

Preferred Project Report for the

Liverpool Hospital Concept Plan Application



prepared by

Capital Insight Pty Limited
and
LFA (Pacific) Pty Ltd

for

NSW Health

CAPITAL INSIGHT



3.0 Additional Information	
Fig. 01 - Scope of Early Works	17
Fig. 02 - Scope of Excavation and Structural Work up to Ground-Basement Plan	18
Fig. 03 - Scope of Excavation and Structural Work up to Ground - Sections	19
Fig. 04 - Sketch Montage - View from TAFE site	21
Fig. 05 - Sketch Montage - Campbell Street	22
Fig. 06 - Sketch Montage - Elizabeth Street	23
Fig. 07 - Sketch Montage - View from Bigge Park	24
Fig. 08 - Site Plan	25
Fig. 09 - Cross Sections	26
Fig. 10 - Landscape Corridor	27
Fig. 11 - Road Network	28

1.0 Introduction	1
2.0 Schedule of Issues and Responses	2
Part A - Letters from Local Residents/Property Owners	2
Part B - Key Stakeholders	5
Part C - Summary of Department of Planning Issues	13
3.0 Additional Information	16
3.1 RailCorp	16
3.2 Early Works	17
3.3 Future Approvals	20
3.4 Visual Impact	21
3.5 Reduced Levels	25
3.6 Mental Health Centre/Unit	27
3.7 Pedestrian and Vehicle Accessibility	28
3.8 CHARMPAC	29
4.0 Statement of Commitments	31
4.1 Introduction	31
4.2 General Commitments	31
Early Works and Demolition	32
Urban Form and Design	33
Transport, Traffic and Access	33
Heritage	34
Services	34
Acoustics and Vibration	35
Vegetation	36
Drainage, Stormwater and Water Management	36
Operation	37
Waste Management	37
Contamination and Geotechnical	37
Planning Agreements and/or Developer Contribution	38
5.0 Conclusion	39

Liverpool Hospital Redevelopment
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- Environmental Investigation Services - Contamination Report
- Intalink – Market Analysis
- Jeffery & Katauskas Pty Ltd - Geotechnical Assessment
- NSW Department of Commerce - Data Collection/ Survey
- NSW Department of Health/Sydney South West Area Health Service
- Otto Cserhalmi and Partners – Heritage Architect
- Sinclair Knight Merz – Building Services/ESD Engineers
- Sophie Nelson and Associates – Health Facilities Planner
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1.0 Introduction

This document is a Preferred Project Report (PPR) prepared on behalf of NSW Health as part of the Concept Plan Application for the redevelopment of Liverpool Hospital under Part 3A of the Environmental Planning and Assessment Act 1979 (the Act).

The information contained within this PPR is a response to the submissions made during the public exhibition phase of the redevelopment proposals. This PPR together with the Concept Plan, Environmental Assessment and associated appendices A-K lodged with the Department of Planning in August 2006 form the complete application for this project.

The report considers all submissions made during the public exhibition phase of the project and is set out in three key sections as follows:

- **Section 2.0** outlines the comments and issues raised during the Concept Plan Exhibition phase and provides detailed responses as appropriate.
- **Section 3.0** provides additional information in the form of drawings and text in response to issues raised in Section 2.0.
- **Section 4.0** sets out the final Statement of Commitments for the project and which are based on the draft commitments contained in the Concept Plan together with a suite of new commitments highlighted in bold.

2.0 Schedule of Issues and Responses

Part A - Letters from Local Residents/Property Owners

No	Date	Submitter	Nature	Comment	Response
1	3.10.06	Rotary Club of Liverpool Member	Object	<ul style="list-style-type: none"> • Concept Plan does not identify the existing Liverpool Hospital Chapel, despite it's presence since 1985. • Liverpool Hospital Chapel is not nominated for retention. • No provision has been made for a new Chapel. • Liverpool Hospital Chapel is valuable hospital asset and essential resource for patients/families and hospital staff. • Chapel should be relocated to the new development. 	The chapel has been considered and facilities will be provided as an integral part of the redevelopment.
2	15.10.06	Local resident	Object	<p>Supports forward planning for health in south west region.</p> <ul style="list-style-type: none"> • TAFE site was first hospital in Governor Macquarie's plan for Liverpool and buildings are attributable to Francis Greenaway. • TAFE site has been requested to be State heritage listed by Liverpool City Council and Department of Education and Training. • Area falls within Bigge Park Conservation Area and Areas of Archaeological Significance for Liverpool Town Centre. • Objects to 4 storey car park in north eastern corner of TAFE site and future development to the south of the site until site is assessed by State Heritage Office. Part 3A should be revoked on this site until that time. • Concept plan is inconsistent with Conservation Management Plan for the site which recommends 'No new development may be considered for this site except where replacing intrusive or less significant buildings. Any new structure should respect the overall harmony of the complex with emphasis on buildings being preferably single storey and at most two storeys. The existing layout on the site and spatial relationships are maintained'. 	The Heritage significance of the TAFE complex has been carefully considered. The project Heritage consultant was responsible for the preparation of the CMP for the TAFE site and had regard for all the relevant issues in the final recommendations for limited development within the TAFE site is an integral part of the Concept Plan.

No	Date	Submitter	Nature	Comment	Response
3	30.10.2006 (extension granted)	Collingwood Heritage & Regional Museum Precinct Action Committee	Object	<ul style="list-style-type: none"> Generally supports improvements to hospital. Object to proposed redevelopment of TAFE site as proposed under concept plan. TAFE (former Liverpool Hospital site) is historically significant as oldest Government institution in Liverpool. TAFE site has been requested to be State heritage listed by Liverpool City Council and Department of Education and Training. Whole site should be nominated as State Heritage Item and due consideration should be given to site's significance. 	Refer 3.8 Letter from Cherie Burton MP Parliamentary Secretary for Health to Committee
				<ul style="list-style-type: none"> Statement of Heritage Impact submitted with concept plan: Clearly states no consultation with NSW Heritage Office made. Is limited in it's scope of works in regard to the TAFE site and does not assess heritage integrity of entire TAFE site. Does not indicate whether proposed buildings will protrude above significant buildings on the TAFE site. All Historic buildings on the TAFE site should remain visually dominant. Does not comment on height limits on proposed 700m² development south of Zone F or on future expansion For area currently occupied by Zone K. Proposed development is inconsistent with the Liverpool College CMP 1989. Past development of Liverpool Hospital has resulted in demolition of heritage buildings including the Colonial Hall 1857. Local and State Government have responsibility of considering cumulative impacts of proposal on heritage Significance. Cumulative impacts of past and future development, and expansion of hospital site have not been adequately addressed. CHARMPAC recommendations: Entire TAFE site be identified on TAFE's Section 170 and State Heritage Register; Appropriate curtilage also be listed; Nomination for State Heritage Register listing be expedited; Any decision regarding potential TAFE NSW site be deferred until State listing process has been completed; Heritage Act, 1977 be 'switched back on' to ensure heritage and archaeology are considered appropriately during development assessment; Liverpool Hospital's vision for future occupation and use of TAFE site be considered in holistic manner with particular regard given to adaptation of buildings and use of areas between existing buildings; 	

No	Date	Submitter	Nature	Comment	Response
		Collingwood Heritage & Regional Museum Precinct Action Committee cont		<ul style="list-style-type: none"> • Concept elevation plans be prepared to show how proposed development sits within historic elements including buildings, landscaping, and significant plantings; • Model be constructed for same reasons; • Plans and panoramas of immediate and distant views to, and from, TAFE complex be prepared; • No new development to exceed lowest RL ridge height of heritage items (including telecommunications mechanical equipment) in vicinity of proposal (Buildings A, B, C, E, F, G, and J); • Updated Conservation Management Plan be prepared for TAFE site; • A section 140 permit (archaeology) be obtained prior to approval being granted for any works within the TAFE site; • Should development proceed in Zone F, or any other area within the TAFE site, prior archaeological assessment should be carried out by a qualified professional under NSW Heritage Office Guidelines. 	

Part B - Key Stakeholders

No	Date	Submitter	Nature	Comment	Response
1	13.09.06	State Transit Authority of NSW (STA)	Support	<ul style="list-style-type: none"> STA operates the Liverpool – Parramatta T-Way service (route T80). The service does not extend to the Hospital precinct. 	The main entry of the hospital is 300m from the Liverpool terminus of the T-Way.
				<ul style="list-style-type: none"> Transport, Traffic and Access Report (Appendix E) does not propose changes to the bus network in response to the hospital redevelopment. 	See above.
				<ul style="list-style-type: none"> STA believes the proposed redevelopment of Liverpool Hospital will not adversely impact on the T-Way service. 	Noted.
2	22.09.06	Ministry of Transport (MoT)	Object	<ul style="list-style-type: none"> MoT concerned about ensuring provision of efficient public transport networks to serve staff, patients and visitors to the Hospital. 	Noted/See above.
				<ul style="list-style-type: none"> NSW Government has recently launched the Integrated Network Plan for Bus Contract Region 13 and this will be followed by Integrated Network Plans for Regions 2 and 3 (anticipated in August 2007). 	Noted/See above.
				<ul style="list-style-type: none"> Liverpool is served by Strategic Bus Corridors 11 (Parramatta – Liverpool), 31 (Liverpool – Campbelltown) and 33 (Liverpool – Bankstown) and will therefore have a stronger drawing power from the Holroyd and Minto areas. 	Noted.
				<ul style="list-style-type: none"> Specific issues which require further considerations: <ul style="list-style-type: none"> The prime linkage between the Hospital and bus network is in the vicinity of the site's south-west corner (Elizabeth and Goulburn Streets). There will need to be upgrades to bus stop infrastructure including appropriate lighting, kerbing, passenger manoeuvring areas, signage and shelter. 	<p>The existing bus stop on Elizabeth Street adjacent to the main entry hospital forecourt incorporates upgraded elements including shelter, lighting, kerbs, signage, safety barriers and seating.</p> <p>Commitment to liaise with MOT/STA and Liverpool Council as part of the Project Plan design development process.</p>
				<ul style="list-style-type: none"> - To ensure service delivery times are not impacted as a result of increased traffic, need to ensure appropriate bus access and bus priority measures at intersections, particularly linking the Hospital with the train station and CBD. 	The hospital is well served by buses with an existing bus stop 50m from the main entry foyer. The new northern access road will help ameliorate traffic levels in and adjacent to the hospital.
				<ul style="list-style-type: none"> - MoT supports enhanced pedestrian and cycle linkages between the Hospital, Liverpool Station and the CBD. 	Noted.
				<ul style="list-style-type: none"> - Consideration should be given to the implications on Government endorsed projects, specifically the Southern Sydney Freight Line and Liverpool Turnback. 	The design process leading to the Concept Plan recognised the SSFL and the Liverpool turnback proposals. NSW Health, RailCorp, TIDC, and ARTC are engaged in a process of consultation and meetings as a precursor to proposed VPA which addresses the issues and implications between the projects.
				<ul style="list-style-type: none"> - The proposed additional 890 car parking spaces would appear to be contrary to the Metropolitan Parking Policy currently being prepared by DoP. 	The car parking needs of the project are based on detailed studies by the traffic/transport consultant. The studies included supply/demand analyses of staff, patient and visitor parking needs. Issues addressed included staff needs associated with early morning and late night shift starts/safety on public transport after normal hours/travel mode shift for staff/overall reduction in staff car trips by 12%. The proposed parking policy addresses issues raised by Liverpool City Council during the consultation phases.
<ul style="list-style-type: none"> - Opportunities to implement a TravelSmart incentive program at the Hospital should be explored. 	<p>A work place travel plan for the hospital will be developed. Refer Concept Plan Appendix E transport, traffic and access report.</p> <p>Commitment to develop a work place travel plan including a travel smart incentive program.</p>				

No	Date	Submitter	Nature	Comment	Response
3	04.10.06	Heritage Office – Department of Planning	Object	<ul style="list-style-type: none"> Land to which Concept Plan applies is partly within the Bigge Park Conservation Area. 	Noted.
				<ul style="list-style-type: none"> Subject land also comprises several listed or identified heritage items such as the Western Sydney Institute of TAFE Group, Elizabeth Street trees and Hugh Jardine House. 	Noted/Hugh Jardine House not listed/see reference in heritage assessment report Appendix F.
				<ul style="list-style-type: none"> Site also adjoins Bigge Park, which is listed in Schedule 2 of Liverpool LEP. 	Noted.
				<ul style="list-style-type: none"> Height and overall envelope of the proposed new structures in the vicinity of identified heritage items should be considered to avoid unacceptable levels of visual impact on the Conservation Area and ensure important views are not obstructed. 	The significance of the conservation zone and heritage elements was carefully considered in the preparation of the Concept Plan. Attached find a series of visual impact assessment studies.
				<ul style="list-style-type: none"> Detailed visual assessment should be undertaken and include realistic photomontages of the proposed buildings. 	See above.
				<ul style="list-style-type: none"> Existing heritage assessment is not sufficient to justify any new development within the proximity of the TAFE buildings. More detailed heritage assessment should be prepared to assess the impacts of the proposed four storey structure at the north east part of the TAFE site. 	The Heritage significance of the TAFE complex has been carefully considered. The project Heritage consultant was responsible for the preparation of the CMP for the TAFE sight and had regard for all the relevant issues in the final recommendations for limited development within the TAFE site which is an integral part of the Concept Plan. Commitment to undertake additional heritage assessment within the north eastern sector of the TAFE site as part of the Project Plan Application.
				<ul style="list-style-type: none"> Whilst TAFE site is not State Heritage listed, it contains highly significant heritage buildings attributed to Francis Greenaway (convict architect). 	Noted/see Heritage environment report Appendix F.
				<ul style="list-style-type: none"> Proposed multi storey car park and future developments to west and north of Hugh Jardine House should be assessed and alternative design options should be explored for the adaptive re-use of this building. 	The heritage assessment included a careful study of the Hugh Jardine House. It was concluded that the building had limited heritage value and, subject to appropriate archival documentation, the building would be replaced by a new parking structure. Commitment to prepare a photographic archival record prior to demolition.
				<ul style="list-style-type: none"> Noted. The Statement of Heritage Impact recommends demolition of 1 Campbell Street. A photographic archival record of the building should be prepared in accordance with Heritage Office's Guidelines if demolition proceeds. 	Agreed. Commitment to prepare a photographic archival record prior to demolition
				<ul style="list-style-type: none"> No thorough landscape assessment prepared for the Concept Plan. A detailed landscape survey and strategy should be prepared for future management of the important landscape features of the site. 	Apart from the identified heritage trees in Elizabeth Street the site contains little vegetation. As part of the Project Plan process a detailed survey/condition report by an Arborist will be prepared. Commitment to prepare an arborist report as part of the Project Plan Application.
<ul style="list-style-type: none"> Statement of Heritage Impact does not include an archaeological assessment but provides an overall summary of the archaeological potential of the site based on existing information in the LEP. It is recommended that a detailed archaeological assessment of the overall site should be carried out prior to the preparation of subsequent detailed proposals for the site. 	Detailed archeological investigations will be prepared as part of the Project Plan Application. Commitment to prepare detailed archeological investigations of the site as part of the Project Plan Application.				
<ul style="list-style-type: none"> Archaeological assessment should be accompanied by a research design and specific methodology. 					
<ul style="list-style-type: none"> Should also be noted that some design modifications and on-site interpretation should be foreshadowed as an option to allow in-situ conservation of significant archaeological relics if the assessment warrants that the site has State significant archaeology or significant relics are revealed during works. 	Noted.				

