

Response to Submissions and Additional Information

Liverpool Hospital - Integrated Services Building
and Refurbishment Works Corner Elizabeth Street
and Goulburn Street, Liverpool

Submitted to Department of Planning Industry and
Environment

09 September 2020 | 218264



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1.0 Introduction

An Environmental Impact Statement (EIS) in support of a State Significant Development Application (SSDA) for the construction and operation of a new Integrated Services Building (ISB) and refurbishment works at Liverpool Hospital was publicly exhibited for a period of 28 days inclusive between 28 May 2020 and 25 June 2020 (SSD 10389).

In total, 10 submissions were received from Government agencies and authorities in response to the public exhibition of the EIS. No submissions were received from the general public.

The applicant Health Infrastructure NSW (Health Infrastructure) and its specialist consultant team have reviewed and considered all issues raised.

This report, prepared by Ethos Urban on behalf of the applicant, sets out the responses to the issues raised and includes design amendments made to SSD 10389 in accordance with Clause 55 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

This report should be read in conjunction with the original Environmental Impact Statement (EIS) prepared by Ethos Urban (including appendices and dated 8 May 2020), the Design Package prepared by Fitzpatrick and Partners (at Appendix A) and the supporting documents contained within the Appendices.

2.0 Consultation

Since the exhibition of the EIS, the project team has met with representatives from Liverpool City Council on 3 August and 13 August 2020 to discuss the feedback and issues raised. Responses to the feedback and amendments to the proposal where appropriate, are included in this report and the supporting documentation.

3.0 Key issues and Responses

This section of the report provides a detailed response to the following key issues raised by the Department and other agencies during the exhibition of the SSD:

- Traffic;
- Landscaping
- Heritage;
- Noise;
- Flooding; and
- Groundwater.

A response to each of the other individual issues raised by the Department and other agencies is provided in the Response to Submissions table at **Appendix A** and within the other supporting documentation (refer Table of Contents).

3.1 Traffic

3.1.1 Issue

In their correspondence, DPIE raised concerns with regards to the performance of the Lachlan Street / Forbes Street intersection and the potential impacts of a decline in service at the intersection.

3.1.2 Applicants Response

GTA Consultants have prepared a detailed response to the traffic generation and car parking arrangements of the proposed development. Refer to **Appendix G**.

It is noted that additional SIDRA modelling has been undertaken in response to various issues raised around the incorporation of a shared zone on Campbell Street. The Transport and Accessibility Impact Assessment dated 6 May 2020 which was submitted with the EIS documentation did not include SIDRA modelling for the Lachlan Street / Forbes Street and Lachlan Street / Goulburn Street intersections and therefore, the modelling from these scenarios relating to the shared zone has been included for completeness. As discussed in **Appendix G**, it is not anticipated that there will be any flow on effects from the Lachlan Street / Forbes Street intersection and it does not require upgrading to a roundabout following the hospital redevelopment, both with or without the proposed shared zone. As detailed in the Transport and Accessibility Impact Assessment and the supporting Transport Response (included at **Appendix G**), the SIDRA modelling indicates that the additional traffic generated by the hospital redevelopment and surrounding developments could be accommodated.

Further to this, it is noted that a meeting was held with Council on 3 August 2020 where in principal support for the shared zone and the change in priority at the Lachlan Street / Forbes Street intersection was provided, subject to further detailed design development and as part of the Section 138 approval required to be submitted to Council. Refer to **Appendix A** and **Appendix G** for further discussion. A recommended condition of consent has been included in the Mitigation Measures at **Section 6.0** to reflect this.

3.2 Landscaping

3.2.1 Issue

Liverpool City Council have raised concerns with regards to the proposed landscaping and public domain works along Goulburn Street as well as the removal of some trees, including the *Corymbia citriodora*. As part of ongoing consultation post exhibition, Council have requested that the proposal outline the change in canopy cover across the site.

3.2.2 Applicants Response

As part of ongoing consultation with Council (on 13 August 2020) the proposed landscape design has undergone a number of iterations to respond to the Council's comments while having regard to the architectural form and the Liverpool City Centre Public Domain Master Plan (LCC PDMP). The key issues are discussed below and in the amended Landscape Plans, Landscape Design Report and Landscape Response to Submissions at **Appendix C**, **D** and **E**.

Goulburn Street

It should be noted that works along Goulburn Street do not form part of this SSD DA and works to this street, including the footpath and street planting have been approved under a separate application previously in consultation with Council (refer to Section 2.2.3 and 5.0 of the EIS).

The amended Landscape Plans prepared by Clouston included at **Appendix D**, illustrate an improved design transition from the Goulburn Street footpath (granite) to the forecourt paving (concrete with granite band) as well as additional granite banding at the boundary. The site's Goulburn Street frontage will also provide additional seating at the forecourt near the corner of Elizabeth Street. This is shown at **Figure 1** and **Figure 2** below.

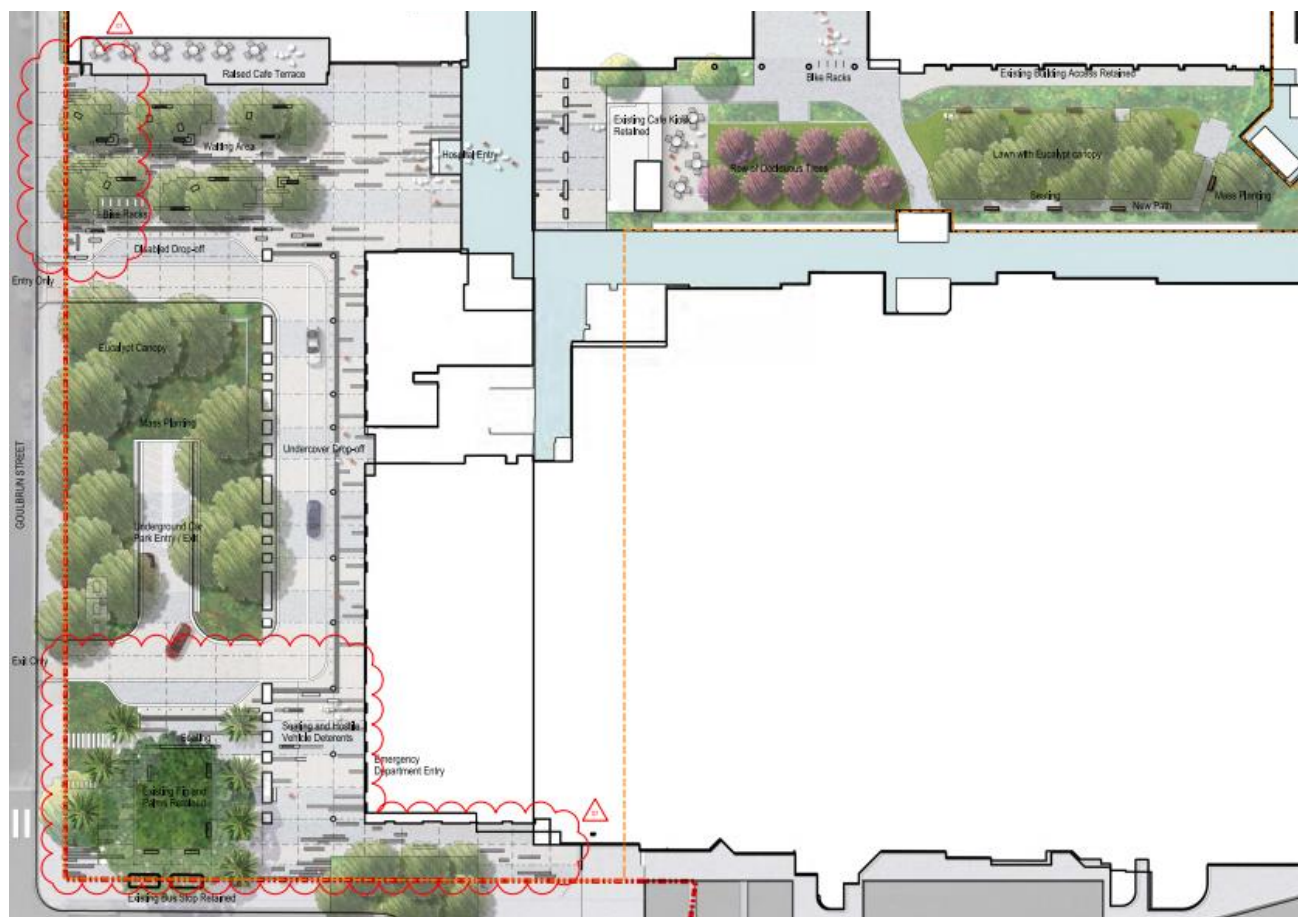


Figure 1 Proposed Goulburn Street entry forecourt

Source: Clouston



Figure 2 CGI - proposed Goulburn Street entry forecourt

Source: Clouston

Canopy Cover

Clouston have assessed the proposed removal of trees including the *Corymbia citriodora*. Importantly, the proposed development has undergone various design iterations to ensure the built form is commensurate to the existing tree canopy and landscaping in and around the site. However, the retention of a number of trees including the *Corymbia citriodora* is not possible due to the crown impacts with adjoining buildings. Accordingly, this tree is proposed to be replaced with *Lophostemon confertus*, which can be managed to avoid the recurrence of such impacts. As well, it is noted that the Liverpool Council pilot study on heat mitigation demonstrates that the more open tree canopy species, such as the *Corymbia citriodora*, has less impact on heat mitigation than the denser canopy of native species such as the *Lophostemon confertus*.

