

TRAFFIC MANAGEMENT PLAN

FOR

DEMOLITION AND CONSTRUCTION WORKS

St Vincent's Private Hospital

Darlinghurst

Prepared for
SVPHS

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Report Document Control

<i>Title</i>	Traffic Management Plan for demolition and construction works -St Vincent's Priivate Hospital, Darlinghurst
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1 INTRODUCTION

Report title	Traffic Management Plan for demolition and construction works at St Vincent's Private Hospital, Darlinghurst
Client	SVPHS
Background information used for preparation of the present report	• DoP Secretary's Environmental Assessment Requirements - draft Construction Traffic Management Plan. • Technical characteristics of vehicles involved in deliveries and construction • Other documentation - refer to Section 6 References of the present report.
Consultation undertaken	• Client: SVPHS • Sydney City Council's Senior Traffic Engineer Rodney King • Consultation with RMS and TfNSW is planned to be in parallel with SSDA assessment process

2 PROPOSED WORKS

Site

St Vincent's Private Hospital Sydney, Darlinghurst

Refer to Figure 1.

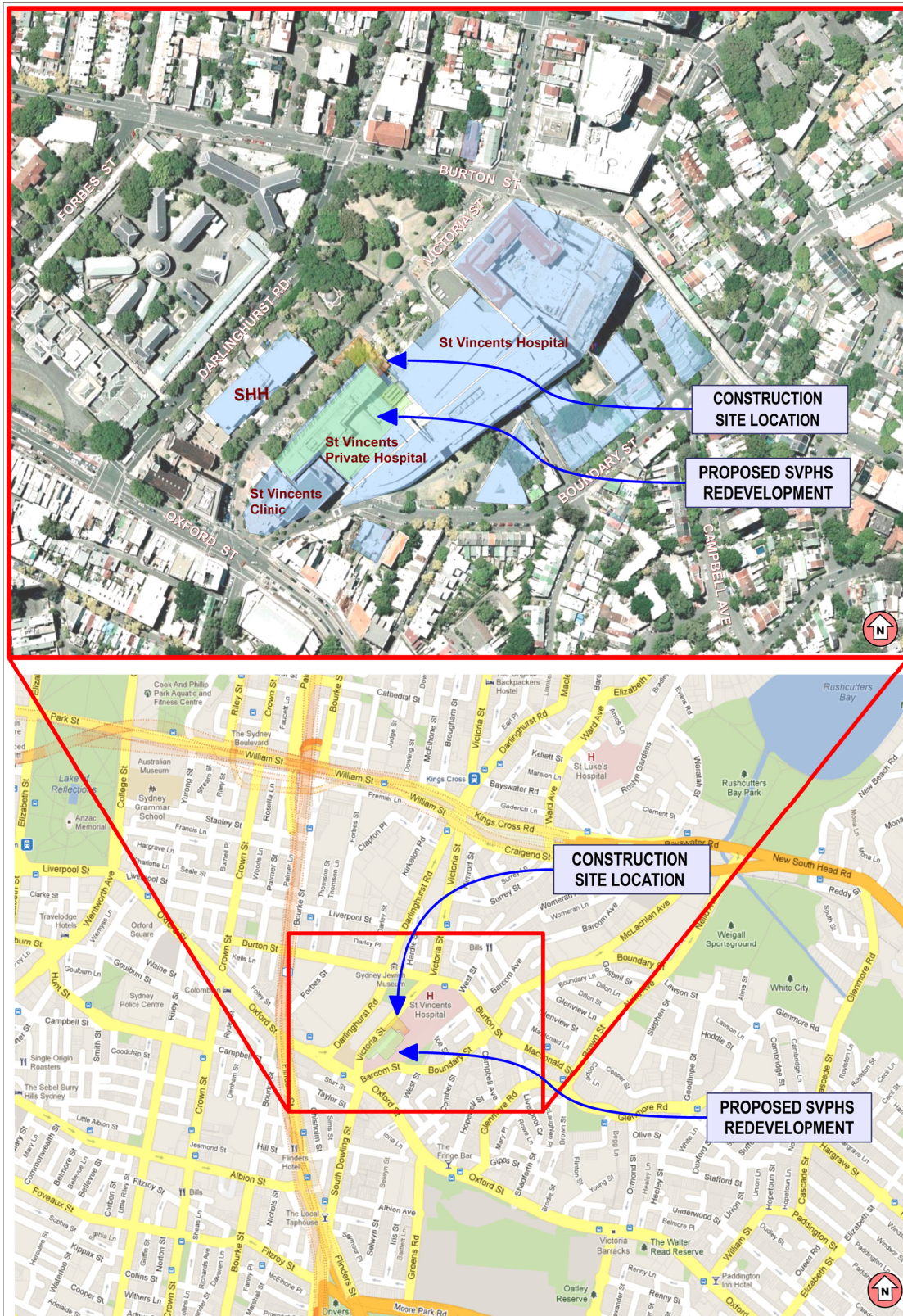


Figure 1. Site location.

Types of works	• Demolition of existing structures. • Construction of a new 13-storey East Wing for SVPHS • Refurbishment of Levels 6-10 of the existing High Rise Wing and associated works	
Staging and duration of construction period	July 2015 - June 2018	
Type of works subject of this CTMP	• Enabling Works	• July -2015 – September 2015
	• Demolition	• October 2015
	• Excavation	• December 2015 – January 2016
	• Structure	• February 2016 – September 2016
	• Finishes	• June 2016 – February 2017
	• Staged Refurbishment of Existing Highrise	• March 2017 – May 2018
