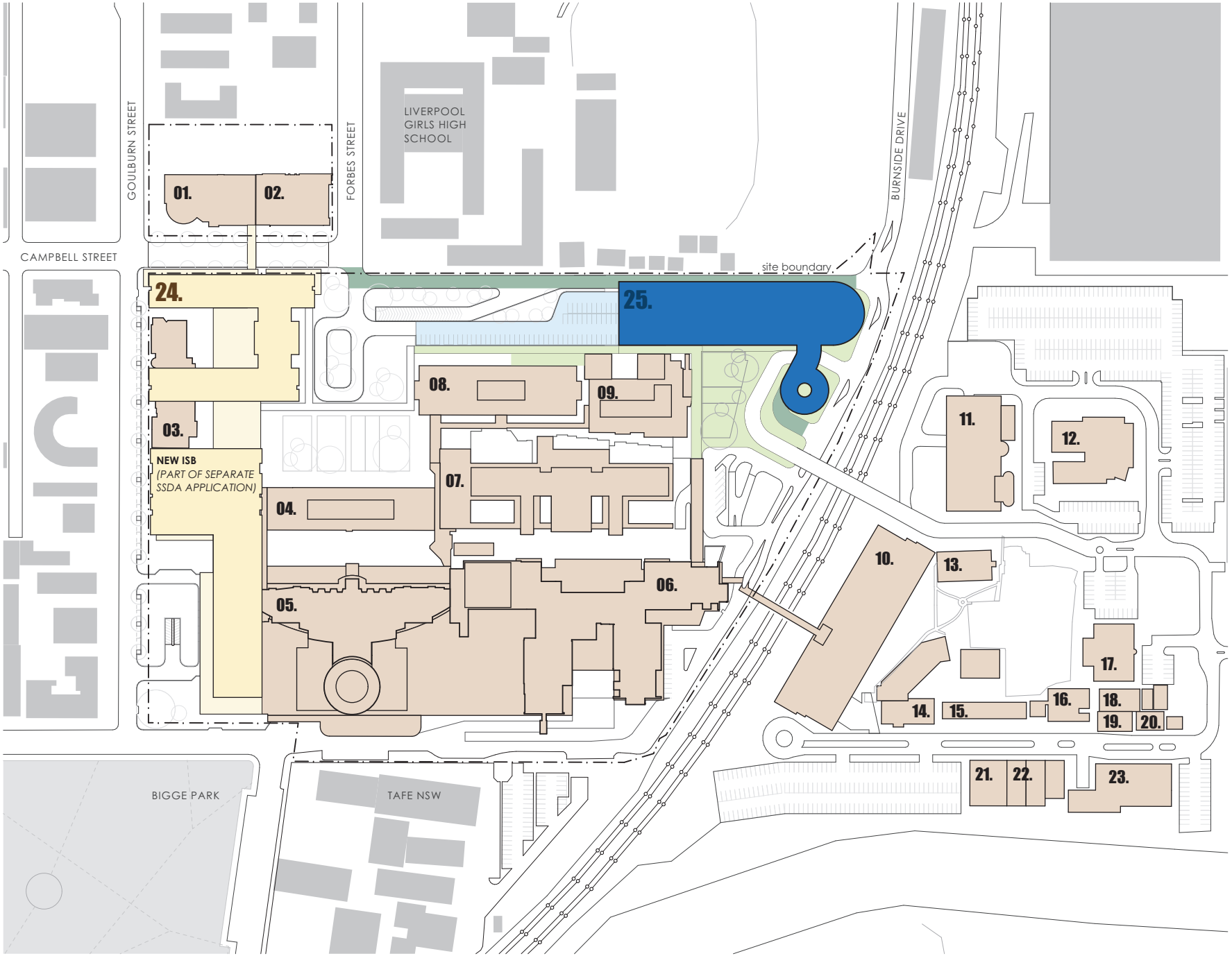
LEGEND

01. health services building
02. ingham building
03. oncology bunkers
04. caroline chisholm
05. old clinical services building
06. new clinical services bld
07. mental health centre
08. don everett building
09. brain injury unit
10. P4 multi-storey car park
11. central energy building
12. ngara health education
13. bungala building
14. child care centre
15. staff education trainning
16. physical recources
17. admin building
18. multicultural health services
19. biu admin
20. biu nursing area
21. interpret building
22. store shed
23. isd swsahs
24. new integrated services building (ISB) (seperate SSDA)
25. new multi storey car park



road works
landscape works
new on-grade car park
new multi storey car park
liverpool campus
existing buildings

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AMENDMENTS

REV.	DATE	DESCRIPTION	CHK
02	10/01/20	FOR REVIEW	RP
03	15/01/20	FOR REVIEW	RP
04	17/01/20	FOR REVIEW	RP
05	31/01/20	FOR REVIEW	RP

PROJECT
LIVERPOOL HEALTH & ACADEMIC PRECINCT
ELIZABETH STREET LIVERPOOL NSW

CLIENT
HEALTH INFRASTRUCTURE
14/77 PACIFIC HWY, NORTH SYDNEY NSW 2060

PROJECT NORTH
SCALE 1:2000 @A3
25mm ON ORIGINAL

DRAWING
SITE PLAN

PRINT DATE
31/01/2020

PROJECT NO. 21807
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