Further to this, Clouston have undertaken an analysis of the tree canopy coverage from that which currently exists as well as the expected tree canopy coverage on planting day and at 5 year increments. This is shown in **Table 1** below.

It should be noted that given the scale of the project it would not be possible to have 100% canopy coverage on planting day, however, through the addition of an increase in soft scape landscaping and significant improvements to the public domain, as well as a canopy coverage of more than 87% in 5 years' time post development and more than 350% canopy cover at mature growth. Accordingly, the public benefits are considered to significantly outweigh the loss of some canopy cover on planting day. Further discussion is provided in the Landscape Plans at **Appendix C** and Landscape Response to Submissions Statement at **Appendix F**.

Table 1 Liverpool Hospital Campus Canopy Coverage

Canopy Coverage Description	Area of Canopy Coverage (m ²)	% Change from Existing canopy coverage
Existing canopy coverage	5,598	N/A
Expected canopy coverage at planting day (Including retained existing trees)	2,902	51.8%
Expected canopy coverage at 5 years (Including retained existing trees)	4,902	87.6%
Expected canopy coverage at 10 years (Including retained existing trees)	7,902	141.2%
Expected canopy coverage at maturity 30 years (Including retained existing trees)	19,795	353.6%

Source: Clouston

3.3 Noise

3.3.1 Issue

In their correspondence, DPIE raised concerns with regard to the construction hours and works proposed outside of the standard construction hours, including justification of noisy works occurring on Saturdays.

3.3.2 Applicants Response

The proposed development seeks consent for the following construction hours:

- Standard Hours:
 - Monday to Friday (7am – 6pm) and Saturday (8am – 1pm)
- Outside Recommended Standard Hours:
 - Saturday (1pm – 3pm)
- Special Construction Hours:
 - Friday (6pm - 10pm)
 - Saturday (5pm - 10pm)

- Sunday (8am - 10pm)

The proposed scope of work to be undertaken outside the recommended standard hours and the special construction hours include:

- Concrete finishing works including the use of a Helicopter float; and
- Erection and installation of stationary crane.

The worst-case scenario for noise emission from these proposed construction activities has been assessed by Acoustic Logic as follows:

Table 2 Sound Power Levels of the Proposed Equipment (used during extended construction hours)

Equipment / Process	Sound Power Level dB(A)
Helicopter float	100
Semi-trailer	105
Mobile crane	105

Source: Acoustic Logic

It is noted that these noise sources have been derived from the following:

- On site measurements;
- Table A1 of Australian Standard 2436-2010 and Table A1 of Australian Standard 2436-2010; and
- Data held by Acoustic Logic from other similar studies.

Additional SoundPLAN modelling has been undertaken to assess the proposed out of hours works and the impact on surrounding sensitive receivers. The analysis indicates that the proposed out of hours construction activities will marginally exceed the noise management level at Receiver 2 – residents at Goulburn Street. At all other locations, the construction activities are below the noise management levels. It is noted that Receiver 5 (Liverpool Girls High School) and Receiver 6 (TAFE NSW) would not be operational during the extended hours.

Accordingly, while the proposed extension to the construction hours will result in a marginal exceedance to the noise management level at Receiver 2, appropriate site specific measures have been included to mitigate impacts to residents. These are included in **Section 6.0** and in the additional Acoustic Impact Assessment prepared by Acoustic Logic at **Appendix H**.

3.4 Heritage

3.4.1 Issue

Heritage NSW has provided various comments with regards to the Statement of Heritage impact submitted with the EIS and the documentation of archaeological heritage on the site.

3.4.2 Applicants Response

An addendum to the Statement of Heritage Impact and response to the issues raised by agencies has been prepared by RPS and is included at **Appendix I**. The addendum provides further updates on the archaeological site assessment and an excavation methodology to guide the proposed works. RPS have also prepared a series of graphics that identify the nature and extent of ground disturbance across the proposal area. The graphics identify the locations of historical structures in relation to the existing building and basement footprints, existing sub-surface utilities, previous archaeological excavations and the proposed redevelopment footprint requiring ground disturbances. This updated information clarifies RPS' assessment in relation to the archaeological potential of the proposal area which has been identified as low and low to nil. The exception to this potential is for drains, which is based on the 2007 archaeological monitoring programming where there is a moderate to high potential for similar drains, in less disturbed areas of the proposal area. Notwithstanding, RPS confirm that the significance of drain networks identified is likely to be significant at a local level only.

Accordingly, an unexpected finds procedure has been prepared in the event archaeological remains not anticipated are identified and further recommendations have been detailed to respond to the issues raised by Heritage NSW.

Further discussion is provided in the Response to Submissions at **Appendix A** and the addendum prepared by RPS at **Appendix I**. Heritage mitigation measures are included in **Section 6.0**.

3.5 Flooding

3.5.1 Issue

The applicant sought clarification of the DPIE request regarding flooding and DPIE seeks information on how stormwater would be managed during construction and following the completion of construction, given that flows would be altered during the construction of the development and once it is complete.

3.5.2 Applicants Response

Plans illustrating the existing, during construction and post construction overland flow directions have been prepared by TTW. The plans illustrate that all overland flow from the construction site will be managed through siltation fences, sediment traps or filter pits. As shown in **Figure 3** to **Figure 8** below, the proposed construction works will not impact any external overland flow paths and during the post development scenario, overland flows are consistent with the pre-development overland flows. The overland flow path analysis is included at **Appendix L**.

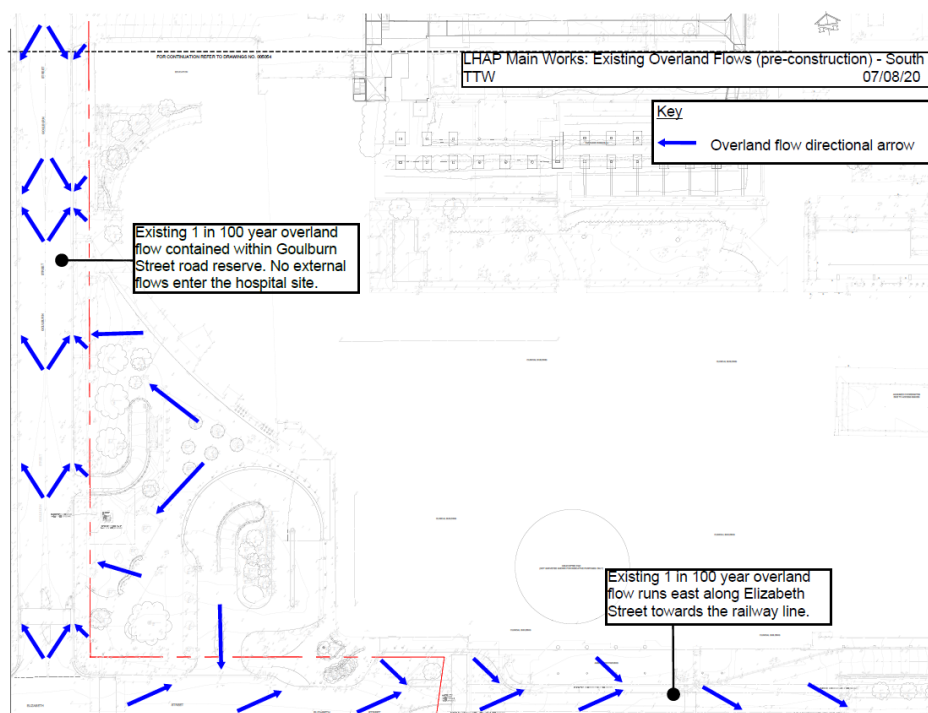


Figure 3 Existing overland flow analysis (south)