No	Date	Submitter	Nature	Comment	Response
4	04.10.06	RailCorp	Object	<ul style="list-style-type: none"> RailCorp notes that the grade separated pedestrian and vehicular access bridges proposed in the Environmental Assessment will not be in place in time for the commissioning of the Southern Sydney Freight Line (SSFL). Therefore significant implications for access to the hospital via the Elizabeth Street crossing. 	<p>The closure of the Elizabeth Street level crossing has been the subject of substantial discussion and exchange of correspondence between NSW Health, RailCorp, ARTC and Premiers' Office. It is recognised that the northern link road and grade separated crossing of the rail line are inter-related, integral components of resolving the pattern of critical alternative access to Liverpool Hospital. NSW Health is committed to working with the various agencies to resolve access to the expanded Liverpool Hospital and to provide for both pedestrian and vehicular access between the east and west campuses.</p> <p>Refer Section 3.1 - Additional Information and Section 4 - Statement of Commitments for commitments in relation to VPA with RailCorp.</p>
				<ul style="list-style-type: none"> Increased rail operations will lead to minimal opportunity for the use of the level crossing for significant periods of the day. 	<p>Noted. NSW Health, RailCorp, TIDC, and ARTC are engaged in a process of consultation and meetings as a precursor to a proposed VPA which includes the following:</p> <ul style="list-style-type: none"> Support for the new north link road and land transfers. Coordination between the projects. Funding of the rail crossings. Achieving construction of the grade separated crossings of the rail line in time for operation of the SSFL to enable closure of the level crossing to all but specified emergency use and other planned use. Criteria for emergency use and other planned use of the level crossing.
				<ul style="list-style-type: none"> Closure of existing Elizabeth Street level crossing <ul style="list-style-type: none"> RailCorp opposes continued operation of the existing Elizabeth Street level crossing. 	<p>Under the forthcoming VPA, closure will be achieved upon completion of grade separated crossings of the rail line for all but specified emergency use and other planned use.</p>
				<ul style="list-style-type: none"> The crossing will be closed permanently upon commencement of the SSFL & will not be available for use at all (even in emergency situations as per pages 27 & 49 of the EA). 	<p>Closure contingent upon completion of grade separated crossings of the rail line for all but emergency use and other planned use as specified in the forthcoming VPA.</p>
				<ul style="list-style-type: none"> Grounds for objections include delay to emergency vehicles, 'locking-down' of signal interlocking at Liverpool rail Station (impacting on rail services), significant rail traffic therefore line would be impassable for up to 50mins a day, logistical constraints and coordination issues between Liverpool Hospital, RailCorp and ARTC. 	<p>Noted.</p>
				<ul style="list-style-type: none"> RailCorp recommends the hospital's emergency use criteria be factored into design and operation of the grade separated pedestrian and vehicle crossings proposed in the EA. Pedestrian and vehicular crossings to be integrated with internal road hierarchies and pedestrian access points. 	<p>Attached plan A1801 (Fig. 11) illustrates the integration of new north link road, rail crossings and internal road circulation. Pedestrian rail crossing will link the new car park with new clinical services building</p>
				<ul style="list-style-type: none"> Grade Separated Crossings <ul style="list-style-type: none"> RailCorp has limited funding towards design/construction of grade separated pedestrian/vehicular access bridges over the rail corridor. 	<p>Noted.</p>
				<ul style="list-style-type: none"> Detail on the design/construction of overhead pedestrian/vehicular crossings is incomplete and it is unclear whether the facility will be used exclusively by hospital staff and/or wider community. 	<p>Matters of design detail. Key clearance criteria and RailCorp proposed infrastructure corridor and land boundaries have been taken into account in the initial concept plan for the crossings. These facilities will be NSW Health facilities and usage will be only for hospital purposes.</p>
				<ul style="list-style-type: none"> RailCorp expects information concerning corridor span and interface for overhead pedestrian and vehicle crossings, including height details in relation to overhead wiring and aerial transmission lines. 	<p>Matters of design detail and will be addressed in design development phase.</p>

No	Date	Submitter	Nature	Comment	Response
		RailCorp cont.		<ul style="list-style-type: none"> Clarification should be sought from RailCorp regarding: <ul style="list-style-type: none"> Minimum height clearance requirements. <ul style="list-style-type: none"> Completion of a risk assessment by the proponent carried out in accordance with RIC standard TS 30 000 3 01 SP Structures – Design Standards. Compliance with relevant RailCorp Standards for the design of overhead bridges and pedestrian footbridges over a railway corridor and tracks (ESC 320). Compliance with relevant RailCorp Standards for transit space clearances (ESC 215) compliance with all other relevant standards relating to safety screens, earthing and electrolysis, and Australian Standard AS 1500 with respect to collision protection and loading. Rail Corridor Preservation <ul style="list-style-type: none"> Corridor space is required for three electrified tracks to accommodate passengers and one non-electrified track to accommodate the SSFL. 	
				<ul style="list-style-type: none"> Other concerns associated with rail corridor preservation include: <ul style="list-style-type: none"> RailCorp needs to retain the current Western Boundary between the rail corridor and the western campus of the Liverpool Hospital (Bigge Street) for future passenger needs. 	Concept plan reflects retention of present western boundary.
				<ul style="list-style-type: none"> Construction of the SSFL and the third commuter rail track in the vicinity of the hospital will require the acquisition of a long, narrow strip of land on the eastern boundary of the rail corridor, which may impact on the location of the proposed multi-deck car park east of the rail corridor. 	The boundary proposed by RailCorp for the SSFL and Liverpool switchback have been incorporated in the Concept Plan. The proposed east campus car park does not encroach into the RailCorp proposed infrastructure corridor and takes the proposed east campus land boundary into account.
				<ul style="list-style-type: none"> RailCorp requires reservation of land flanking the rail corridor between the TAFE and the rail line. This land will reduce land available to Liverpool Hospital in the area nominated for 'Core Hospital Future Development' adjacent to the multi storey car park. 	The boundary proposed by RailCorp for the SSFL and Liverpool switchback have been incorporated in the Concept Plan. Concept plan has taken RailCorp proposed infrastructure corridor and proposed land boundaries into account.
				<ul style="list-style-type: none"> EA denotes location of Hospital Link Road as being well clear of existing tracks. Proponent appears to claim land immediately adjacent to and on the eastern side of the link road, which is actually reserved for future rail operations (land acquisition is to be formalised through the SSFL Developer Agreement). 	Attached plan A1801 (Fig. 11) illustrates there is no land requirement east of the new north link road nor land required for future rail operations as per RailCorp proposed infrastructure corridor plan and boundaries (as provided by RailCorp).
				<ul style="list-style-type: none"> Warwick Farm Substation <ul style="list-style-type: none"> RailCorp needs to reserve a 2000m² land parcel for Traction Supply Upgrading works immediately west of the rail corridor. The parcel (owned by RailCorp) is identified in the EA as the location for the north-south access road to the Hospital. 	The requirement for the Traction Supply Upgrade sub station can be accommodated alongside the new north link road. NSW Health and RailCorp are cooperating in resolving location and design details to achieve this outcome. RailCorp will require access from the north link road to service the sub-station and NSW Health agrees to this.
				<ul style="list-style-type: none"> RailCorp requires the parcel (as identified in an attachment to RailCorp's submission) be reserved allowing a 2000m² space (20m x 100m) with minimum allowance of 15m x 100m if an access road for Liverpool Hospital can be used by RailCorp for access to the substation. 	Refer to note above.
				<ul style="list-style-type: none"> Should be noted that alternative locations for the substation are not possible due to constraints in the rail corridor within the area, and the effect of excessive distances between substation locations. 	Refer to note above.
				<ul style="list-style-type: none"> Construction of substation is expected to commence in August 2007. 	Noted.

No	Date	Submitter	Nature	Comment	Response
		RailCorp cont.		<ul style="list-style-type: none"> • Parking Provisions <ul style="list-style-type: none"> - Recommended that proponent explore options for vehicle access to the Eastern Campus that connect to the Hume Highway and/or Governor Macquarie Drive using Scrivener Drive. 	The access route to the hospital via Scrivener Drive is indirect and circuitous and will only provide limited access to the hospital's east campus. Growth in demand for hospital services will be from the west and south west. The proposed north link road will provide a convenient access route and alternative to access via Liverpool CBD.
				<ul style="list-style-type: none"> - Proponent should provide car parking ratios for 24/7 and business hours at various locations within the hospital incorporating staff and outpatient/visitor parking. 	Parking requirements are addressed in detail in the Traffic, Transport and Parking Assessment Report of the Concept Plan (Appendix E).
				<ul style="list-style-type: none"> - Proponent should provide details of any proposed amplification of Scrivener Street and internal road networks to facilitate vehicle movements that avoid crossing the rail corridor. 	No upgrading to Scrivener Street given the proposed implementation of new north link road.
				<ul style="list-style-type: none"> - Entry provision to car parking on eastern campus should be restricted, with regulated entry arrangements (boom gates, access passes or similar, etc). 	Parking on the eastern campus is currently planned to be restricted to staff and access to parking areas will be controlled. However as car parking for the hospital needs to take into account parking on both the western and eastern campuses future operations may need to provide some public parking on the eastern campus.
				<ul style="list-style-type: none"> • Site Access (from Station) <ul style="list-style-type: none"> - Detail required outlining what measures are intended to enhance walkability between Warwick Farm Station, Liverpool Station and Bus Interchange and Liverpool Hospital. 	Refer to Concept Plan and attached plan A1801 (Fig. 11) for details of proposed new pedestrian link to Warwick Farm Station as an integral part of new northern link road.
				<ul style="list-style-type: none"> • General Issues <ul style="list-style-type: none"> - Proponent should address the following general issues: <ul style="list-style-type: none"> - Full property and title search and physical surveys to define the location of the proposed works/development in relation to RailCorp's facilities. 	RailCorp and NSW Health are co-operating to facilitate resolution of this issue. RailCorp has requirement to acquire hospital land on eastern campus and will also require property title search and physical survey to identify extent of land acquisition requirements and extent of hospital infrastructure affected.
				<ul style="list-style-type: none"> - Internal noise criteria adopted by the proponent for the project is too high and is therefore inappropriate. 	Internal noise criteria appropriate for a hospital environment is required to be used.
				<ul style="list-style-type: none"> - Request a service search from RailCorp to establish the existence and location of any RailCorp services and structures. Any identified structures to be impacted by the proposal are to be discussed with and agreed to by RailCorp. 	Noted.
				<ul style="list-style-type: none"> - Setbacks from the rail corridor will need to be considered, or alternatively suitable crash protection measures must be implemented in all adjoining buildings. 	Information provided by RailCorp to date has been reflected in the Concept Plan. It is understood that hospital facilities outside 10 metres from rail tracks will not require crash protection. The main hospital facilities satisfy this criteria.
				<ul style="list-style-type: none"> - With relation to the SSFL Liverpool Hospital is identified as a specific potentially sensitive receiver. Whilst no significant noise impact on the hospital site is expected, the vacation childcare centre may require architectural treatment other than the proposed 4metre wall. 	This issue will be addressed as part of the Project Plan Application and forthcoming VPA. Note that there is in-principle agreement with ARTC that its funding for the noise barrier may be used to fund alternative noise and vibration mitigation works that may better suit the proposed hospital development.
				<ul style="list-style-type: none"> - RailCorp notes vibration impacts due to the SSFL will be acceptable at all current buildings and vibration from rail operations is below adopted criteria. Appropriate planning on the part of the proponent should be undertaken to ensure vibration impacts to the hospital's internal facilities are minimised. 	Noise criteria appropriate for a hospital environment should be used for assessment of impacts regardless of the source. Shared responsibility of mitigating noise and vibration impacts is acknowledged. RailCorp, TIDC and ARTC responsibility to mitigate noise and vibration impacts determined in accordance with government policy documented in Interim Guidelines for the Assessment of Noise from Rail Infrastructure Projects Department of Environment and Conservation/Department of Planning September 2006.
				<ul style="list-style-type: none"> - Proponent will need to enter into a Deed with RailCorp in order to obtain track possessions (stopping of trains running on adjacent tracks) and/or power outages (shutting of power to RailCorp's facilities) to be able to undertake the proposed construction and installation work of the buildings adjoining the rail corridor. 	Noted.