	• External works	• April 2018 – May 2018
	• Tasks and activities	
	◦ The construction activities required to be included in the CTMP have been identified from the overall project program. ◦ The construction activities not generating external traffic and not requiring checks of vehicle manoeuvring within the site do not form part of the present CTMP, for example any activities which would occur elsewhere, not within the site's vicinity.	
Number of workers on site	• Enabling Works	10-12
	• Demolition	10-12
	• Excavation	12-20
	• Structure	20-100
	• Finishes	100-140
	• Staged Refurbishment of Existing Highrise	40-65
	• External works	10-25

2.1 Construction activities

Hours of operation	• Monday to Friday	7:00 am to 6:00 pm
	• Saturdays	7:00 am to 5:00 pm
	• Sundays and public holidays	No work permitted
Types of vehicles	• Utility vehicles (UV)	
	• Vans	
	• Small Rigid Vehicles (SRV), load capacity of 4 tonnes, typically single rear axle, about 6.5-7 m long.	
	• Medium Rigid Vehicles (MRV), load capacity of 8 tonnes, typically single rear axle dual tyres, about 8-9 m long.	

- Heavy Rigid Vehicles (HRV), load capacity of 12-16 tonnes, typically dual rear axle, up to 12.5 m long.
- It is proposed to restrict use articulated vehicles (AV as per AS definition) to delivery of the following items;
 - Prefabricated Bathroom pods
 - Curtainwall Panels
 - Mobile Crane and Tower Crane for Erections and dismantle of the Tower crane
 - These deliveries will be rare and subject to separate arrangements to be agreed with Council and RMS
- SRV, MRV, HRV and AV are defined in AS 2890.2-2002.
- Based on the information provided by Buildcorp
 - Refer to **Table 2.1**.
 - **Table 2.1** contains information about all truck trips, including time of trucks staying on site.