Source: TTW

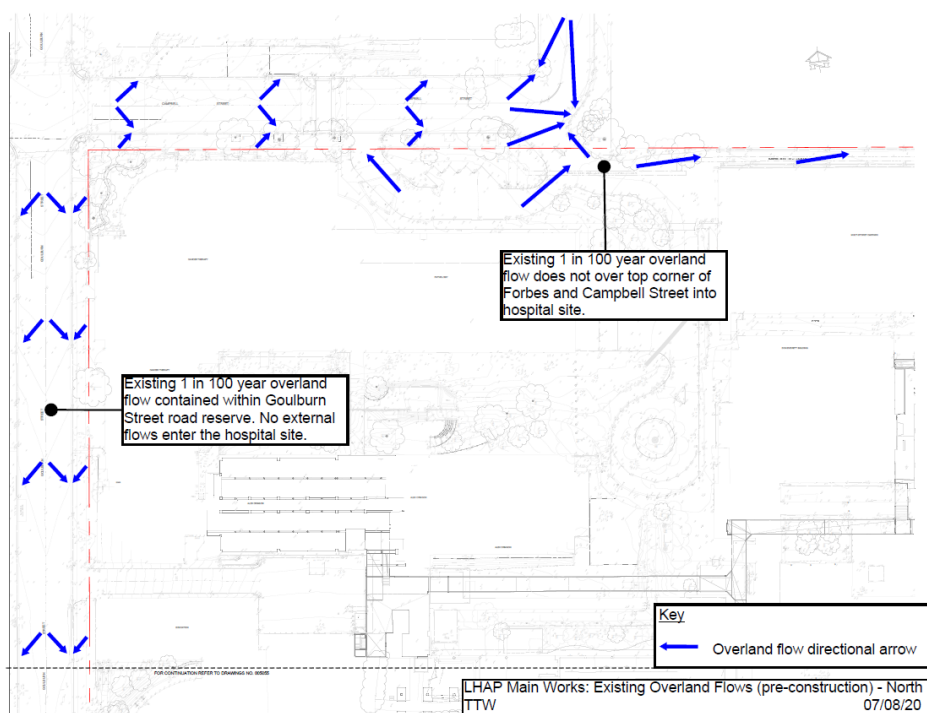


Figure 4 Existing overland flow analysis (north)

Source: TTW

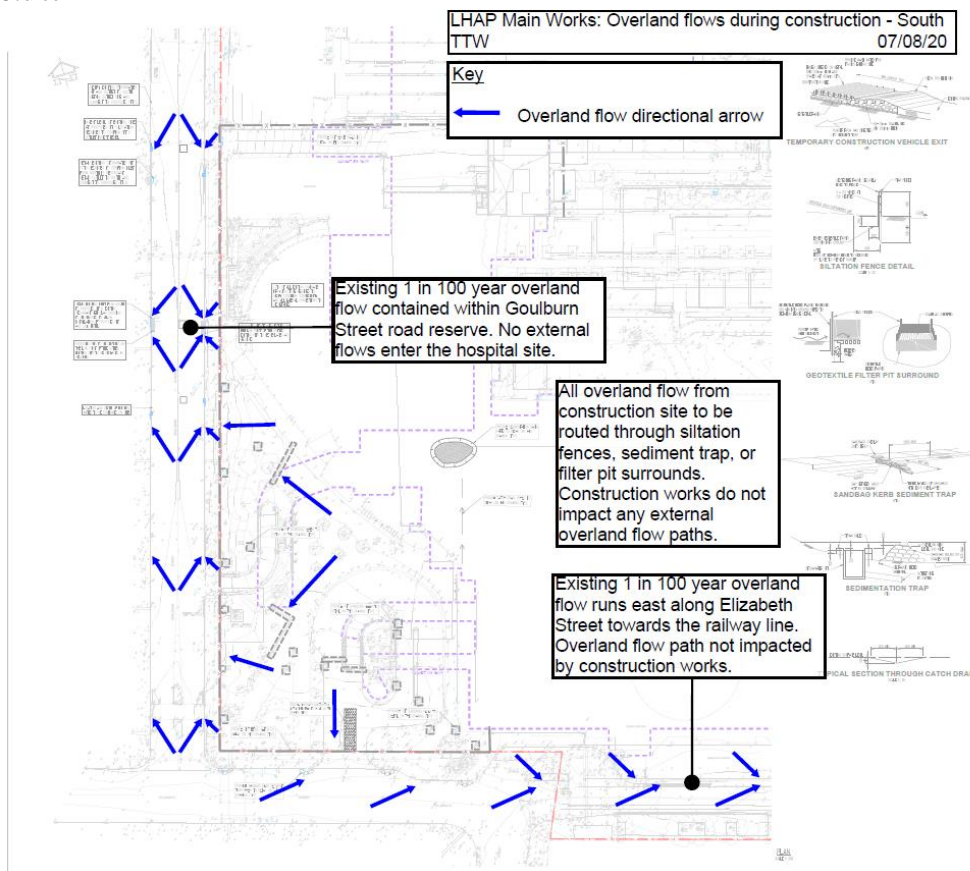


Figure 5 During construction overland flow analysis (south)

Source: TTW

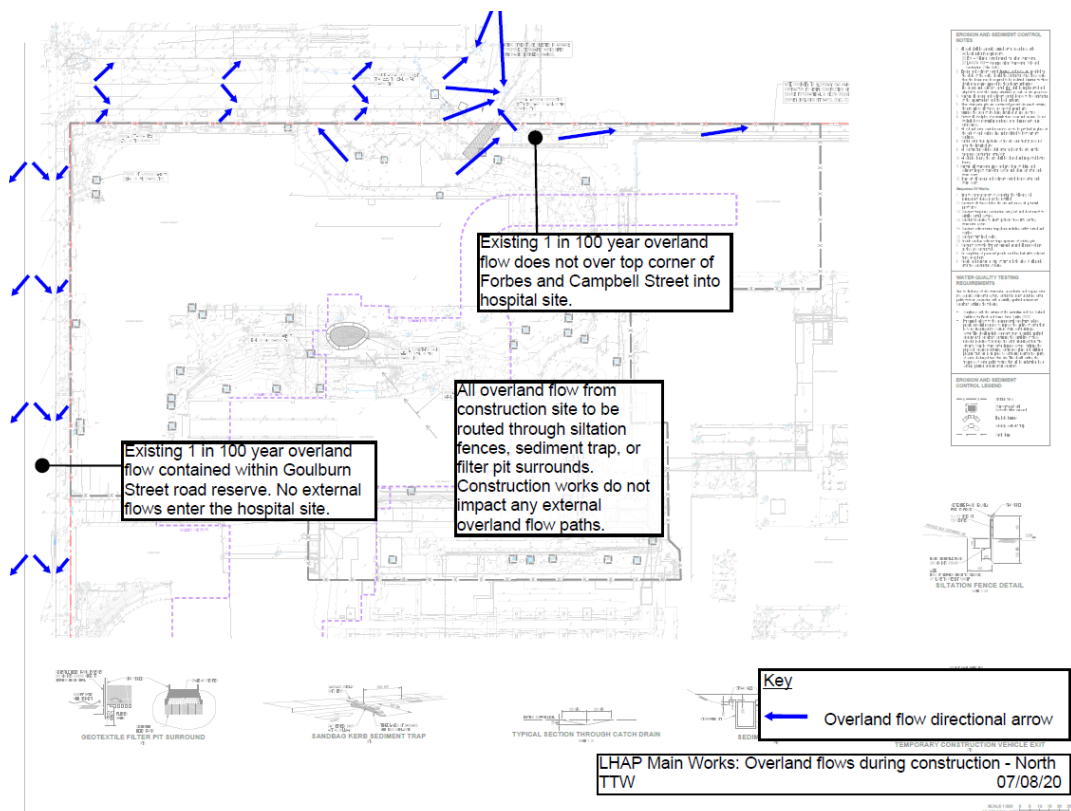


Figure 6 During construction overland flow analysis (north)