No	Date	Submitter	Nature	Comment	Response
		RailCorp cont.		<ul style="list-style-type: none"> - Physical access to the rail corridor will be required to undertake construction and installation works. Following should be considered: <ul style="list-style-type: none"> - No work is permitted within the rail corridor, or its easements, unless prior approval or an Access Deed has been entered into with RailCorp. 	Noted.
				<ul style="list-style-type: none"> - Should the proponent require access to the rail corridor prior to entering into a Rail Deed the proponent is required to enter into a Release & Indemnity agreement. 	Noted.
				<ul style="list-style-type: none"> - All works are to be carried out in accordance with railway Safe Working rules and regulations. 	Noted.
				<ul style="list-style-type: none"> - The proponent shall make provision for easy and on-going access by rail vehicles, plant and equipment to support maintenance and emergency activities during and after construction. 	Subject to detail and separate agreement and no disruption to hospital operations.
				<ul style="list-style-type: none"> - The proponent will be required to enter into an agreement with RailCorp defining the controls to be implemented in managing the access required and/or the potential impacts of the development on RailCorp, and the involvement of RailCorp staff in ensuring the appropriate safety and technical standards are complied with. 	See above.
5	06.10.06	Transport Infrastructure Development Corporation	Object	<ul style="list-style-type: none"> • The Liverpool Turnback is to be constructed between the existing passenger rail lines and the SSFL. The new line is to be located north of the Shepherd Road overbridge and extend northward past the Hospital precinct. 	NSW Health awaits information from RailCorp and TIDC regarding the impact of the turnback project on the hospital and its environment.
				<ul style="list-style-type: none"> • TIDC supports EA's acknowledgment of potential noise impacts associated with development adjacent to the existing rail corridor and the recognition of the potential need for mitigation in building design where necessary. 	The design of the building fabric will respond to the increased noise and vibration levels arising from the proposed rail corridor developments following mitigation measures undertaken by the rail agencies in accordance with the forthcoming VPA taking into consideration the Interim Guideline for the Agreement of Noise from Rail Infrastructure Projects.
				<ul style="list-style-type: none"> • The EA has adopted noise criteria from a range of sources (including AS 2021 Aircraft Noise Intrusion – Building Siting and Construction) which may not be the most appropriate guide for the assessment of noise impacts from rail operations. 	Noise criteria appropriate for a hospital environment should be used for assessment of impacts regardless of the source. Shared responsibility of mitigating noise and vibration impacts is acknowledged. RailCorp, TIDC and ARTC responsibility to mitigate noise and vibration impacts determined in accordance with government policy documented in Interim Guidelines for the Assessment of Noise from Rail Infrastructure Projects Department of Environment and Conservation/Department of Planning September 2006.
				<ul style="list-style-type: none"> • Any noise assessment should be undertaken in accordance with Chapter 163 of the Environmental Noise Control Manual for external noise levels and RailCorp's guidelines for internal noise levels (Interim Guidelines for Councils: Consideration of Rail Noise and Vibration in the Planning Process, Nov 2003). 	Noise and ground vibration assessment has been undertaken for this project, refer to Appendix H and appropriate criteria has been adopted. Guidelines and recommendations are included in the assessment and are to be adopted. Shared responsibility of mitigating noise and vibration impacts is acknowledged. RailCorp, TIDC and ARTC responsibility to mitigate noise and vibration impacts determined in accordance with government policy documented in Interim Guidelines for the Assessment of Noise from Rail Infrastructure Projects Department of Environment and Conservation / Department of Planning September 2006. Planning Guidelines for development adjacent Rail Corridors November 2006 is acknowledged including initiatives to reduce and manage rail noise and vibration impacts at the source.
				<ul style="list-style-type: none"> • TIDC also supports design based approach to managing noise impacts from rail sources in EA by way of: <ul style="list-style-type: none"> - Acoustic performance of facades facing railway tracks. 	See above.

No	Date	Submitter	Nature	Comment	Response
		Transport Infrastructure Development Corporation cont.		<ul style="list-style-type: none"> - Careful consideration of glazing, wall construction and openings will need to be given during detailed design phase to ensure an acceptable acoustic environment is achieved. - Locating noise and vibration sensitive equipment and work areas away from eastern and western building facades. - Operating theatres and MRI equipment needs to be located in the centre of the new Clinical Building. • Statement of Commitments should adopt recommendations on pages 33 & 34 of the noise and vibration assessment. • TIDC supports the proposed closure of the Elizabeth Drive level crossing and redirection of pedestrian and vehicular traffic via new separated crossings over the rail corridor. • TIDC concurs with RailCorp's concerns that the new grade separated crossings will not be in place in time for commissioning of SSFL. <p>TIDC does not support emergency access across the rail corridor and recommends the hospital's emergency use criteria be factored into design and operation of the grade separated pedestrian and vehicle crossings proposed in the EA.</p>	<p>See above.</p> <p>This is a functional design matter for NSW Health.</p> <p>This is a functional design matter for NSW Health.</p> <p>NSW Health, RailCorp, TIDC and ARTC will agree by way of the forthcoming VPA to undertake and/or finance noise and vibration mitigation measures as agreed between the parties noting that each party shares the responsibility for mitigating the impacts.</p> <p>Refer to responses made earlier in this section.</p> <p>Refer to responses made earlier in this section.</p> <p>Refer to responses made earlier in this section.</p>
6	06.10.06	Department of Education and Training (DET)	Object	<ul style="list-style-type: none"> • Project will impact three DET sites – Liverpool Girls High School, Liverpool TAFE & Liverpool Boys High School. • Specific issues that affect DET's sites include: <ul style="list-style-type: none"> - Proposed incursion of two metre wide strip along southern boundary and south east corner of Liverpool Girl's High School (LGHS) to facilitate widening of east-west road from Hume Highway (involves land acquisition, replacement of car parking, new fencing, new noise attenuation, relocation of five demountables). - New private north link from Hospital to Hume Highway is proposed to be routed adjacent to and outside LGHS and Liverpool Boy's High School (LBHS) playing field areas, resulting in increased noise and security concerns. • There is a proposal for a health-related development on the present TAFE car park site (planned for 2011-2012), Nomination of a 'core hospital future development zone' will have implications for displaced car parking for staff and students and TAFE facilities planning. This issue requires discussion with DET and TAFE – may be potential for a joint venture Health/Education development. - DET anticipates to enter into a specific Panning Agreement with proponent that will facilitate the planning process and resolve site specific issues. 	<p>Noted.</p> <p>Noted.</p> <p>Noted.</p> <p>The Department's intent to enter into a VPA with NSW Health is noted. The detailed impacts on Liverpool Girls High School grounds will be addressed as part of that agreement. Also refer to proponent's specific response to the same issue raised in DoP Attachment B.</p> <p>Commitment to enter into a VPA with the Department of Education.</p>
7	13.10.06	Liverpool City Council	Support	<ul style="list-style-type: none"> • Strategically Council supports redevelopment due to social and economic benefits of proposal. • Traffic study should consider impacts of removing traffic signals at Hume Highway/ Mannix Parade/Remembrance Avenue intersection. • Pedestrian activated signals may be required at Hume Highway between Forbes & Goulburn Streets. 	<p>Noted.</p> <p>Issue to be addressed as part of the detail associated with the Project Plan Application.</p> <p>Commitment to enter into a VPA with the Liverpool City Council/RTA.</p> <p>Issue to be addressed as part of the detail associated with the Project Plan Application.</p>

No	Date	Submitter	Nature	Comment	Response
		Liverpool City Council cont.		<ul style="list-style-type: none"> Proposal reduces number of existing car parking spaces on Hart Street as a result of Hart Street works. Lost spaces should be relocated preferably to the northern end of Hart Street. 	Improved parking and separation from through traffic for Hart street residents are included in the north link road, refer plan A1801 (Fig. 11).
				<ul style="list-style-type: none"> Traffic study did not cover all areas in Liverpool CBD where hospital visitors are likely to park in absence of nearby parking. Considered appropriate that all proposed on street parking (for hospital staff & visitors) be provided on-site within hospital premises. 	Traffic and parking study Appendix E addressed all relevant issues including the MoT assessment.
				<ul style="list-style-type: none"> Proposal should provide for significant upgrade works to public domain between Hospital and Liverpool Rail Station to improve connectivity and encourage patronage. 	Noted. There is a commitment for the project to contribute to public domain upgrade in conjunction with other stakeholders such as LCC. Issue to be addressed as part of the detail associated with the Project Plan Application and as part of a VPA with Liverpool City Council.
				<ul style="list-style-type: none"> Redevelopment should recognise urban design guidelines in DCP 30. 	The Concept Plan reflects the urban design guidelines set out in DCP 30.
				<ul style="list-style-type: none"> Redevelopment should be sensitive to the Bigge Park heritage conservation zone. 	Refer to additional illustrative material prepared to reflect relationship between Bigge Park conservation zone and proposed development.
				<ul style="list-style-type: none"> Recommended that a condition be placed on the approval requiring a detailed staging plan. A local focus group (including Council representative) should be established to identify key construction concerns. 	The Project Plan Application will address the staging of development. A communications plan will be addressed as part of the detail associated with the Project Plan Application. NSW Health, RailCorp, TIDC, and ARTC have agreed to a coordinated community communication process.

Part C -Summary of Department of Planning Issues

Issue	Response
<ul style="list-style-type: none"> Early Works & Future Approvals Section 1.6 of the Concept Plan (page 9) seeks approval for 'early site preparatory works and detailed excavation and structural works up to ground level for the new eight storey core hospital development'. Clarification is sought as to whether these works are intended to form part of a Part 3A project application or is approval being sought through Section 75P(1)(c) of the Environmental planning and Assessment Act, 1979 (the Act). 	<p>Approval of early works is sought through Section 75P(1) of the EPA 79. The scope of the Early Works comprises the works as shown by plans A1904, A1905 and A1906 (refer 3.2 Figs. 04-06). The works include services diversions and relocations, heritage and archaeological assessment and management, demolition and excavation in development zone A and structural works to ground level in development zone A. Refer to Section 3.2 for additional detail.</p>
<p>In either case, confirmation is sought regarding the proposed timing of such works. It should be noted that further plans/details and approvals from other agencies may be required prior to the commencement of works.</p>	<p>Proposed timing: demolition, excavation, structural works to ground level. Early works program in summary:</p> <ul style="list-style-type: none"> Part 3A Approval January 2007 Works commence April 2007 Works complete December 2007
<p>Clarification is also required regarding the future development and determination roles of Liverpool City Council and the Minister for Planning. It should be noted that in approving the Concept Plan, the Minister may wish to identify future development that would be subject to Part 4 of the Act (with Council as the consent authority), or as exempt and complying development.</p>	<p>Preference for Minister to retain approval role. It is understood that the Minister may delegate to Liverpool Council or identify development components that would be subject to Part 5A of the Act.</p> <p>However for components of the project with a construction value of up to \$10m it is proposed that development applications be submitted to Liverpool City Council under Part 5A of the Act.</p>
<p>The Department notes that the construction of the proposed northern link road may require a reclassification of land prior to commencement of works. The proponent is advised that any approval of the Concept Plan will not address the issue.</p>	<p>Advice from Liverpool Council indicated that reclassification of land use not required for construction of new northern road.</p>
<ul style="list-style-type: none"> Detailed Visual Analysis - Additional Plans Required The Department requests a plan be produced to show existing reduced levels (RL's) (AHD) for topography and ground levels, future ground level RL's and maximum future RL's of proposed development envelopes and number of storeys (including floor to ceiling heights). 	<p>Additional plans showing RLs for ground levels (existing and proposed) together with RLs of development envelopes and site context have been prepared and form part of this response.</p>
<p>All additional plans should be produced at an appropriate scale (A1 size or similar) and encompass both the Liverpool Hospital site and the surrounding area in order to show the context of the site in the immediate locality. The plans will ensure that the Department can carry out an accurate assessment of the Concept Plan proposal.</p>	<p>Noted.</p>
<p>It is requested that a detailed visual analysis be produced from a range of public vantage points so as to clearly show the bulk, scale and interface between existing and propose built development particularly proposed heights and setbacks. As a minimum photomontages should be submitted to show panoramic views from Bigge Park, the TAFE site and Campbell Street.</p>	<p>A series of visual analysis drawings have also been prepared showing views from TAFE , Campbell Street, Elizabeth Street and Bigge Park (see Fig. 04, 05, 06 and 07). Also refer to Section 3.5 for further detail.</p>

Issue	Response
<ul style="list-style-type: none"> Vehicular and Pedestrian Accessibility Significant concern has been raised from a number of agencies, and particularly RailCorp, regarding the proposed access across the rail corridor between the eastern and western campuses. The Department requests details be submitted outlining alternative access arrangements and funding, or alternatively documentation that an agreement has now been reached between NSW health and all affected parties. 	<p>Detailed negotiations have taken place with RailCorp to resolve the alternative access arrangements given the proposed closure of the Elizabeth Street level crossing.</p> <p>NSW Health, RailCorp, TIDC, and ARTC are engaged in a process of consultation and meetings as a precursor to proposed VPA which includes the following:</p> <ul style="list-style-type: none"> • Support for the new north link road and land transfers. • Coordination between the projects. • Funding of the rail crossings. • Achieving construction of the grade separated crossings of the rail line in time for operation of the SSFL to enable closure of the level crossing to all but specified emergency use and other planned use. • Criteria for emergency use and other planned use of the level crossing. <p>Commitment to prepare a VPA between NSW Health and the relevant agencies responsible for the rail line that clearly identifies the agreed solution, funding, timing clearance requirements, land transfers and construction responsibility as part of the Project Plan Application.</p>
<p>Schematic plan and relevant supporting information should be provided demonstrating how the primary public access hospital road and the northern link road to the Hume Highway will function. Further information should be provided to show what impact, if any, the proposed roads may have on Liverpool Girls High School (including any required land acquisition, relocation of demountables and car parking area, etc) as well as any required road realignment. The agreement of any relevant parties (Council, RTA) should also be documented.</p>	<p>The impact of augmenting the existing northern service road within the hospital and its impact on the Liverpool Girls High School grounds is clearly set out in the attached plans including demountables/car parking etc. Refer to letter from DET indicating intent to reach agreement. Refer to Liverpool Council's letter of support.</p> <p>Commitment to enter into a VPA with the Department of Education.</p>
<ul style="list-style-type: none"> Southern Sydney Freight Line (SSFL) It is unclear how and where the Concept Plan addresses issues relating to the tenure of the existing grade crossing, and any land acquisition requirements, and to a lesser degree, implications for existing rail service capacity and operation performance of the existing railway level crossing. 	<p>Detailed negotiations have taken place with RailCorp (see above) to resolve the issues associated with access between the east and west campus and support will be addressed in the forthcoming VPA.</p> <p>Commitment to prepare a VPA between NSW Health and the relevant agencies responsible for the rail line that clearly identifies the agreed solution, funding, timing clearance requirements, land transfers and construction responsibility as part of the Project Plan Application.</p>
<p>It is understood the Hospital may still rely on the level crossing at the time the SSFL is commissioned, which may have significant implications for access between the two campuses. Furthermore, whilst the Department acknowledges that land acquisition issues associated with the SSFL are to be resolved through a planning agreement between NSW Health and the Australian Rail Track Corporation, the Concept Plan should document that the appropriate arrangements are in place (or accounted for) to ensure access to/from the hospital will not be impeded by any such acquisition.</p>	<p>Detailed negotiations have taken place with RailCorp (see above) to resolve the issues associated with access between the east and west campus and will be addressed in the forthcoming VPA.</p>
<ul style="list-style-type: none"> Mental Health/Open Space Interface Figures 3.05 (page 24) and 3.08 (page 28) of the Concept Plan provide for a mental health centre directly adjacent to the proposed east-west plaza mall. The Department understands the plaza mall is envisaged to be a major pedestrian zone linking major zones within the hospital. In the absence of having details of the form and function of the mental health centre, concern is raised regarding the interface and relationship between the proposed mental health unit and public open space, particularly having regard to the risks associated with patients quality of care and treatment in highly accessible and permeable areas. 	<p>The Mental Health Centre was recently completed and commissioned. The Centre has been designed to provide a secure environment for mental health patients.</p> <p>The mental health centre has its own and separate and secure courtyards and it is fully separated and there is no link between the centre and the hospital pedestrian mall. The concept plan design has taken the potential impact on the mental health patients and the patients will not be able to be viewed.</p>