Source: TTW

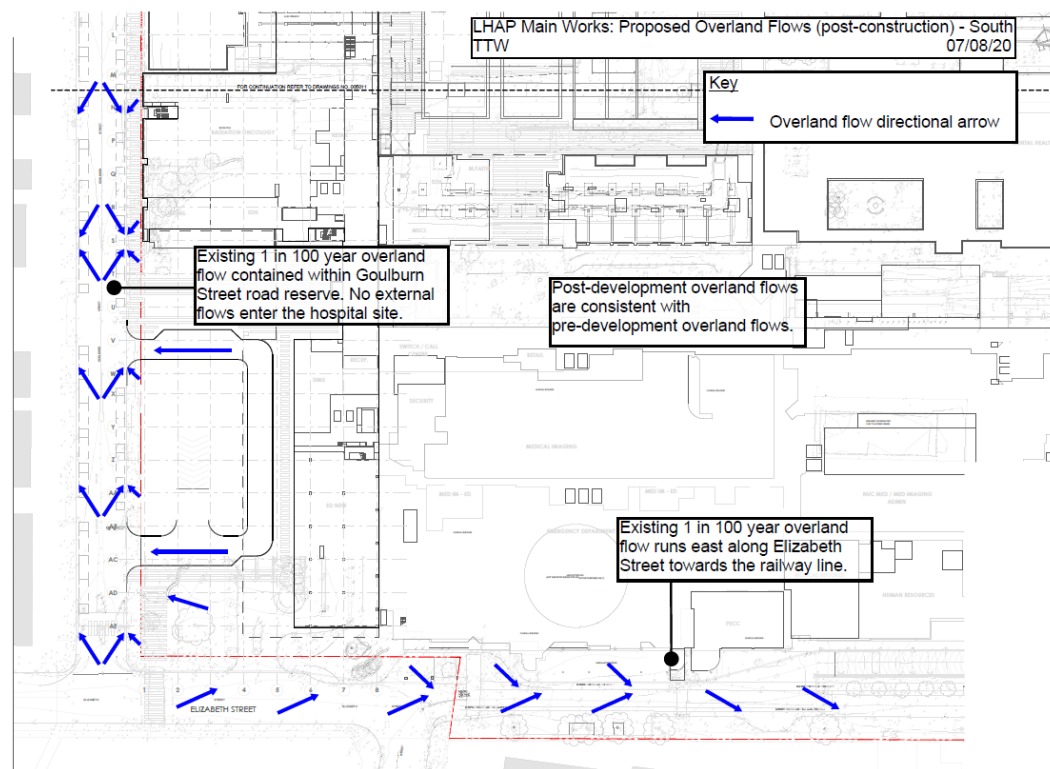


Figure 7 Post development overland flow analysis (south)

Source: TTW

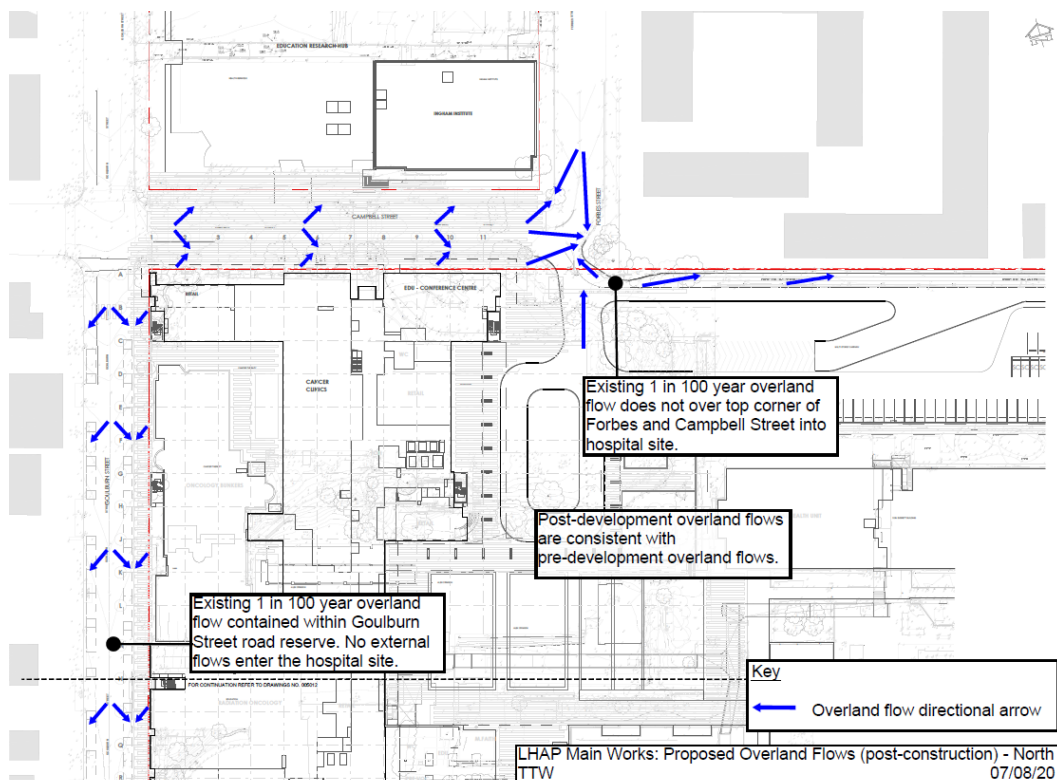


Figure 8 Post development overland flow analysis (north)

Source: TTW

3.6 Groundwater

3.6.1 Issue

In their correspondence, DPIE raised concerns with regards to excavations required to facilitate the development and the detail of groundwater.

3.6.2 Applicants Response

Further advice regarding groundwater and excavations has been prepared by JK Geotechnics and is included at **Appendix J**. It is noted that groundwater was measured at depths of 5.3m (RL 6.4m), 7.3m (RL 3.3m) and 4.0m (RL 7.9m). Groundwater inflows into the basement and ground floor level excavations are expected to occur as local seepage flows at the base of the fill, through gravel bands or relic joints/fissures within the alluvial and residual clays, and at the soil/rock interface (if encountered), particularly after heavy rain. Seepage volumes into the excavations are expected to be localised, of limited volume and controllable by conventional sump and pump discharge systems. Discharge from the drainage system should be piped to the stormwater system. The excavation will need to be monitored as it progresses by the contractor and JKG to confirm the drainage requirements. Further discussion is provided at **Appendix J**.

4.0 Amendments to the Proposed Development

Since exhibition, a number of amendments have been made to SSDA 10389 as part of design development refinement and to address the issues raised in the agency submissions. An amended Design Report has been prepared by Fitzpatrick and Partners (refer to **Appendix A**) reflecting these changes. The key changes are summarised below:

- New end of trip facilities and an additional 25 bicycle parking on the Basement Level of the existing CP1 carpark (totalling 50 bicycle parking spaces);

- An additional 25 visitor bicycle parking spaces on the Ground Level;
- Revised southern podium façade; and
- Revised Goulburn Street forecourt landscaping design.

4.1 Amended DA Description and Numerical Summary

The following section presents a brief updated description of the modified development for which approval is sought. It is noted that the only changes to the DA description is the new bicycle parking and end of trip facilities in the CP1 Basement Carpark.

Accordingly, and as detailed in **Section 3.0**, the changes are not considered to give rise to any material alteration to the environmental assessment of the potential impacts considered as part of the original development application and the development description remains generally unchanged, however has been provided for completeness.

The DA description for SSDA 10389 has been amended as follows:

- Demolition and site preparation;
- Construction and operation of a new 6 storey ISB to provide:
 - Expanded Emergency department;
 - New women's and paediatric services;
 - New cancer treatment centre;
 - New support services including pathology, satellite medical imaging and pharmacy;
 - New education and teaching spaces;
 - New retail facilities; and
 - New basement loading dock.
- Refurbishment of existing buildings to provide:
 - New bicycle parking for staff and end of trip facilities in the CP1 Basement Carpark;
 - Expansion and reconfiguration of the existing Emergency Department;
 - Expansion of the Intensive Care Unit;
 - Reconfiguration of existing operating theatres and same day surgery; and
 - Repurpose Caroline Chisholm Building for office accommodation.
- New hospital entry and drop off;
- Construction of a skybridge link over Campbell Street to the Ingham Institute;
- Construction of new internal access roads and links;
- Expansion of Ambulance bays on Elizabeth Street;
- Creation of a shared zone on Campbell Street;
- Tree removal;
- Landscape works;
- Utilities services and amplification works; and
- Site preparation civil works.

Further, while the key numerical information generally remains unchanged, it has been replicated in **Table 3** to provide clarity.

Table 3 Key development information

Component	As exhibited	As Amended
Campus Area	156,235m ² (east and west campus)	No change
GFA	<ul style="list-style-type: none"> Existing: 117,045m² Proposed increase: 23,005m² 	No change
FSR	<ul style="list-style-type: none"> Existing: 0.75:1 Proposed increase: 0.90:1 	No change
Maximum height	RL 45.1m (32.9 metres)	No change
Staff	418 (additional full time equivalent staff)	No change
Car parking spaces	No car parking spaces are proposed as part of this development. The provision of car parking forms part of a separate concurrent development application.	No change
Bicycle parking spaces	<ul style="list-style-type: none"> 25 bicycle spaces for staff in the basement of the CP1 carpark; 25 spaces for visitors in the public domain 	<ul style="list-style-type: none"> 50 bicycle spaces for staff in the basement of the CP1 carpark; 25 spaces for visitors in the public domain (and an additional 25 under the Multi Storey Car Park SSDA (SSD10388))
Loading spaces	5	No change

4.2 Amended DA Document Register

Table 4 below provides a consolidated register of the architectural plans and their applicable revision date to support the amended proposal.

Table 4 Architectural Plans Reference

Drawing Number	Title	Revision	Date
Amended Architectural Plans			
A-SSDA-MW-02	LOCATION PLAN	08	07/08/2020
A-SSDA-MW-03	EXISTING SITE PLAN	08	07/08/2020
A-SSDA-MW-04	BUILDING DEMOLITION PLAN	08	07/08/2020
A-SSDA-MW-05	BASEMENT DEMOLITION PLAN	08	07/08/2020
A-SSDA-MW-06	SITE PLAN	08	07/08/2020
A-SSDA-MW-07	BASEMENT	08	07/08/2020
A-SSDA-MW-08	GROUND PLAN	08	07/08/2020
A-SSDA-MW-09	LEVEL 1	08	07/08/2020
A-SSDA-MW-10	LEVEL 2	08	07/08/2020
A-SSDA-MW-11	LEVEL 3	08	07/08/2020
A-SSDA-MW-12	LEVEL 4	08	07/08/2020
A-SSDA-MW-13	LEVEL 5	08	07/08/2020
A-SSDA-MW-14	LEVEL 6 - PLANT	08	07/08/2020
A-SSDA-MW-15	ROOF	08	07/08/2020
A-SSDA-MW-16	SECTION THROUGH NORTH IPU TOWER	08	07/08/2020
A-SSDA-MW-17	SECTION THROUGH EXISTING BUNKER	08	07/08/2020
A-SSDA-MW-18	SECTION THROUGH SOUTH IPU TOWER	08	07/08/2020
A-SSDA-MW-19	SECTION THROUGH MAIN ENTRY	08	07/08/2020

Drawing Number	Title	Revision	Date
A-SSDA-MW-20	SECTION THROUGH ELIZABETH STREET	08	07/08/2020
A-SSDA-MW-21	SECTION THROUGH CAMPBELL STREET	08	07/08/2020
A-SSDA-MW-22	NORTH ELEVATION	08	07/08/2020
A-SSDA-MW-23	EAST ELEVATION 01	08	07/08/2020
A-SSDA-MW-24	EAST ELEVATION 02	08	07/08/2020
A-SSDA-MW-25	WEST ELEVATION 01	08	07/08/2020
A-SSDA-MW-26	WEST ELEVATION 02	08	07/08/2020
A-SSDA-MW-27	SOUTH ELEVATION - EXISTING BUILDINGS	08	07/08/2020
A-SSDA-MW-28	SOUTH ELEVATION	08	07/08/2020
A-SSDA-MW-29	SOUTH ELEVATION - NEW AMBULANCE STATION	08	07/08/2020
A-SSDA-MW-30	FACADE DETAIL SECTION IPU TOWER	08	07/08/2020
A-SSDA-MW-31	FACADE DETAIL SECTION PODIUM	08	07/08/2020
A-SSDA-MW-32	FACADE DETAIL SECTION BRICK	08	07/08/2020
A-SSDA-MW-33	SCHEDULE OF FINISHES: SOUTH WEST VIEW	08	07/08/2020
A-SSDA-MW-34	SCHEDULE OF FINISHES: EAST VIEW	08	07/08/2020
A-SSDA-MW-35	3D VIEW: CORNER OF GOULBURN AND ELIZABETH ST	08	07/08/2020
A-SSDA-MW-36	3D VIEW: CORNER OF GOULBURN AND CAMPBELL ST	08	07/08/2020
A-SSDA-MW-37	3D VIEW: FORBES STREET COURTYARD	08	07/08/2020
A-SSDA-MW-38	SHADOW DIAGRAMS	08	07/08/2020
A-SSDA-MW-39	VISUAL IMPACT ASSESSMENT	08	07/08/2020
A-SSDA-MW-40	VISUAL IMPACT ASSESSMENT	08	07/08/2020
A-SSDA-MW-41	VISUAL IMPACT ASSESSMENT	08	07/08/2020
A-SSDA-MW-42	VISUAL IMPACT ASSESSMENT	08	07/08/2020
A-SSDA-MW-43	SOUTH PODIUM VIEWS	01	07/08/2020
Amended Landscape Plans			
L-SSDA_MW_00	Cover Page	07	19/08/2020
L-SSDA_MW_01	Existing site	07	19/08/2020
L-SSDA_MW_02	Tree retention and removals	07	19/08/2020
L-SSDA_MW_03	Site plan	07	19/08/2020
L-SSDA_MW_04	Ground plane	07	19/08/2020
L-SSDA_MW_05	Goulburn Street Entry & Caroline Chisolm Courtyard	07	19/08/2020
L-SSDA_MW_06	Forbes Street Entry Forecourt	07	19/08/2020
L-SSDA_MW_07	Campbell St Shared Way	07	19/08/2020
L-SSDA_MW_08	Bunker Courtyards	07	19/08/2020
L-SSDA_MW_09	Roof Site Plan	07	19/08/2020
L-SSDA_MW_10	Roof Plan	07	19/08/2020

Drawing Number	Title	Revision	Date
L-SSDA_MW_11	Northern & Southern Bunker Rooftop – Level 1	07	19/08/2020
L-SSDA_MW_12	Northern & Southern Rooftop – Level 3	07	19/08/2020
L-SSDA_MW_13	Maternity Courtyard – Level 2	07	19/08/2020
L-SSDA_MW_14	Indicative Materials Palette	07	19/08/2020
L-SSDA_MW_15	Indicative Planting Palette	08	19/08/2020
L-SSDA_MW-16	Planting Schedule Sheet 1 of 3	08	03/09/2020
L-SSDA_MW-17	Planting Schedule Sheet 2 of 3	08	03/09/2020
L-SSDA_MW-18	Planting Schedule Sheet 3 of 3	08	03/09/2020

Further to this, additional statements and technical studies have been undertaken to support the amended proposal and provide additional information and responses to the issues raised by the relevant agencies. **Table 5** below provides a register of the additional technical studies to support those submitted with the original EIS documentation.

Table 5 DA Document Register

Document Title	Consultant	Revision / Reference	Date
Architectural Response to Submissions	Fitzpatrick and Partners	N/A	07/08/2020
Transport Response to Submissions	GTA Consultants	N170560	10/07/2020
Amended Landscape Design Report	Clouston	G	07/08/2020
Additional Acoustic Impact Assessment	Acoustic Logic	06	07/08/2020
Additional Geotechnical Assessment	JK Geotechnics	32837A2let	31/07/2020
Additional Statement of Heritage Impact Response	RPS	PR143932_A	07/08/2020
Overland Flow Path Analysis	TTW	N/A	07/08/2020
Preliminary Risk Screening Assessment	JK Geotechnics	E32837BDrptRev PHA	3/08/2020
Additional Aviation Assessment	Avipro	1.2	18/01/2020
Construction Management Plan	Johnstaff	Final	17/08/2020

The revised supporting documentation enables the Department to undertake an informed assessment of the amended proposal. The findings of the revised supporting consultant documentation that are relevant to the amended design are summarised in **Section 3.0** of this report, with additional findings reported by the consultant team submissions and within the response table at **Appendix A** and the other relevant appendices.

5.0 Additional Information and Assessment

This section provides additional assessment of the proposed development (as amended) against the relevant matters for consideration under section 4.15(1) of the EPA & Act. The assessment is supplementary to and should be read in conjunction with the original environmental assessment provided in the EIS prepared by Ethos Urban and dated 8 May 2020.