Issue	Response
<ul style="list-style-type: none"> Medi-Hotel Facility It is noted the Concept Plan proposes a 'Medi-Hotel' facility on Goulburn Street. Further details are required regarding the broad development parameters envisaged for this facility including bedroom numbers, traffic generation and the like. Likely future ownership and management should also be addressed. 	<p>The proposed Medi-Hotel facility fully complies with Liverpool City Council's LEP and DCP for the city centre and is regarded as an important support health facility given the wider role that the expanded Liverpool Hospital will have in the region. At this stage of concept design issues such as bedroom numbers, traffic generation, ownership and management have not been subject to detailed assessment but will form part of the subsequent Project Plan Application.</p>
<ul style="list-style-type: none"> Planning Agreements/Section 94 Contributions It is noted that NSW Health intends to enter into several VPAs with Council and other agencies where appropriate. Clarification is sought as to when NSW Health envisages the preparation and execution of the proposed VPAs as any such agreement will need to be publicly exhibited on a similar basis to the Concept Plan proposal. The Department would prefer any VPA(s) to be resolved prior to the issuing of any Concept Plan approval. Payment of any financial contribution or provision of works in kind would be tied to issuance of the construction or occupation certificates or commencement of works. 	<p>VPAs are being negotiated by NSW Health with TAFE, NSW Department of Education, RailCorp, Liverpool City Council and other agencies. It is anticipated that the various negotiations will be resolved and the VPAs will form part of the subsequent Project Plan Application.</p> <p>Commitment to prepare a VPA between NSW Health and the relevant agencies responsible for the rail line that clearly identifies the agreed solution, funding, timing clearance requirements, land transfers and construction responsibility as part of the Project Plan Application.</p>

3.0 Additional Information

3.1 RailCorp

NSW Health, RailCorp, TIDC and ARTC are engaged in a process of consultation and meetings, as a precursor to a proposed VPA which includes the following:

- Support for the new north link road and land transfers.
- Coordination between the projects.
- Funding of the rail crossings.
- Achieving construction of the grade separated crossings of the rail line in time for operation of the SSFL to enable closure of the level crossing to all but specified emergency use and other planned use.
- Criteria for emergency use and other planned use of the level crossing.

The parties are also conducting regular design and project coordination meetings convened by the Infrastructure Implementation Group in the Premier's Department to deal with the interface issues between the hospital and railway projects and facilitate the exchange / provision of necessary design details, project requirements and milestones for the resolution of interface issues. In fact, a conjoint design process for the bridges is programmed to commence early in 2007,

RailCorp proposed infrastructure corridor, (which includes the SSFL, the clearways project and future additional commuter line requirements), and proposed property boundaries, (which includes requirement for RailCorp to acquire hospital land on the eastern campus), have been taken into account in the hospital concept plan. NSW Health has provided RailCorp with details of the proposed hospital vehicle and pedestrian rail crossings and new north link road and the requirements for the hospital to acquire RailCorp land on the western boundary adjacent to Liverpool High Schools for the north link road.

3.2 Early Works

The scope of the Early Works comprises the works as shown by plans A1904, A1905 and A1906 including:

- Identification, diversion, relocation and reconnections of existing reticulated services (in-ground and above ground), that will be impacted by the demolition of existing buildings and/or the earthworks excavation as indicated by the plans.
- Archaeological assessment and investigations, preparation and implementation of management plan for monitoring, removal, archiving and protection of materials as required for the building demolitions and/or excavation.
- Demolition of buildings as shown and construction of new façade/services wall for the western wing of Ron Dunbier accommodation building. Buildings to be demolished include South Wing, B Wing, D Wing, corporate services linen and workshop buildings, engineering offices, workshops and sheds, interconnecting corridors and Ron Dunbier eastern wing.
- Internal adaptation of existing buildings to accommodate services dislocated by the demolitions.
- Bulk/detailed excavation as shown.
- Identification, monitoring and removal of hazardous materials following further detailed hazardous material and soil contamination investigations.
- Structural works to ground level including piling and piers, slabs and columns.

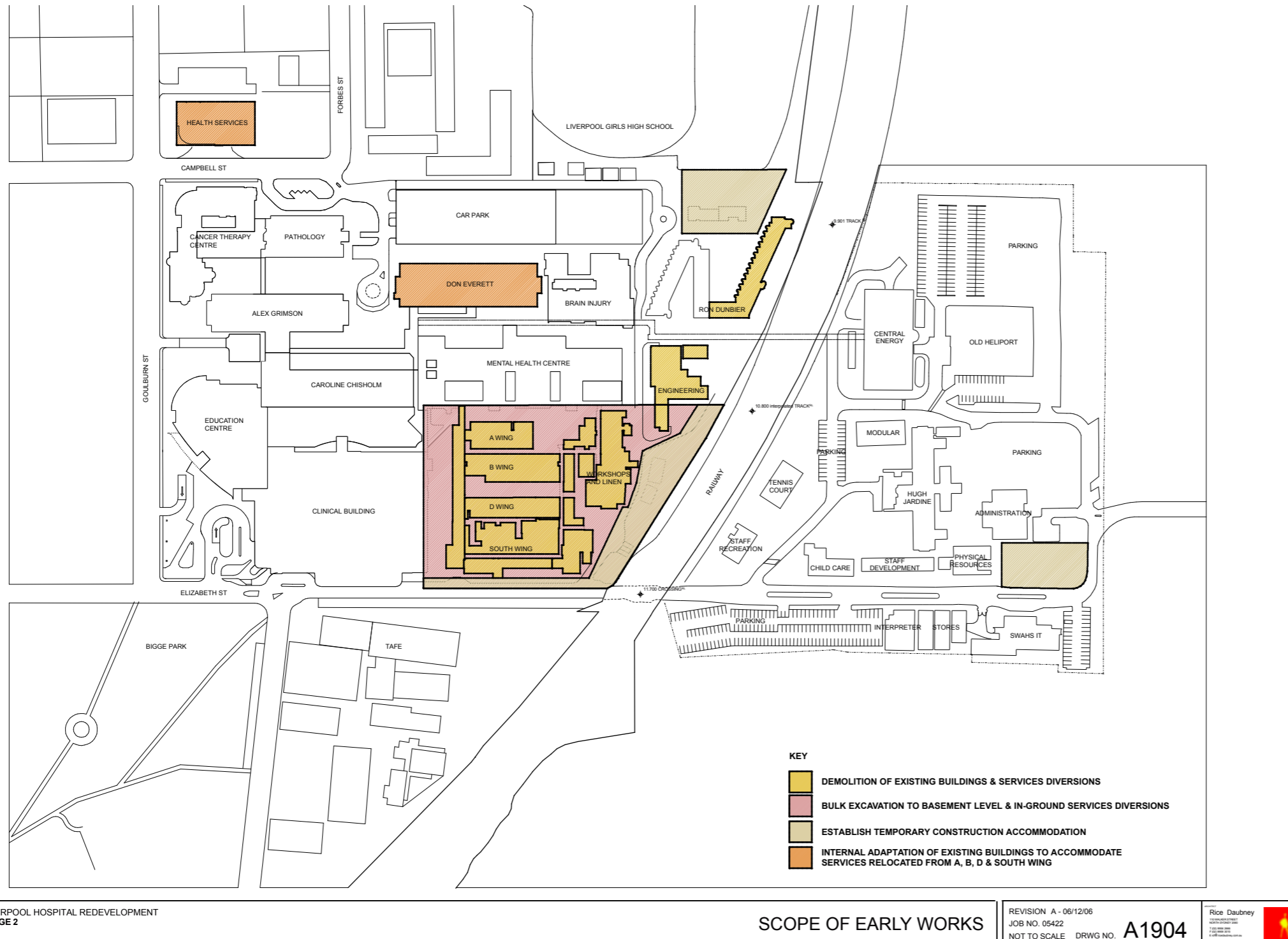


Fig. 01 - Scope of Early Works

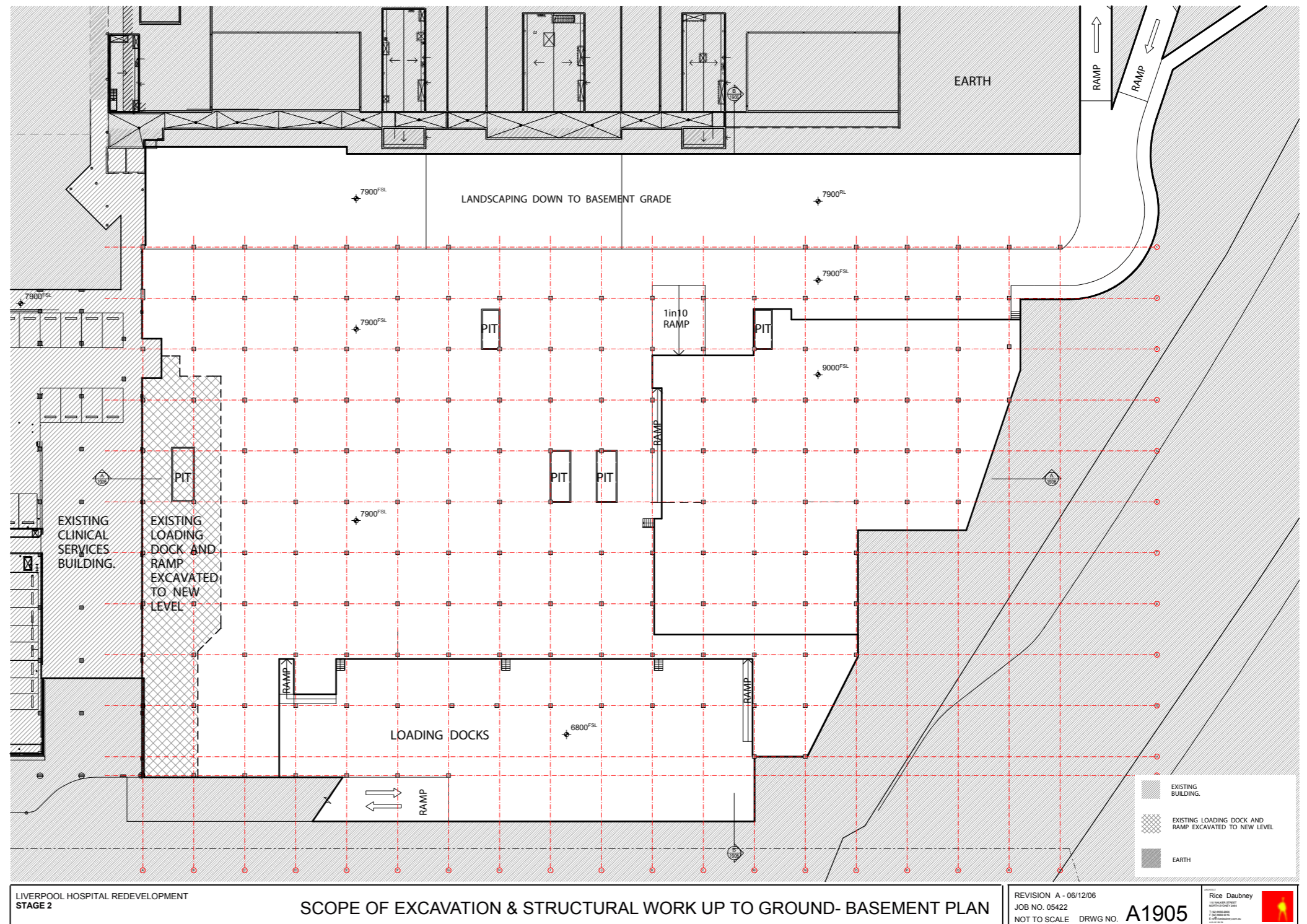
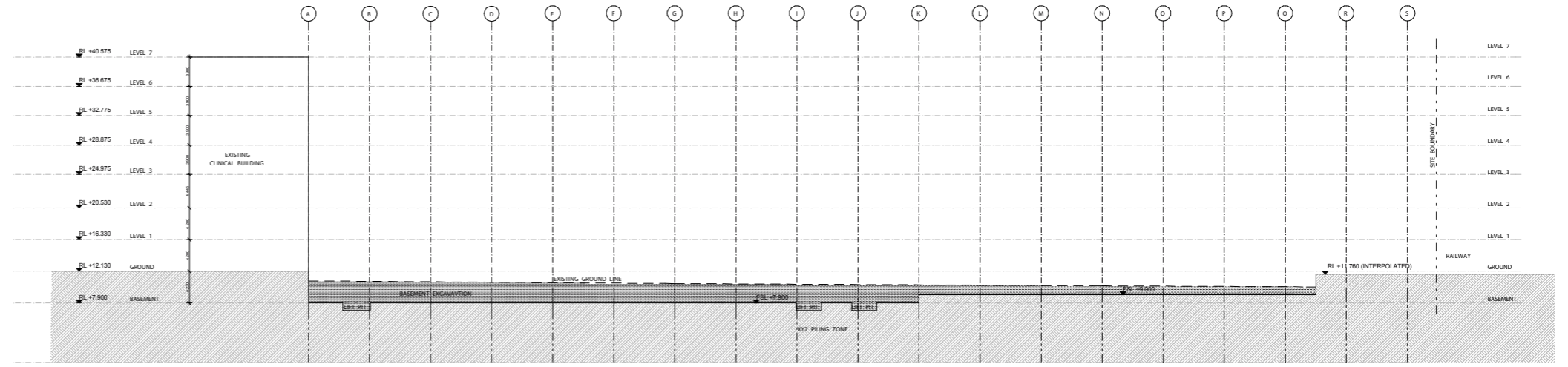
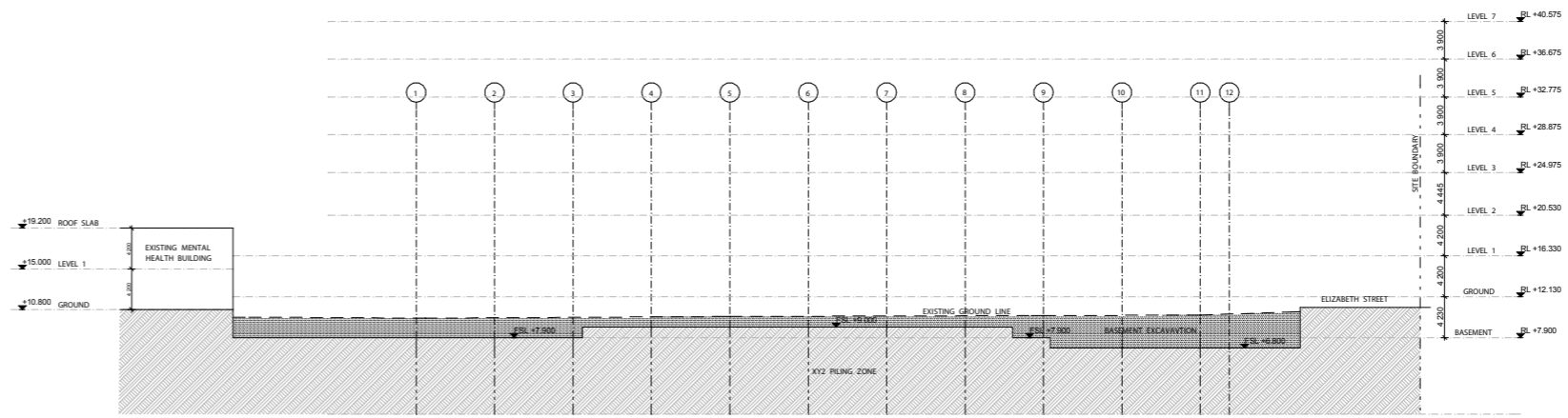