5.1 Environmental Planning Instruments

The proposed development's consistency and compliance (as amended) with the applicable statutory plans and policies remains unchanged from that which was assessed in the EIS prepared by Ethos Urban and dated 8 May 2020.

Therefore, the proposal does not require any further assessment against the strategic plans, state or local legislation as provided in the EIS.

5.2 Bicycle Parking and End of Trip Facilities

In response to the issues raised by Liverpool City Council and Transport for NSW, the proposed amended design has incorporated additional bicycle parking and end of trip facilities on the hospital campus. It is noted that by 2025/26, there will be an additional 418 full time equivalent staff working at the Liverpool Hospital campus, and assuming average staff per weekday shift (ASDS) is approximately 80% of FTE staff, this results in around 330 ASDS equating to a minimum provision of 34 bicycle parking spaces. Therefore, as detailed below, the provision of bicycle parking for staff is considered adequate to encourage a mode shift towards cycling, as well as meeting any existing demand that is not already satisfied.

These amendments are discussed and illustrated in the amended Architectural Plans prepared by Fitzpatrick and Partners at **Appendix B** and in the Traffic Response provided by GTA Consultants at **Appendix G**.

Basement Level

A portion of the Basement Level of the existing Old Clinical Services Building is proposed to be demolished and refurbished to accommodate additional bicycle parking spaces and end of trip facilities. These works will also include the expansion of the building line to accommodate the additional facilities. Accordingly, the P1 basement car park will accommodate 50 secure bicycle parking spaces and associated end of trip facilities to service staff. The proposed location of the Basement Level bicycle parking and end of trip facilities is shown in **Figure 9** below.

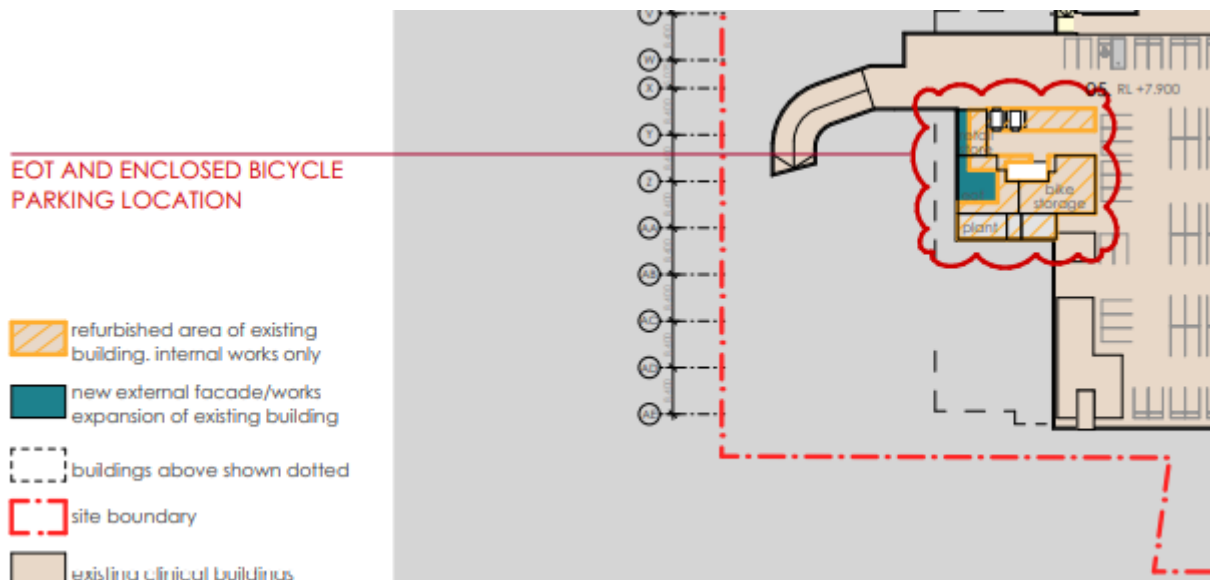


Figure 9 Basement Level – proposed location of staff bicycle parking and end of trip facilities

Source: Fitzpatrick and Partners

Ground Level

The Ground Level of the proposed development has been amended to include additional bicycle parking for staff, visitors or patients at various locations within the hospital campus. As shown at **Figure 10** below, additional bicycle parking will be accommodated within key locations at the Goulburn Street entry point, adjacent to the Caroline Chisolm Building and at the Forbes Street entry point. It is further noted that under SSD 10388, an additional 25

bicycle parking spaces will also be provided on the at-grade car park. The location of the proposed bicycle parking is shown at **Figure 10** below.

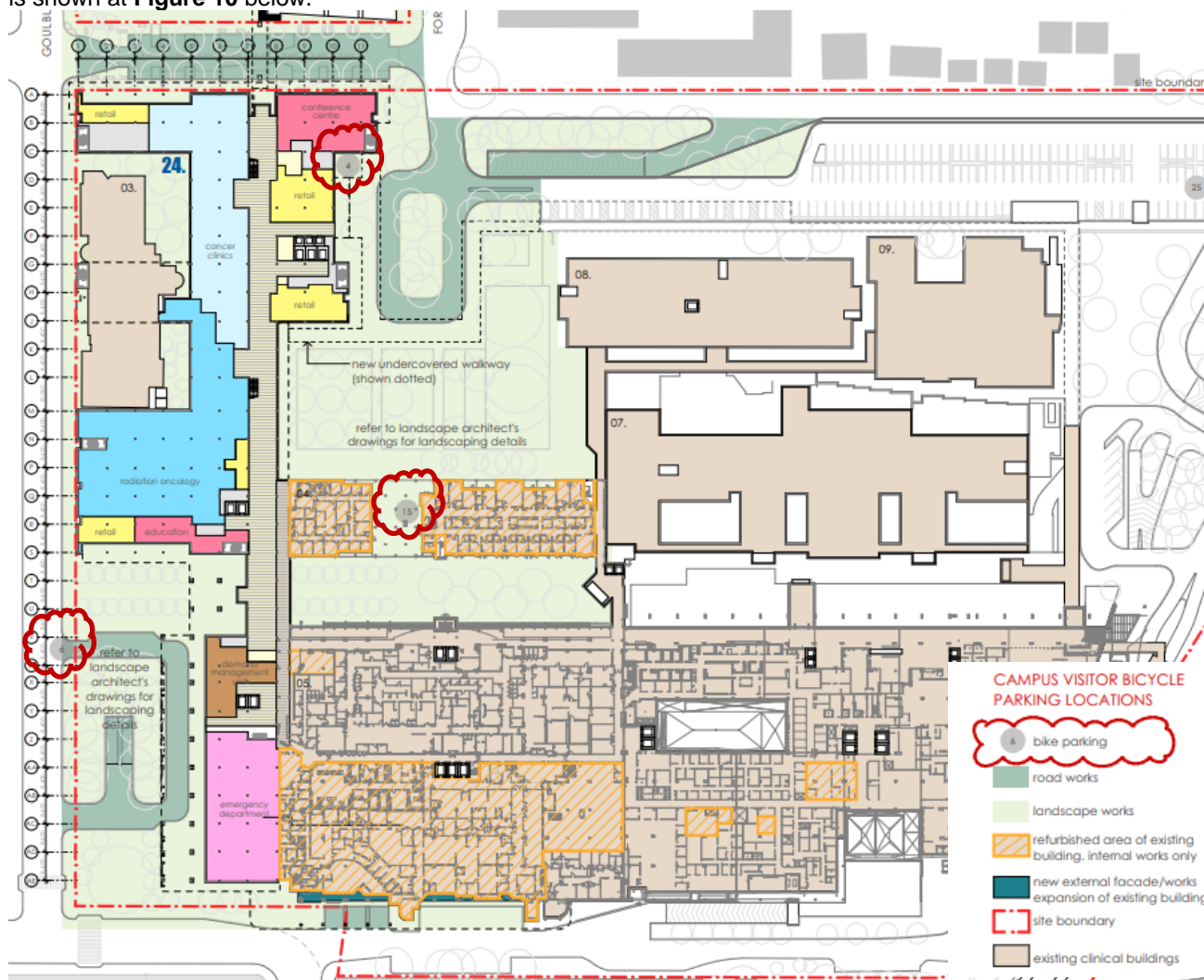


Figure 10 Proposed Ground Level bicycle parking spaces bubbled red

Source: Fitzpatrick and Partners

5.3 Podium Façade Amendments

In response to the issues raised by Council regarding the aesthetics of the proposed development, the southern façade of the podium has been amended. Additional brick elements on the lower levels of the podium will provide a more sensitive response to the adjacent Clinical Services Building and further consistency and legibility of the overall built form along the streetscape. The use of solid cladding will further provide visual separation between the adjacent Clinical Services Building and glazing on the upper levels will maximise south facing views to Bigge Park. The proposed southern façade amendments are discussed in **Appendix B** and shown in **Figure 11** below.

It is noted the signage zones are indicative only and no signage is sought for approval as part of this application.

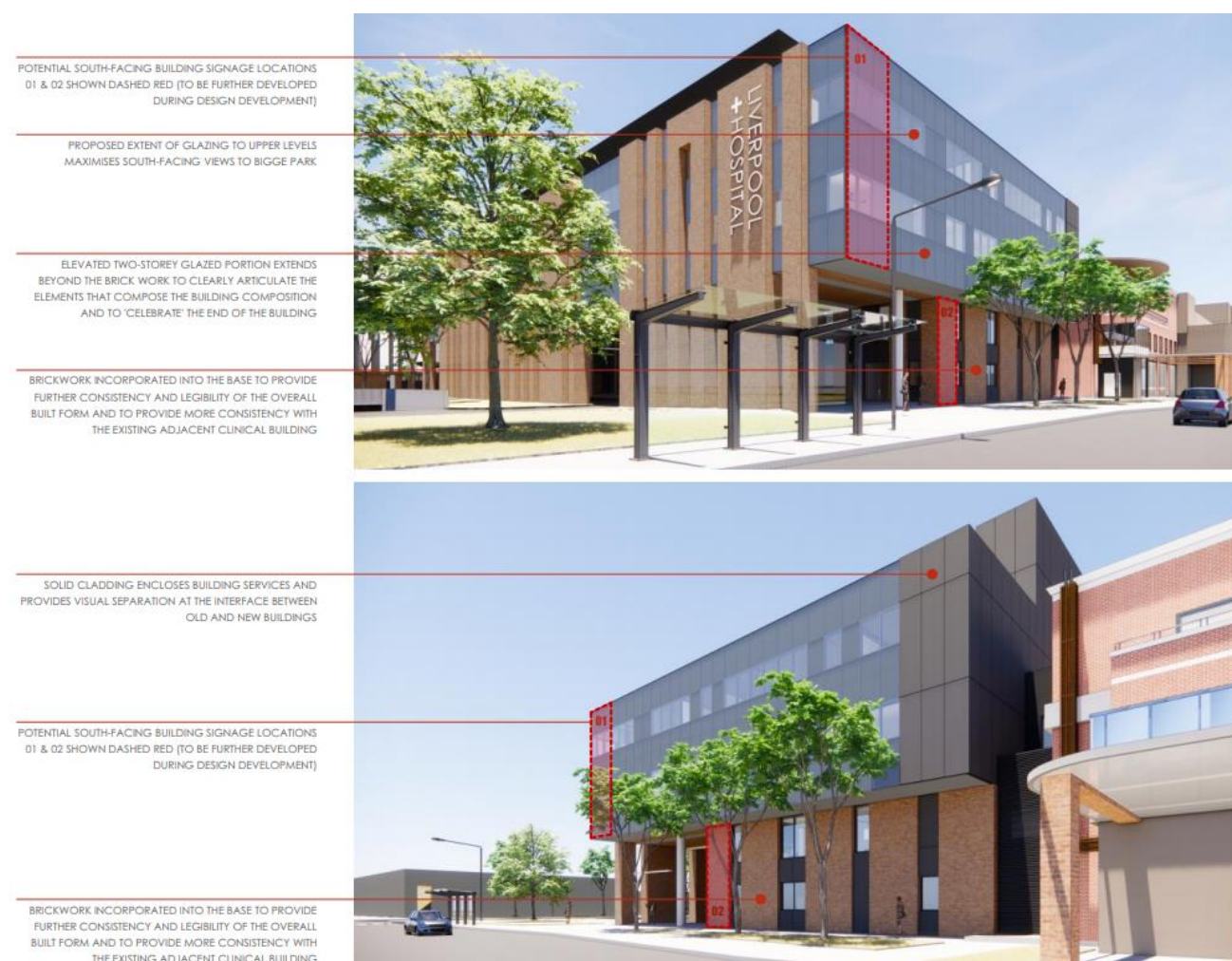


Figure 11 Southern podium façade amendments

Source: Fitzpatrick and Partners

6.0 Mitigation Measures

Since the exhibition of the EIS, the mitigation measures have been amended to respond to the Department's queries and correspond with the updated proposal and supporting documentation. Refer to **Table 6** below.

Table 6 Mitigation Measures

Mitigation Measures
<p>Construction Hours</p> <p>Construction works will be carried out in accordance with the following hours:</p> <ul style="list-style-type: none"> Standard Hours: <ul style="list-style-type: none"> Monday to Friday (7am – 6pm) and Saturday (8am – 1pm) Outside Recommended Standard Hours: <ul style="list-style-type: none"> Saturday (1pm – 3pm) Special Construction Hours: <ul style="list-style-type: none"> Friday (6pm - 10pm) Saturday (5pm - 10pm) Sunday (8am - 10pm) <p>The proposed scope of work to be undertaken outside the recommended standard hours and the special construction hours include:</p> <ul style="list-style-type: none"> Concrete finishing works including the use of a Helicopter float; and Erection and installation of stationary crane.

Mitigation Measures

Construction activities may be undertaken in accordance with the recommendations provided by Acoustic Logic including the following:

- Regularly inspect and maintain acceptable lubricant levels and engine performance. Use existing and temporary site buildings plus material stockpiles as noise barriers.
- Minimising reversing to minimise the use of movement alarms (“reversing beepers”).
- Reasonable instructions from the project applicant and site manager to minimise the use of engine braking; and to avoid noise actions such as slamming doors, loud radios, shouting or the use of truck horns for signalling.
- Consultation, notification and complaints handling.
- Placement of acoustic barriers at either the source of the receiver.
- Placement of silencing devices in the form of engine shrouding, or special industrial silencers fitted to exhausts where appropriate.
- The installation of rubber matting over material handling areas to reduce the sound of impacts due to material being dropped by up to 20dB(A).

Construction vehicles accessing the site should not queue in residential streets and should only use the designated construction vehicle routes. Loading of these vehicles should occur as far as possible from any sensitive receiver.

Transport and Accessibility

Construction and operational traffic will be in accordance with the recommendations of the Transport Impact Assessment prepared by GTA Consultants and dated 6 May 2020.

- Vehicle arrivals will be during the approved work hours.
- Construction vehicle arrivals will be scheduled according to the available loading / unloading areas during each work stage.
- Construction vehicles will be accommodated onsite or within approved work zones.
- Prior to construction works commencing, a detailed Construction Traffic and Pedestrian management Plan will be prepared including detail on the arrival times and number of construction vehicles accessing the site.

Shared Zone

Through a section 138 application, the detail and design of the proposed shared zone will be required to be submitted to Council. A condition of consent should be included to this end:

While the shared zone concept is approved, the detailed design must be submitted to Council for further approval as part of a Section 138 application under the Roads Act.

Reflectivity

The building materials used on the facades of all buildings will be designed so as not to result in glare that causes discomfort or threatens the safety of pedestrians or drivers. A report/statement demonstrating consistency with this requirement will be submitted to the satisfaction of the Certifying Authority prior to the commencement of above ground works.

Aboriginal Heritage

Aboriginal Heritage will be managed in accordance with the Aboriginal Cultural Heritage Assessment prepared by RPS and dated 21 February 2020. Specifically, the below mitigation measures have been outlined in order to account for unseated Aboriginal objects or the discovery of human remains following commencement of the proposal, as well as continued Aboriginal community consultation where necessary, and requirements of the applicant in case of changes to the scope of the Proposal.

- Personnel, contractors and subcontractors should be made aware of all statutory obligations for Aboriginal cultural heritage under the National Parks and Wildlife Act 1974 and the Heritage Act 1977. This should be in the form of an induction prior to the commencement of work.
- If Aboriginal objects are identified during construction, work should cease immediately and the area cordoned off. Health Infrastructure must be notified, and an archaeologist engaged to assess and record the Aboriginal object, and formulate an archaeological or cultural heritage management plan. The plan must be implemented prior to work recommencing.
- If suspected human remains are located during any stage of the proposed works, work should stop immediately, and the NSW Police and the Coroner's Office should be notified. Heritage NSW, registered Aboriginal parties and an archaeologist should be contacted if the remains are found to be Aboriginal.
- Consultation with registered Aboriginal stakeholders would continue throughout the life of the project as necessary. Ongoing consultation with registered Aboriginal stakeholders would take place in the event of any unexpected Aboriginal objects identified during works.
- If changes are made to the scope of proposed works assessed in this report, the potential impacts of the changes should be assessed by a qualified heritage consultant in consultation with the Gandangara LALC.