Fig. 02 - Scope of Excavation and Structural Work up to Ground-Basement Plan



1 SECTION A



2 SECTION B

NOTE: ALL LEVELS ARE GIVEN TO FSL
FINISHED SLAB LEVEL. ACTUAL LEVEL
DEPTH OF EXCAVATION WILL BE LOWER
DEPENDENT UPON CONSTRUCTION TYPE,
SLAB AND hardcore THICKNESS


<p>LIVERPOOL HOSPITAL REDEVELOPMENT STAGE 2</p>	<p>SCOPE OF EXCAVATION & STRUCTURAL WORK UP TO GROUND- SECTIONS</p>	<p>REVISION A - 06/12/06 JOB NO. 05422 NOT TO SCALE DRWG NO. A1906</p>	<p>Rice Daubney </p>
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Fig. 03 - Scope of Excavation and Structural Work up to Ground - Sections

3.3 Future Approvals

In regard to future approvals the proponent advises that its preference is for the Minister to retain the approval role and understands that the Minister may delegate to Liverpool City Council or identify development components that would be subject to Part 5A of the Act. However, for components of the project with a construction value of up to \$10m it is currently proposed that development applications be submitted to Liverpool City Council under Part 5A of the Act.

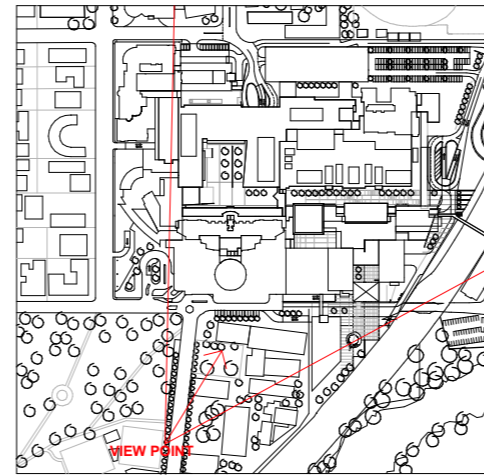
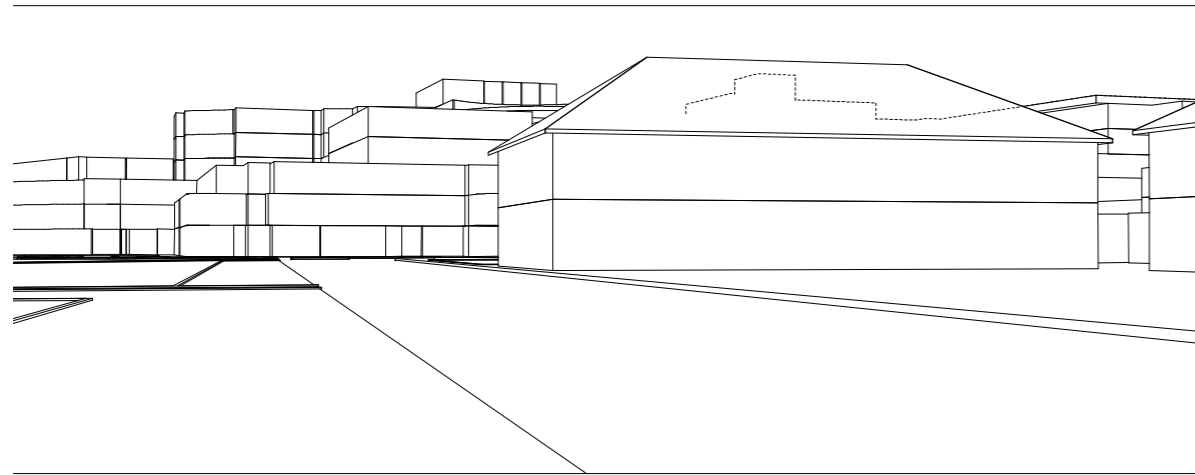
The following indicative project plan application and development application components are currently envisaged. Under each of these components, a single or a number of project plan applications or development applications may be made.

- Project plan application component 1 may comprise:
 - Phase 1 building works including the new clinical services block, cancer services centre expansion, physical resources building and siteworks.
 - Project plan application component 2 may comprise:
 - West campus infrastructure including north link road and rail crossings and approaches.
- Project plan application component 3 may comprise:
 - East campus works including central energy and engineering services expansion, child care expansion and multi deck car park.
- Project plan application component 4 may comprise:
 - Research building and Campbell Street overhead pedestrian bridge.
- Project plan application component 5 may comprise:
 - Women and children's health, aged care, allied health and mental health expansion.
- Project plan application component 6 may comprise:
 - Community health services development on the TAFE car park site and Elizabeth street overhead crossing

Development applications are envisaged for the Medi-hotel/motel and Pathology expansion.

3.4 Visual Impact

A series of visual analysis drawings have been prepared showing views from Bigge Park, outside the TAFE college on the western side and Campbell Street with the proposed building development envelope outlines overlaid, (see Fig. 04 - 07). These drawings indicate clearly that the proposed development will have only minor, and in some cases negligible, visual impact from these strategic viewpoints. In regard to the TAFE college site, the proposed TAFE car park site development will not be visible from Bigge Park or outside the TAFE college. The roof line of the proposed TAFE car park site development is behind and obscured by the existing TAFE buildings.



DISCLAIMER
This image is an artist's impression. It is not a dimensionally accurate photo montage and is intended to show approximate scale and massing of development only.

KEYPLAN



LIVERPOOL HOSPITAL REDEVELOPMENT
STAGE 2

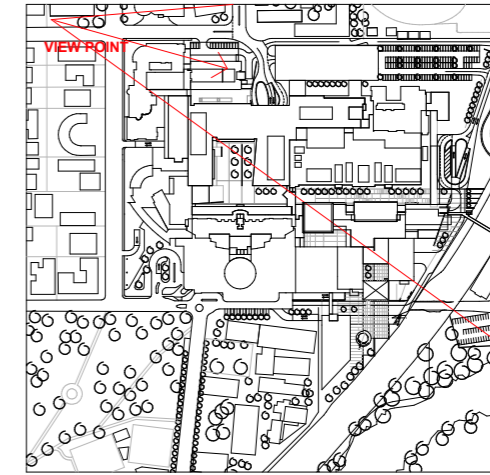
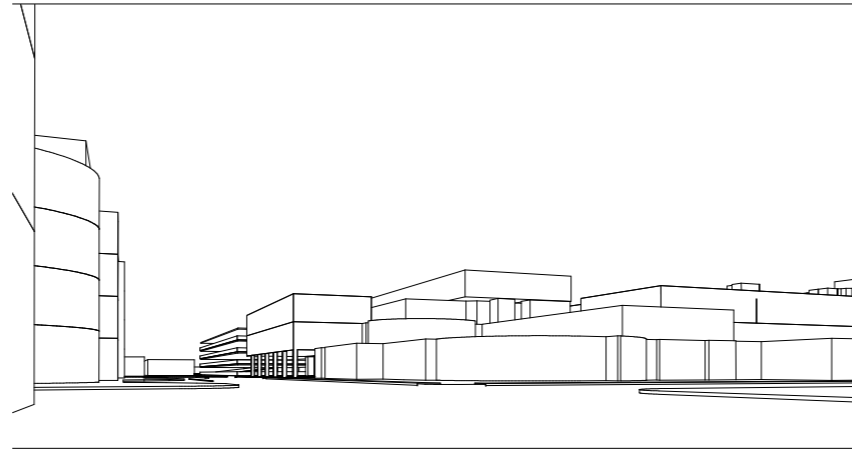
SKETCH PHOTMONTAGES VIEW FROM TAFE SITE

REVISION: B 13.11.06
JOB NO. 05422

DRWG NO. 8000



Fig. 04 - Sketch Montage - View from TAFE site



DISCLAIMER
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KEYPLAN



LIVERPOOL HOSPITAL REDEVELOPMENT
 STAGE 2

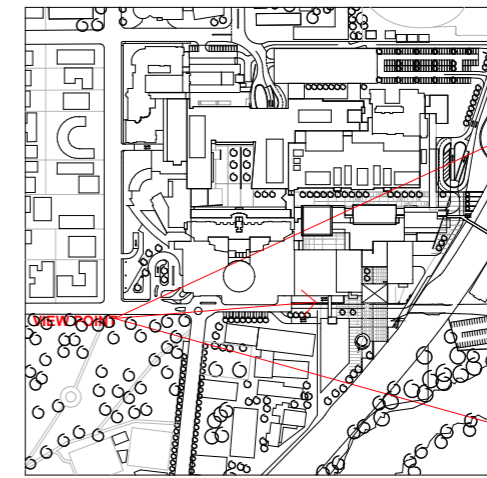
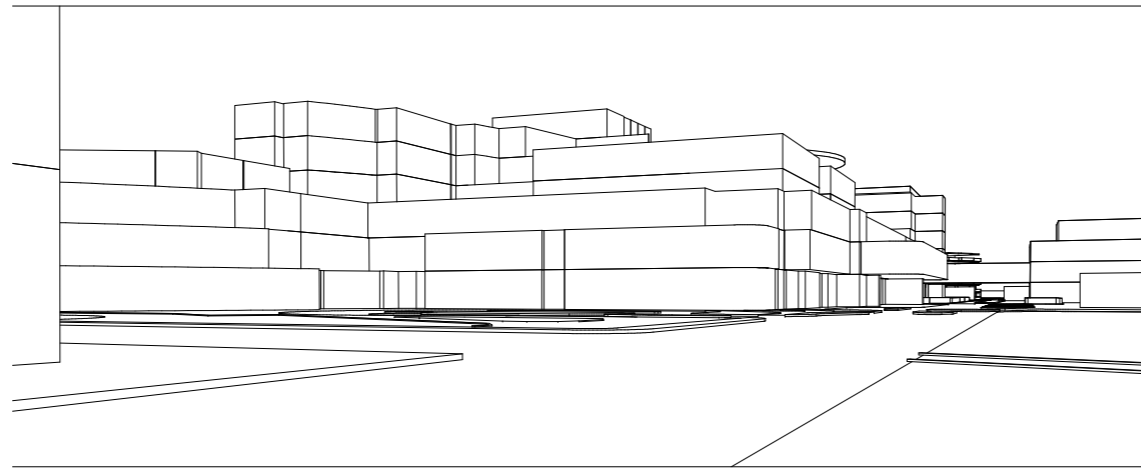
SKETCH PHOTMONTAGES CAMPBELL ST

REVISION: A 10.11.06
 JOB NO. 05422

DRWG NO. 8001



Fig. 05 - Sketch Montage - Campbell Street



DISCLAIMER
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KEYPLAN



LIVERPOOL HOSPITAL REDEVELOPMENT
 STAGE 2

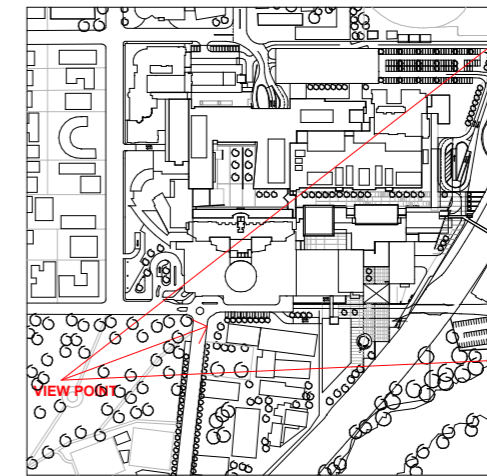
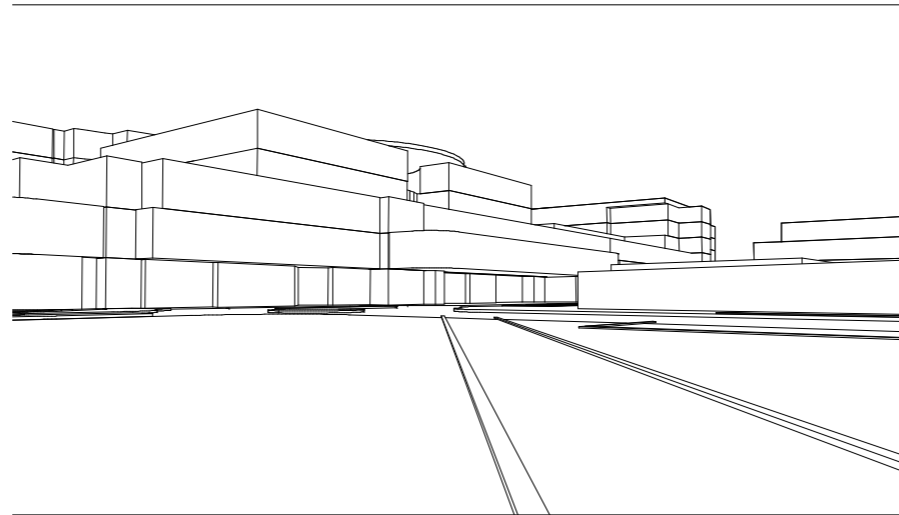
SKETCH PHOTMONTAGES ELIZABETH ST

REVISION: A 10.11.06
 JOB NO. 05422

DRWG NO. 8002



Fig. 06 - Sketch Montage - Elizabeth Street



DISCLAIMER
 This image is an artist's impression. It is not a dimensionally accurate photo montage and is intended to show approximate scale and massing of development only.

KEYPLAN



LIVERPOOL HOSPITAL REDEVELOPMENT
 STAGE 2

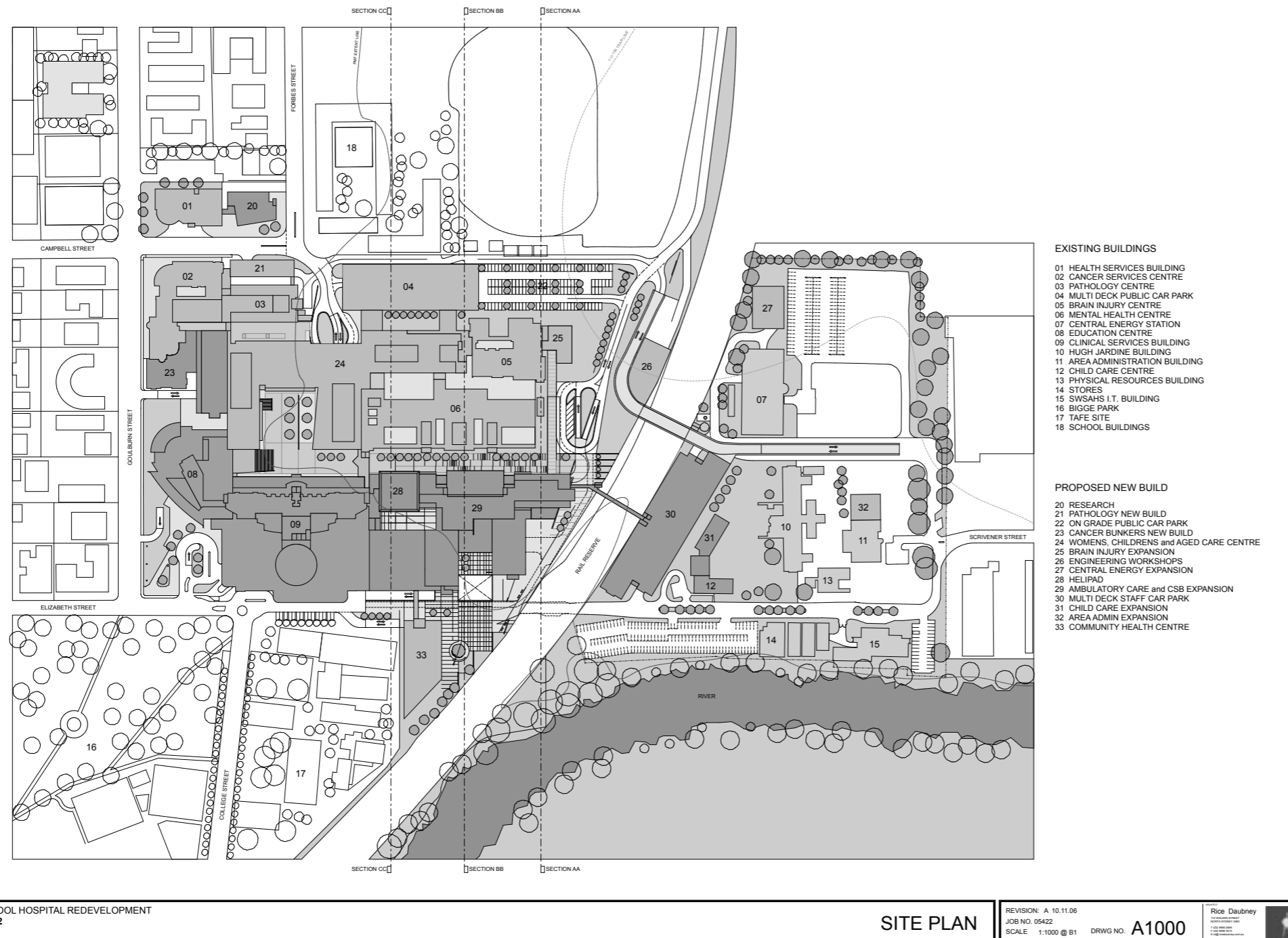
SKETCH PHOTMONTAGES VIEW FROM BIGGE PARK

REVISION: C 04.12.06
 JOB NO. 05422

DRWG NO. 8003



Fig. 07 - Sketch Montage - View from Bigge Park



3.5 Reduced Levels

Drawings A1602 (Fig. 09) and A1603 (Fig. 10) present sections through the development and RL's for all building levels. Drawing A1000 (Fig. 08) indicates where the sections have been taken.

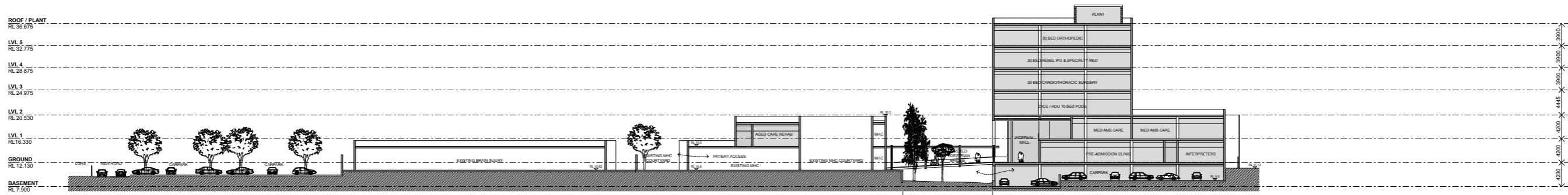
Drawing 1602 Section AA looking east, shows the new clinical building at 5 levels above ground while Section BB also looking east, shows the new clinical building at 5 occupied levels above ground plus a rooftop plant level and indicates further to the east the highest level of the new building of 6 floors above ground.

Section CC looking west with the existing clinical services building beyond, indicates that the highest level of the new building is similar to the existing building.

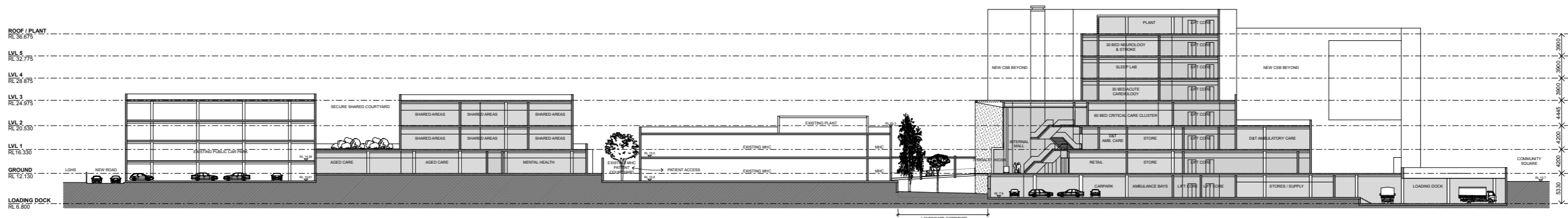
Drawing 1603 provides similar analysis however illustrating, with more detail, the relationship between the existing mental health unit and the new development.

LIVERPOOL HOSPITAL REDEVELOPMENT
 STAGE 2

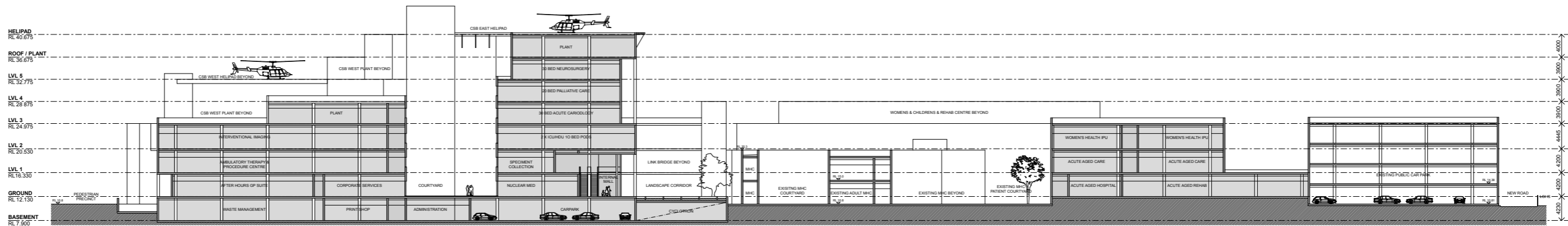
Fig. 08 - Site Plan



SECTION A-A



SECTION B-B



SECTION C-C

LIVERPOOL HOSPITAL REDEVELOPMENT
STAGE 2

CROSS SECTIONS

REVISION: K 10.11.06
JOB NO. 05422
SCALE 1:300 @ B1

DRWG NO. A1602

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13/10/2006

Fig. 09 - Cross Sections

3.8 CHARMPAC

The following is the response from Cherie Burton MP, Parliamentary Secretary for Health to letter from Ms Pam Browne of 14 October representing Collingwood Heritage and Regional Museum Precinct Action Committee (CHARMPAC) concerning the Liverpool Stage 2 redevelopment and its impact on the Liverpool TAFE college site:

Ms Pam Browne
CHARMPAC
19 Killinger Avenue
LIVERPOOL NSW 2170

Dear Ms Browne

Liverpool Hospital Site Redevelopment

I refer to your letter dated 14 October 2006 concerning the proposed Liverpool Hospital Stage 2 Redevelopment concept application and environmental assessment.

I note your support for improvement to the State's hospital system especially in the south-west Sydney region. The proposed redevelopment of Liverpool hospital is possibly the most important and urgent in the state of New South Wales with this major public hospital experiencing an ever increasing demand for health services, being located in the highest population growth region of the State. This growth in health needs is also associated with an ageing population, increasing rates of illnesses such as diabetes and cancer and other health conditions arising from higher rates of obesity. The proposed redevelopment is needed to proceed in the immediate future to meet the projected very significant increase in demand for this hospital's services.

As you have noted, the proposed development includes the location of a component of the hospital's facilities on portion of the TAFE site presently being used for car parking (Development Zone F). You ask that a considered approach, based on detailed analysis be applied to any development on the TAFE site. I can assure you that this is and will continue to be the case including careful consideration of heritage and archaeological significant matters.

Consideration of the potential impact of proposed development on Development Zone F, (the portion of the TAFE site currently being used as a car parking area), is encompassed in the assessment and guidelines incorporated in the Heritage and Archaeological Report which will be adopted for development on the TAFE site. The impact assessment includes the following:

- *Any new building envelope not protrude above the ridge heights of Blocks A,B and C of the TAFE college;*
- *Any new development at the back of the site (Development Zone F) should not be allowed to compromise the present TAFE college silhouette against the skyline;*
- *As the floor to ceiling height of Blocks A, B and C is considerably higher than a modern building, as well as having a steep roof pitch, the resulting overall height of these blocks is approximately 14 metres. A well designed four storey building can be accommodated in Development Zone F without protrusion above the ridge heights of Blocks A, B and C;*
- *The development site is in the north east corner of the TAFE site and therefore not directly behind the main significant buildings of Blocks A, B and C; and*
- *Further review will be undertaken as more detailed design documentation is developed for the project.*

The conservation approach that NSW Health's planning team has recommended includes:

- *The four storey building envelope is not to be exceeded and does not encroach above the ridges of Blocks A,B and C;*
- *The design is not to mitigate from the visual impact as viewed from Bigge Park and the areas to the west and south west in particular;*
- *Mechanical equipment be positioned to avoid a roofscape of cooling towers with placement of plant at the east end of the site away from the TAFE college;*
- *Use of materials that relate to but do not mimic the TAFE buildings;*
- *Design development provide photomontage views from critical distant viewpoints;*
- *Identify and incorporate significant trees in the site; and*
- *Conduct archaeological assessment of the site.*

Please note the commitment made by NSW Health in the Concept Application and Environmental Assessment that, for development on the TAFE site, heritage guidelines will be followed and that a Heritage Impact Statement will be prepared.

In reference to specific points in your letter.

- *Oversight of Recognition of TAFE Site's Significance*
This point primarily deals with lack of recognition of the significance of the TAFE site and that the site has not been registered as an item of State significance. In regard to the latter I point out that this is not a matter for the project and that neither NSW Health nor the Area Health Service are owners of the site nor have they had any involvement in such a matter. The significance of the site however has been recognised in the hospital development proposal and this is covered in some detail in the Heritage and Archaeological Report (Appendix F) prepared for the Concept Application and Environmental Assessment which also includes the statement that further comment would be made when more detailed documentation is available.

You refer to a concern that due process has not been followed. This is not the case in respect to the proposed redevelopment. The project has been, and will continue to be, subject to all relevant and applicable NSW Health Department, NSW Department of Planning and NSW Treasury planning, review, procurement and approval processes.