Waste

Waste will be managed in accordance with the recommendations of the Operational and Construction Waste Management Plans prepared by Waste Audit and dated January 2020.

- All site employees and sub-contractors will be required to attend a site specific induction that will outline the components of the WMP and explain the site specific practicalities of the waste reduction and recycling strategies outlined in the WMP.
- All employees are to have a clear understanding of which products are being reused/recycled on site and where they are stockpiled. They are also to be made aware of waste reduction efforts in regards to packaging.

Mitigation Measures

- It will be the responsibility of the site developers to ensure all contractors clearly specify where all wastes are to be transported, the capacity of the nominated facilities to receive/manage the waste and to ensure that reports on management aspects (types, quantities and disposal pathways) are provided.
- All waste and recycling materials will be stored in bins provided by the appointed contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located so as to maximise the recovery of reusable/recyclable materials.
- As construction activities progress, the designated bins will be moved so as to maximise the collection of materials that will be diverted from landfill. This will also involve relocating signage advising as to correct waste management.
- All hazardous wastes will be correctly identified and managed in accordance with all relevant legislation and Codes of Practices. Any hazardous materials will be separated into their individual categories and not mixed with any other materials.
- Records will be kept of all wastes and recyclables generated and either used on site, or transported off-site during the demolition and construction stages of the development

Operation:

- Cleaners will be required to provide feedback to management about any non-compliance issues they observe during their cleaning activities, such as contamination, non-participation, or missing or damaged bins.
- The waste / recycling contractor will be required to report actual quantities collected by stream so that management can monitor and feed this back to staff.
- The waste contractor will be required to participate in ongoing reviews and provide updates on new opportunities that may allow the hospital to further increase their diversion from landfill.

Stormwater

The proposal will be in accordance with the recommendations of the Civil Report prepared by TTW and dated 20 February 2020. Including:

- Erosion and sediment control devices and procedures will be put in place during construction to ensure that stormwater runoff will be collected and diverted around the disturbed site with sediments removed prior to discharge to the existing stormwater system.
- The controls will include:
 - Silt fences at the downstream boundary of the construction zone;
 - Wash down and diversions at temporary vehicle entrances/exits to the construction zone;
 - Sedimentation trap/basin with outlet control and overflow;
 - Diversions to prevent upstream runoff entering the construction zone; and
 - Sandbag sediment traps and geotextile filters to protect existing stormwater pits and inlets.
- As construction progresses, the erosion and sediment collection devices will be modified and adjusted by the contractor to suit building work stages and programme.
- All erosion and sediment control measures are to be constructed in accordance with “Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)” and “Approved Methods for the Modelling and Assessment of air pollutants in NSW (EPA).

Noise and Vibration

The proposal will be in accordance with the Noise and Vibration Impact Assessment prepared by Acoustic Logic. Including the following as they apply to the operation and construction phases (as well as those identified above under Construction Hours mitigation measures):

- Use quieter plant and equipment based on the optimal power and size to most efficiently perform the required tasks.
- Operate plant in the quietest and most effective manner.
- Maximising the distance between noise activities and noise sensitive receivers. Strategically locating equipment and plant.
- Placement of acoustic barriers and silencing devices where appropriate.
- Installation of rubber matting over material handling areas.

Tree Removal

The mitigation measures outlined in the Arboricultural impact assessment tree protection specification prepared by Tree iQ dated 5 March 2020 are to be followed.

- Tree protection fencing (in accordance with AS4970-2009) is to be installed for trees that are located within close proximity to the works;
- Demolition works within the TPZ areas should be supervised by the Project Arborist and utilise tree sensitive methods. Structures should be demolished in small sections ensuring demolition machinery/equipment does not contact with any part of the tree.

Hazards and Risks

- Develop a formal methodology for the transport of the hazardous materials from their existing storage locations to the new ISB storage locations. The methodology should include controls and incident response and should be reviewed by third party experts.

Mitigation Measures

- The NSW EPA and SafeWork NSW should be contacted and advised of the proposed relocation of hazardous materials which relate to the relevant licences, prior to development of the formal methodology for transport of hazardous materials to the new ISB.
- Undertake regular audits of the hospital processes and procedures to assess if current best practice hazardous waste controls are in place.

Landscape

The appointed contractor and landscape contractor will be responsible for maintenance of all landscaped areas within the defects and maintenance period as outlined in the landscape specification. Following the completion of the defects and maintenance period, it is advised that a landscape maintenance contractor is appointed for ongoing upkeep of all landscape areas.

Construction Impacts

A Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to the commencement of works. The CEMP will establish site management principles generally in accordance with the Preliminary Construction Management Plan prepared Johnstaff and dated 9 March 2020.

Contamination

The proposal will be in accordance with the Preliminary Contamination Assessment prepared by JK Environments and dated 13 February 2020 and Remediation Action Plan dated 29 April 2020. The following mitigation measures are recommended:

- A Validation Report is prepared on completion of the remediation works;
- A long-term Environmental Management Plan (EMP) is prepared at the completion of remediation and validations works, in the event that the capping and containment approached to remediation is adopted;
- A Salinity Management Plan (SMP) is prepared and implemented during development works.
- Prior to the commencement of site works, fencing should be installed as required to secure the remediation areas. Warning signs should be erected, which outline the PPE required for remediation work.
- All practicable measures should be taken to reduce dust emanating from the site.
- All practicable measures should be taken to reduce the generation of noise and vibration to within acceptable limits. In the event that short-term noisy operations are necessary, and where these are likely to affect residences, notifications should be provided to the relevant authorities and the residents by the project manager, specifying the expected duration of the noisy works.
- A site specific WHS plan should be prepared by the contractor for all work to be undertaken at the site. The WHS plan should meet all the requirements outlined in SafeWork NSW WHS regulations.
- Prior to commencement of remedial works and excavation for the proposed development, the remediation contractor should develop a waste management or recycling plan to minimise the amount of waste produced by the site. This should, as a minimum, include measures to recycle and re-use natural excavated material wherever possible.
- The validation consultant should be contacted if any unexpected conditions are encountered at the site. This should enable the scope of remedial/validation works to be adjusted as required. Similarly, if any incident occurs on site, the validation consultant should be advised to assess potential impacts on site contamination conditions and the remediation/validation timetable.

Environmentally Sustainable Development

The detailed design of the development will incorporate all ESD principles and measures set out in the ESD Statement prepared by Steensen Varming.

Heritage

The construction of the development will proceed in line with the following heritage recommendations:

- The proposal should proceed with caution;
- Archival recording should be taken place to mitigate the loss of any s170 Avenue Planting;
- The proposal is in an area identified as having low and low to nil potential for archaeological remains including works or 'relics' as defined under the Heritage Act. However, if archaeological remains are uncovered, including a stone capped brick or other drain, all works should cease in the affected area, the area cordoned off and a suitably qualified archaeologist engaged to archaeologically excavate and record the remains and Heritage NSW notified in accordance with Section 146 of the Heritage Act 1977.
- An archaeological monitoring program should be undertaken at one location within the Proposal area. The archaeological investigation area is located at the corner of Goulburn and Elizabeth Streets (the archaeological investigation area). An archaeological research design and methodology has been prepared to support the archaeological monitoring program and is included in the Statement of Heritage Impact Addendum prepared by RPS and dated 7 August 2020.
- A Heritage Interpretation Plan (HIP) is prepared for the site to include evidence of the archaeological history of the site, previous buildings on the site and the history of the hospital. The HIP will be submitted to the Department for review and evidence will be provided to the PCA that it has been endorsed.

7.0 Conclusion

The applicant and project team have considered all submissions made in relation to the public exhibition of the proposal. A considered and detailed response to all submissions has been provided within the accompanying documentation.

In responding to and addressing the range of matters raised, the proposal has been refined pursuant to Clause 55 of the *Environmental Planning and Assessment Regulation 2000*.

We trust that the responses provided above will enable the Department to finalise their assessment of the SSDA. Given the environmental planning merits (and the ability to suitably manage and mitigate any potential impacts) and significant public benefits proposed, it is requested that the Minister approve the application.