- *SHI is Not Inclusive or Complete*
The SHI for the concept plan deals with the proposed development on the TAFE car park site (Development Zone F) which is the only new development proposed for the TAFE site. The primary assessment and development guidelines included in the report are based on not detracting from the main buildings, Blocks A, B and C, however the context within the total site is not ignored. Appropriate curtilage from the other buildings is indicated and will be shown and clearly defined in further analysis as more detailed design is developed. Note that it is intended that heritage assessment of proposals is an ongoing process for the project.

The proposed development at four storeys would clearly be higher than the one and two storey heights of the other historic buildings on the site however it is to be noted that the building closest to the development zone is Block H which is three storeys and is not of any heritage significance.

There is no other proposed development zone on the TAFE site apart from the car park site (Development Zone F).

- Proposed Development Inconsistent with Liverpool College CMP 1989
While the existing CMP does not support new development other than replacement of intrusive or less significant buildings and that new structures should preferably be two stories at most, the respected heritage consultant that has prepared the recent Heritage and Archaeological Report, the same consultant that authored the original CMP, has now indicated that the proposed development would not detract from the intent/objective of the CMP providing the controls referred to in the report are implemented. The proposed development will not impact on existing layout and spatial relationships between existing buildings and it should be noted that the car park site has not always been a vacant site and has contained buildings in the past.

It is NSW Health's position that the proposed development is the least intrusive proposal and will not detract from the heritage buildings and their context, being located in a discrete corner of the site adjacent and opposite to present and proposed hospital development.

- Liverpool Hospital Redevelopment has already impacted on the Heritage of Liverpool

The heritage and archaeological implications of this proposed redevelopment has been properly considered and due consideration of these matters has and will continue to be made. NSW Health acknowledges its responsibility in this regard and also its responsibility to provide the facilities necessary to best deliver public health services to the people of NSW.

- Future Liverpool Use of TAFE NSW site
The future use of the TAFE NSW site by the Liverpool Hospital has not been planned nor is there a strategy in place for such an outcome. Nevertheless, if there was such an outcome in the future it would not be the intention of NSW Health to ignore the significance of the site or introduce any inappropriate development. At this point, although premature, the only potential redevelopment that would seem acceptable would be replacement of Block H / Building K with a similar but more functional building but noting that there are no such plans in place. It is not agreed that the proposed development of the TAFE car park site would be affected or unnecessary should there be a future transfer of the TAFE site to Liverpool Hospital however such an outcome could have impact on a possible further future stage of the hospital's development.

- Entering the TAFE site on the NSW Heritage Register and deferring of development decision until listed. This is not a matter for NSW Health. However, there would of course be considerable concern if any potential for delay to the decision to proceed with the hospital redevelopment is introduced. The use of the TAFE car park site is integral to the planning for the hospital and any delay to decisions for this site would impact on the plans for the hospital site.

- Conduct a holistic assessment of Liverpool Hospital's aspirations for use of the TAFE site. This is not considered necessary or appropriate. As noted above there are no plans nor is there such a strategy in place. Notwithstanding, the plans for development of the TAFE car park site would not be in conflict with such an assessment or outcome in the future.

It is also worth noting from the Heritage and Archaeological Report that the TAFE college has only been operating on the current site since 1961, before which it was a hospital or health care facility for well over a century. For this site (or part of) to revert to a hospital use, is a continuation of the ongoing medical history of the precinct.

- Prepare concept elevation plans including all historic elements, model and plans and panoramas
Comprehensive material including montages of the development in the context of surrounding development and plans showing views of proposed development on the TAFE site alongside the existing buildings and in particular Blocks A, B and C as proposed in the heritage guidelines will be prepared as design progresses.

- No new development on the TAFE site to exceed the lowest RL ridge height of heritage items in the vicinity, (being Blocks / Buildings A,B, C, D, E, F, G and J) This is not agreed. It is an impracticable constraint as a number of these buildings are one or two storey in height. It is not considered that a four storey development is inappropriate or will detract from the significance of the site.

- Prepare an updated Conservation Management Plan for the TAFE site
This will be considered on completion of the Heritage Impact Statement.

- Obtain a S140 permit for excavation and complete an archaeological assessment prior to development.

A S140 permit will be obtained for excavation.

In conclusion, NSW Health is strongly of the view that there can be a sympathetic, appropriate and functionally integrated development of new health facilities with highly valued heritage buildings. In fact, NSW Health has many examples of successful integrated development on heritage sites and of adaptive reuse of significant heritage assets.

If you wish to obtain further information regarding the redevelopment please contact [INSERT]

Yours sincerely

Cherie Burton MP
Parliamentary Secretary for Health

4.0 Statement of Commitments

4.1 Introduction

The Statement of Commitments for the Liverpool Hospital Redevelopment project outlines how the project will be managed to minimise potential environmental impacts during the detailed design, construction and operation phases.

4.2 General Commitments

The development will be undertaken generally in accordance with the Environmental Assessment Report dated August 2006 and the Concept Plan shown therein.

NSW Health is committed to the principles of sustainability as defined in the Environmental Planning and Assessment Act 1979. The construction and operation of the hospital will be undertaken in accordance with Premier's Memorandum No. 2003-2 High Environmental Performance for Buildings and the requirements of the Environmental Performance Guide for Buildings (EPGB).

The proponent will obtain all necessary approvals required by State and Commonwealth legislation in undertaking the project.

The proponent will continue to liaise with the local community during the development process.

The buildings will be set out by a registered surveyor to verify the correct position of each structure in relation to property boundaries and the approved alignment levels. The registered surveyor will provide evidence to Council that structural works are in accordance with the approved project application.

A separate application will be made to Council for approval under Section 68 of the Local Government Act, 1993, for the erection of hoardings or scaffolding in a public place.

Early Works and Demolition

Early works, excavation and structural works proposed as part of the project will be undertaken in accordance with relevant guidelines and legislation.

Prior to commencement of Early Works, a Construction Environmental Management Plan (CEMP) will be prepared. This plan will include procedures for the following:

- Contact details of the site manager;
- Air quality/dust control;
- Noise and vibration management;
- Waste management;
- Flora and fauna protection;
- Community access and safety;
- Site specific soil erosion and sediment control;
- Traffic and pedestrian management;
- Storage and handling of materials;
- Environmental training and awareness;
- Contact and complaints handling procedures;
- Emergency preparedness and response;
- Site induction, OHS&R management and training;
- Services disruption planning and management;
- Archaeological and heritage management; and
- Site contamination review and remediation, hazardous materials and contamination management.

The Traffic and Pedestrian Management procedures will address the following matters:

- Ingress and egress of vehicles to the site,
- Loading and unloading, including construction zones,
- Predicted traffic volumes, types and routes, and
- Pedestrian and traffic management methods,

A copy of the plan will be provided to Liverpool City Council.

Prior to the commencement of works at the site all asbestos based and other hazardous materials that will be disturbed during refurbishment works will be removed. Removal of asbestos based materials will be undertaken in accordance with the regulations and requirements of the NSW Government and the Worksafe Australia Asbestos Code of Practice and Guidance Notes.

The Contamination Management procedures will be prepared by a suitably qualified person in accordance with relevant legislation and guidelines, identifying any contaminants on site and the required procedure for removal of contaminants and remediation of the site.

Prior to the commencement of building works, a Site Audit conducted by a suitably qualified person will be undertaken to ascertain that all identified hazardous materials have been removed from the site. Measures to control soil erosion during demolition and construction will be in accordance with currently accepted principles, as described in Managing Urban Stormwater (EPA NSW) and Soil Erosion and Sediment Control (The Institution of Engineers, Australia).

Construction hours – The hours of construction, including the delivery of materials to and from the site, will be restricted as follows:

- Between 7:00am and 6:00pm, Mondays to Fridays inclusive;
- Between 8:00am and 1:00pm, Saturdays;
- No work on Sundays and public holidays.

Works may be undertaken outside these hours where:

- The delivery of materials is required outside these hours by the Police or other authorities;

- It is required in an emergency to avoid the loss of life, damage to property and/ or to prevent environmental harm;
- The work is approved through the Construction Noise and Vibration Management Plan; and
- Residents likely to be affected by the works are notified of the timing and duration of these works at least 48 hours prior to the commencement of the works.

Public ways will at all time to be kept clear of any materials, vehicles, refuse, skips or the like.

A sign will be erected in a prominent position on the site prior to the commencement of works in accordance with NSW Health policy.

In the event of any damage being caused to any existing kerb, guttering, stormwater pit, footpath trees and/ or footpath during building operation, the applicant will repair or reimburse Council for the full costs of repairing and making good.

Public reserves, public roadway or private property (other than subject site) will not be used for storage or disposal of building materials or waste or excavated materials.

Demolition will be undertaken in accordance with the requirements of Australian Standard AS2601 – 2001: The Demolition of Structures which is incorporated into the Occupational Health and Safety Act 2000 administered by WorkCover NSW.

A licensed asbestos contractor will be engaged to monitor demolition of buildings containing asbestos or other contaminants.

Following removal of all asbestos from the site final clearance certificates will be obtained.

Urban Form and Design

The detailed design of the facilities will incorporate the strategies of resource consumption, environmental loadings, quality of indoor environment, functionality and wider planning issues of economics, management, transport and cultural environment as outlined in the Environmental Performance Guide for buildings.

The detailed design will comply with the principles and development controls set out in the Concept Application and as detailed in Section 3.0 and 4.0.

The key commitments include:

- Ensuring the compatibility of the proposals with the existing bulk and scale of the surrounding development and the controls set out in the Liverpool City Council DCP No. 30.
- Minimising impacts on the existing landmark buildings, topography, streetscape and view corridors in the locality.
- Establish urban form and design proposals that minimise the overshadowing of existing private land.
- Improve the pedestrian, vehicular connectivity of the hospital and its environs together with improved links to the transport interchange including an upgrade to pedestrian links along College Street and Moore Street to maximise safety and security for staff and patients and visitors.
- Provide measures to maximise active street frontages and improve street address.

Transport, Traffic and Access

Roads and other traffic based element will be designed and constructed in accordance with Australian Standards and/or the relevant standards of Liverpool City Council, RTA or RailCorp as applicable.

Car parking and loading bays will be constructed in accordance with the relevant Australian Standards.

The transport, traffic and access proposals will support the strategic transport policy objectives contained in the Metropolitan Strategy, SEPP 11, LLEP 1997 and DCP 30.

Alternative means of vehicular and pedestrian access across the railway line will be provided. These are scheduled to be completed and operational in 2009 in conjunction with commencement of operations of the SSFL. Joint funding arrangements with ARTC and RailCorp are to be agreed and incorporated into the forthcoming VPA.

Review the Construction Management Plan (CMP) for the SSFL and pursue assurances that any damage to existing hospital roads associated with the construction of the SSFL will be repaired/reinstated.

Establish a new north link road aimed to minimise traffic on sensitive road frontages, provide an efficient vehicular system for public and emergency vehicles and improve the safety of 'drop off' zones.

Promote alternate forms of transport including increased use of rail, bus, transitway services as well as car pooling and promoting cycling.

Access and Safety protocols will be included in a CEMP to maintain access and use of the site during the redevelopment of the hospital site to ensure the safety of staff, visitors and patients.

The design of facilities will permit effective, appropriate and safe use by all people, including those with disabilities and will be in accordance with:

- NSW Health Facility Guidelines, including Part B - Design for Access, Mobility, OH&S and Security.
- DDS32 Improved Access for Health Care Facilities.
- AS 1428.
- The Building Code of Australia.

Construction traffic requirements will be included in the CEMP.

Heritage

- **An archaeological assessment of the site will be undertaken prior to the commencement of works on the site. Consultation regarding Aboriginal heritage will be carried out with the local Land Council.**
- **Any works done to the existing built fabric of listed buildings will be done in accordance with Articles 3, 5.2, 7, 22.2, 30 and 27.2 of the Burra Charter.**
- **All recorded archaeological work on site will be submitted to the NSW Heritage Council for information.**
- **An interpretation strategy for movable heritage items will be prepared.**
- **Undertake further archaeological assessment monitoring of identified PAD sites in accordance with relevant guidelines and legislation prior to the commencement of works on the site.**
- **In the event that any historical or Aboriginal relics are uncovered during excavations, all excavation and disturbance to the area will stop immediately and the Department of the Environment will be informed in accordance with Section 91 of the National Parks and Wildlife Act 1974.**
- Implement tree protection measures to prevent damage from construction to the listed avenue of

Cabbage Tree Palms located in the road median on East Campus and existing trees on the southern side of Elizabeth Street which form a visual buffer between the hospital and the TAFE.

- Ensure the existing heritage wall located on the TAFE boundary is protected in association with works on the TAFE site.
- Minimise the impact of any future development on the TAFE site by employing the guidelines set out in the Heritage Report (Appendix F) and as detailed elsewhere in this report. In addition, any impact from future development proposals on the TAFE site will be subjected to a heritage impact assessment and further archaeological assessment by a qualified consultant.
- Undertake a Heritage Impact Assessment of the Hugh Jardine building in association with any proposals on the East Campus future development site and undertake archival recordings as necessary in accordance with the recommendations of the Heritage Impact Assessment prior to commencement of any demolition works or alterations on this site.
- Undertake archival recordings of 1 Campbell Street prior to commencement of any demolition works on this site.
- Any heritage structures to be demolished will be recorded in accordance with NSW Heritage Office guidelines prior to the commencement of works on the site.

Services

- **The proponent will comply with the requirements of the relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction of the proposed development.**
- **The diversion of the existing services will be carried out in consultation with the Council and/or the relevant agency and in accordance with the necessary requirements.**
- **The proponent will ventilate all buildings in accordance with relevant codes.**
- **All cooling towers and cooling and warm water systems will be operated and maintained in accordance with AS 3666:1995 (or AS 3666:2000) the Public Health Act 1991 and Public Health (Microbial Control) Regulation 2000.**

Acoustics and Vibration

- **Prior to the commencement of any works on the main works on the site, Noise and Vibration Management procedures will be prepared as part of the CEMP which will address the following matters:**
 - **All work, including demolition, excavation and building work will comply with Australian Standard AS2436: 1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.**
 - **A suitably qualified acoustic consultant will be utilised to ensure that building isolation and internal noise requirements are met.**
 - **Identification of the specific activities that will be carried out and associated noise sources,**
 - **Identification of all potentially affected sensitive receivers including residences, schools, and properties containing noise sensitive equipment (including the hospital itself),**
 - **Noise and vibration monitoring, reporting and response procedures.**
 - **Assessment of potential noise and vibration from the proposed construction activities including noise from construction vehicles and any traffic diversions,**
 - **Description of specific mitigation treatments, management methods and procedures that will be implemented to control noise and vibration during construction;**
 - **Review the visual impact of any noise mitigation measures proposed as part of the development to assess the adequacy and potential additional architectural treatments required in the hospital locality.**
 - **Justification of any proposed activities outside the construction hours specified in the conditions of this consent.**
- **Construction timetabling to minimise noise impacts including time and duration restrictions, respite periods, and frequency,**
- **Procedures for notifying residents of construction activities that are likely to affect their amenity through noise and vibration,**
- **Contingency plans to be implemented in the event of non-compliances and/or noise complaints,**
- **Noise and Vibration management will be in accordance with the CMP.**
- **The design of the building fabric will respond to the increased noise and vibration levels arising from the proposed rail corridor development works. This will take into account the mitigation measures undertaken by the rail agencies in accordance with the forthcoming VPA taking into consideration the government policy documented in Interim Guidelines for the Assessment of Noise from Rail Infrastructure Projects Department of Environment and Conservation / Department of Planning September 2006 and Planning Guidelines for development adjacent Rail Corridors November 2006.**
- **A suitably qualified acoustic consultant will be utilised to ensure that building isolation and internal noise requirements are met.**
- **A reconfiguration of Hart Street is proposed in order to move traffic away from existing residential properties. Landscaping and a car park area will also provide a buffer.**
- **Procedures to minimise noise impact on nearby residences from helicopter movements include:**
 - **Minimising ground running time while on the helipad,**
 - **Avoiding 'shallow' approach and departure angles,**
 - **Aligning the final approach and departure path parallel to Elizabeth Street, except where necessary (due to strong winds) to deviate slightly in the final stages of landing or initial stages of take-off so as to orient the helicopter into the wind.**
- **Careful consideration of glazing, wall construction and openings will be undertaken during the detailed design phase so that an acceptable acoustic environment is achieved.**
- **Noise and vibration sensitive equipment and work areas will be located away from the building facades where possible especially on the eastern and southern facades.**
- **Operating theatres and MRI equipment to be appropriately located and treated for noise and vibration as required.**
- **Due to the proximity of proposed construction works to vibration sensitive areas, careful consideration will be paid to construction techniques and equipment.**
- **Detailed design for noise and vibration mitigation will consider:**
 - **Architectural acoustics and building envelope design,.**
 - **Design of specialized acoustic spaces such as auditoria, and conference rooms.**
 - **Internal space planning.**
 - **Sound isolation from external sources.**
 - **Mechanical services/plant noise and vibration prediction and design of mitigation measures.**
 - **Control of reverberant noise build-up and specification of materials.**
 - **Speech privacy and intelligibility.**
 - **Sound system and audio-visual design.**
- **Pursue noise control measures and building acoustic work contained in the SSFL Environmental Assessment that are appropriate.**
- **Pursue a Noise and Vibration Mitigation Plan to be prepared by RailCorp associated with any construction works in the vicinity of the hospital.**
- **Review the Construction Management Plan (CMP) for the SSFL to ensure appropriate controls relating to dust, noise, vibration and access hours.**
- **Review the visual impact of the noise mitigation measures proposed as part of the SSFL to assess the adequacy and potential additional architectural treatments required in the hospital locality.**

Vegetation

- Landscaping in accordance with the Masterplan Concept drawing will be provided.
- The proponent will seek to retain as many trees as possible on the perimeter of the site.
- **All trees on the site that are to be retained will be suitably protected by way of tree guards, barriers or other measures as necessary prior to the commencement of works on the site. These are to be provided to protect root system, trunk and branches, during construction and demolition. Stockpiling or storage or mixing of materials, washing of equipment, vehicle parking, disposal of liquids, machinery repairs and refuelling, disposal of building materials such as cement slurry, siting of offices or sheds will not occur within the protective fencing.**
- **There will be no soil level changes under the canopy of trees to be retained**
- **Any branch or root pruning required will be carried out by a qualified arborist.**
- **Where mature trees are removed, consideration will be given to replacement with mature specimens where feasible.**

Drainage, Stormwater and Water Management

- The design of the stormwater disposal system will be based on the latest edition of AR&R and Bureau of Meteorology ARI statistics, Authority Guidelines and AS3500.
- Existing in-ground stormwater drainage will be diverted in consultation with Liverpool Council.
- Measures to control soil erosion during demolition will be introduced in accordance with current accepted principles, as described in Managing Urban Stormwater (EPA NSW) and Soil Erosion and Sediment Control (The Institute of Engineers, Australia).
- Habitable floor levels to be no lower than the PMF (i.e. 10.9m AHD).
- Engineer's report required, prior to the finalisation of design of the new hospital facilities, to certify that the development will as much as practicable minimise flood effects elsewhere, having regard to:
 - loss of flood storage.
 - changes in flood levels and velocities caused by alterations to the flood conveyance.
- The minimum surface level of open car parking spaces will be as high as practical.
- Enclosed car parking, with a floor level below the 20 year flood or more than 0.8m below the 100 year flood, will have adequate warning systems and signage.
- Consultation will be conducted with Council to determine proposed mitigation strategies.
- Maintain adequate access in and around the Hospital during major flood events and to mitigate the escape of potentially hazardous materials stored below the PMF.
- Where it is not practicable to design all floor levels, including the basement, above the PMF level, additional measures to provide flood immunity will be considered and/or the subject areas restricted to compatible non-critical uses only including excluding patient assessment, accommodation or procedural areas.
- Emergency management procedures for events greater than 1 in 100 year for both the local catchment and Georges River will be established. Hospital to maintain post-disaster functions.
- Access in and out of areas lower than PMF e.g. storerooms, carparks, and associated ramps/stairwells will be provided.
- No public consultations, assessments, procedures or accommodation would take place below 10.9 AHD.
- Access to the hospital is to be maintained in a PMF event.
- Hospital operational policies will be implemented for adequate warning and means of access for evacuation of all persons, vehicles, records and stores and removal of garbage and waste out of basement areas and temporary alternative collection and storage areas for a major flood event prior to the opening of the new hospital facilities.
- Access to loading docks for delivery and removal and storage areas on the western portion of the site above the PMF level will be available for such situations.
- Only non-critical uses will be permitted in potential PMF affected areas (ie non patient or procedural or sensitive equipment and storage of hazardous or environmentally sensitive material unless adequate flood proofing or immunity and/or means of removal for areas that would be subject to flood inundation is provided).
- Suitable water quality devices to treat the early flows at stormwater outlet points with larger flows allowed to bypass will be installed.
- Drainage outlets are to incorporate erosion and sediment control where required and ongoing maintenance of all adopted WSUD systems will be required on a regular ongoing basis.
- Any onsite stormwater system will connect into Council's existing trunk stormwater lines and/or be discharged directly to the Georges River.
- Stormwater runoff for minor events will be handled by pit and pipe systems with larger flows also utilising overland flow paths such as roadways and footways.
- The scope of work required for design development and detailed design includes:
 - Detailed survey of the site and adjacent areas.
 - Confirmation of the precise flood extent for the 100 year and PMF events referencing Flood levels from the Floodplain Management Plan
 - Ongoing consultation with Council to confirm floodplain management objectives, obtain information on their existing drainage infrastructure upstream of the site, confirm OSD, water quality treatment objectives
 - Hydrologic Assessment as detailed in Section 4.0.
 - Selection of water quality treatment devices.

Operation

- Prior to the opening of the new hospital facilities existing operating policies and procedures will be reviewed and updated as necessary for the impact of the new development prior to occupation of the proposed hospital buildings. These will include:
- Measures to ensure protection of heritage buildings and assets.
 - Protection of flora and fauna and minimisation of anti-social behaviour.
 - Visitor safety.
 - Site security.
 - Noise management.
 - Traffic and pedestrian management.
 - Storage of materials.
 - Emergency and evacuation procedures.
 - Fire safety.
 - Waste management and ESD initiatives.
 - Lighting.
 - Signage.
- At the completion of works, a Final Fire Safety Certificate is to be issued by the owner detailing each essential fire safety measure provided in the building. A copy of such certificate is to be forwarded to the Fire Commissioner and a further copy is to be prominently displayed in the building.
- Each year, the owner of the building will furnish to Council an annual fire safety statement for the building. The annual fire safety statement is to address each essential fire safety measure in the building.
- All loading and unloading activities in connection with the use will be carried out wholly within the property.
- All parking spaces, loading and unloading areas, vehicle manoeuvring and driveway areas will be left free of goods and be available at all times.
- The design and construction of the premises will comply with Australian Standard AS 1940 – 2004 'The storage and handling of flammable and combustible liquids' and the WorkCover 'Code of Practice for the storage and handling of Dangerous Goods'.

Waste Management

Prior to the opening of the new hospital facilities existing waste management policies and procedures will be reviewed and updated as necessary for the impact of the new development prior to occupation of the proposed hospital buildings. This will include consideration of waste management practices that comply with all relevant legislation relating to waste and resource recovery, environmental protection, and occupational health and safety, including:

- NSW Government Waste Reduction and Purchasing Policy,
- NSW DOH Infection Control Policy (02/45)
- NSW DOH Waste Management Guidelines for Health Care Facilities, Aug. 1998.
- ISO 14001:1996,
- ISO 9001:2000 and
- Relevant Council and EPA requirements.

Contamination and Geotechnical

- NSW Health will undertake demolition in accordance with the requirements of *Australian Standard AS2601 - 2001: The Demolition of Structures* which is incorporated into the Occupational Health and Safety Act 2000 administered by WorkCover NSW.
- Management of hazardous building materials will be contained in a CMP prepared prior to demolition commencing.
- A licensed asbestos contractor is to be engaged to monitor demolition of the buildings (noted as containing asbestos) in the central section of the site.
- Following removal of all asbestos from the site final clearance certificates will be obtained.
- Undertake further analysis where significant amounts of soil are to become exposed or disturbed as part of the redevelopment works.
- Undertake further investigations of groundwater conditions and quality particularly if soil contamination is encountered.
- During demolition and/or excavation works, the site will be regularly inspected by experienced environmental personnel if unexpected conditions or subsurface facilities are discovered between investigation locations and beneath the existing buildings.
- Monitor demolition works at the site and provide final clearance certificates and further investigation is undertaken in areas where soil is to be exposed or disturbed.
- Normal good engineering site management practice including control of run-off and dust suppression is recommended during earthworks and construction.
- Existing Fill
 - Confirm actual fill conditions in locations where new buildings/structures are proposed and seek further geotechnical advice.
 - Undertake sub-grade preparation for external pavements.
- Clayey subsoil
 - Provide good and effective site drainage both during construction and for long-term site maintenance. The earthworks will be carefully planned and scheduled to maintain good cross-falls during construction.
- Excavation
 - Establish test pits to confirm the footing details and foundation materials of all adjoining buildings/structures.
 - Excavation of the shale bedrock be carried out using the bucket and ripping tyne of a large excavator. Use hydraulic rock hammers due to noise nuisance and the potential for ground borne vibration damage to nearby buildings/structures should be avoided.
- Demolition
 - Depending on the details and extent of demolition, vibration monitors will be installed as necessary on nearby buildings to assess vibration levels.
- Sub-grade preparation.
 - Stockpiling excavated top soil for re-use in landscaping
 - Use of engineered fill as appropriate.
 - Avoiding vibratory compaction.
 - Inspections of compacted areas by qualified engineers.
- Engineered fill.
 - Use of appropriate fill type
 - Compaction in layers approximately 200mm thick
 - Carry out density tests
 - Inspection by qualified engineers.
- Retention systems.
 - Temporary batters to basements to be maximum 1:1 gradient
 - Contiguous pile walls to be used where battered slopes are not possible.
- New footings.
 - Footings for large buildings and bridges are to be uniformly supported on piles founded in shale bedrock using the 'limit state design' as detailed in the paper by Pells, Mostyn and Walker (1998).
- Slab on-grade.
 - Slabs on-grade are to be constructed independent of building footings and walls.
- Soil aggression
 - Reference to be made to Cement and Concrete Association of Australia's Technical Note TN57 and Section 6 of AS2159-1995 for appropriate precautions for footing design in moderate to high acidic subsoil conditions.

Planning Agreements and/or Developer Contribution

NSW Health will establish VPAs with other government agencies as follows. These will be completed for the Project Plan Application.

- Department of Education
 - An agreement in relation to future development zone on TAFE lands and widening of the roadway to the Liverpool Girl's High School.
- RailCorp
 - **An agreement which includes the following:**
 - **Support for the new rail crossings, the north link road and associated land transfers;**
 - **Support for the rail developments and associated land transfers;**
 - **Coordination between the projects and agreement to the mutual objective of completion of each parties respective projects;**
 - **Funding of the rail crossings;**
 - **Achieving construction of the grade separated crossings of the rail line in time for operation of the SSFL (in 2009) to enable closure of the level crossing to all but specified emergency use and other planned use;**
 - **Criteria for emergency use and other planned use of the level crossing; and**
 - **Agreement to design, undertake and/or fund and respond in accordance with government policy for mitigation of noise and vibration arising from rail operations and development and that each party shares responsibility in this regard.**
- Liverpool Council
 - An agreement in relation to the new north link road proposals associated with the extension of Lachlan Street, Hart Street, Hart Park and Berryman Reserve (given that this land is under the care and control of the Council). An additional agreement will include details of the proposed upgrade to the pedestrian link along College Street and Moore Street to the transport interchange.
- Roads and Traffic Authority
 - An agreement in relation to the new intersection at Hume Highway associated with the new north link road.
- Department of Planning
 - An agreement in relation to the land required at Berryman Reserve associated with the new north link road.

5.0 Conclusion

The information contained within this document forms part of the Concept Plan Application for the redevelopment of Liverpool Hospital under Part 3A of the Act and should be considered along with the Concept Application, Environmental Assessment and the associated Appendices A-K dated August 2006.

It is anticipated that the information set out in this report adequately addresses the issues raised in the public exhibition phase and NSW Health looks forward to a favourable consideration of this Concept Plan Application.