Traffic generation by project stage

Table 2.1. Frequency of truck movements

Activity	Material	Number of trucks per day		Truck types	Duration of truck stay on site	Delivery Hrs		Start	End
		Mon to Fri	Sat			Mon to Fri	Sat		
Enabling Works	Lightweight Steel Roof Trusses	1	1	AV	2 hr	7am-5pm	7am – 12pm	Jul-15	Sep-15
	Windows	3	2	MRV	2 hr	7am-5pm	7am – 12pm	Jul-15	Sep-15
	Finishes	3	2	MRV	2 hr	7am-5pm	7am – 12pm	Jul-15	Sep-15
Demolition	Demolished material	3	2	HRV	3 hr	7am-5pm	7am – 12pm	Oct-15	Oct-15
Excavation	Excavation spoil	3	2	HRV	2 hr	7am-5pm	7am – 12pm	Nov-15	Jan-16
Structure	Formwork	3	2	HRV	2 hr	7am-4pm	7am – 12pm	Feb-16	Sep-16
	Concrete Pour	25	5	LRV	½ hr	7am-6pm	7am – 12pm	Feb-16	Sep-16
	Structural Steel	2	1	AV	3 hr	7am-5pm	7am – 12pm	Sep-16	Sep-16
	Waste removal	1	1	HRV	1 hr	7am-5pm	7am – 12pm	Feb-16	Sep-16
Fitout	Curtainwall Panels	2-3	2	AV	2 hr	7am-4pm	7am – 12pm	Jun-16	Mar-17
	Plasterboard / FC	2-3	1	MRV	2 hr	7am-5pm	7am – 12pm	Jun-16	Mar-17
	Prefabricated Bathroom Pods	1-2	1	AV	2 hr	7am-5pm	7am – 12pm	Jun-16	Mar-17
	Finishes	1-2	2	MRV	2 hr	7am-5pm	7am – 12pm	Jun-16	Mar-17
	Waste Removal	1	1	HRV	1 hr	7am-5pm	7am – 12pm	Jun-16	Mar-17
Staged Refurbishment of highrise	Curtainwall Panels	2-3	2	AV	2 hr	7am-5pm	7am – 12pm	Apr-17	May-18
	Plasterboard / FC	2-3	1	MRV	2 hr	7am-5pm	7am – 12pm	Apr-17	May-18
	Prefabricated Bathroom Pods	1-2	1	AV	2 hr	7am-5pm	7am – 12pm	Apr-17	May-18
	Finishes	1-2	1	MRV	2 hr	7am-5pm	7am – 12pm	Apr-17	May-18
	Waste Removal	1	1	HRV	1 hr	7am-5pm	7am – 12pm	Apr-17	May-18
External Works	Landscaping	2-3	1	MRV	2 hr	7am-5pm	7am – 12pm	May-18	Jun-18

Truck types

- SRV Small rigid vehicle - load capacity of 4 tonnes, typically single rear axle, about 6.5-7 m long
- MRV Medium rigid vehicle - load capacity of 8 tonnes, typically single rear axle dual tyres, about 8-9 m long
- HRV Heavy rigid vehicle - load capacity of 12-16 tonnes, typically dual rear axle, up to 12.5 m long
- AV Articulated Vehicle – semi trailers up to 17m long

3 PROPOSED TRAFFIC MANAGEMENT

3.1 Road network and access conditions

Delivery routes	Refer to Figure 2.
Road network assessment	• Victoria Street ◦ One way collector road carrying in the order of 12,000 vehicles per day ◦ One lane of traffic (widening to three lanes at the Oxford Street intersection) ◦ Angle parking along the eastern (hospital) side ◦ No Stopping along the western side • Oxford St ◦ Classified arterial road – MR 172 ◦ 5-6 traffic lanes (time dependent) ◦ 1-2 parking lanes (time dependent) ◦ Bus lanes in peak directions ◦ Approx. 30,000 veh/day • William Street ◦ Arterial road (State Road 173) ◦ Four lanes of traffic ◦ No Stopping and Clearway (AM and PM commuter peak periods) along the subject site frontage. • Darlington Road ◦ Local collector ◦ One way northbound north of Burton Street ◦ Two lanes of traffic and two parking lanes ◦ 1P meter parking 8 am – 6 pm north-west side ▪ 4P meter parking 6 pm – 10 pm ◦ 2P meter parking from 8am – 6pm south-east side ▪ 4P meter parking from 6pm – 10pm • Additional truck movements in the order of 3 to 25 per day will not have any noticeable impact on the road network operation.

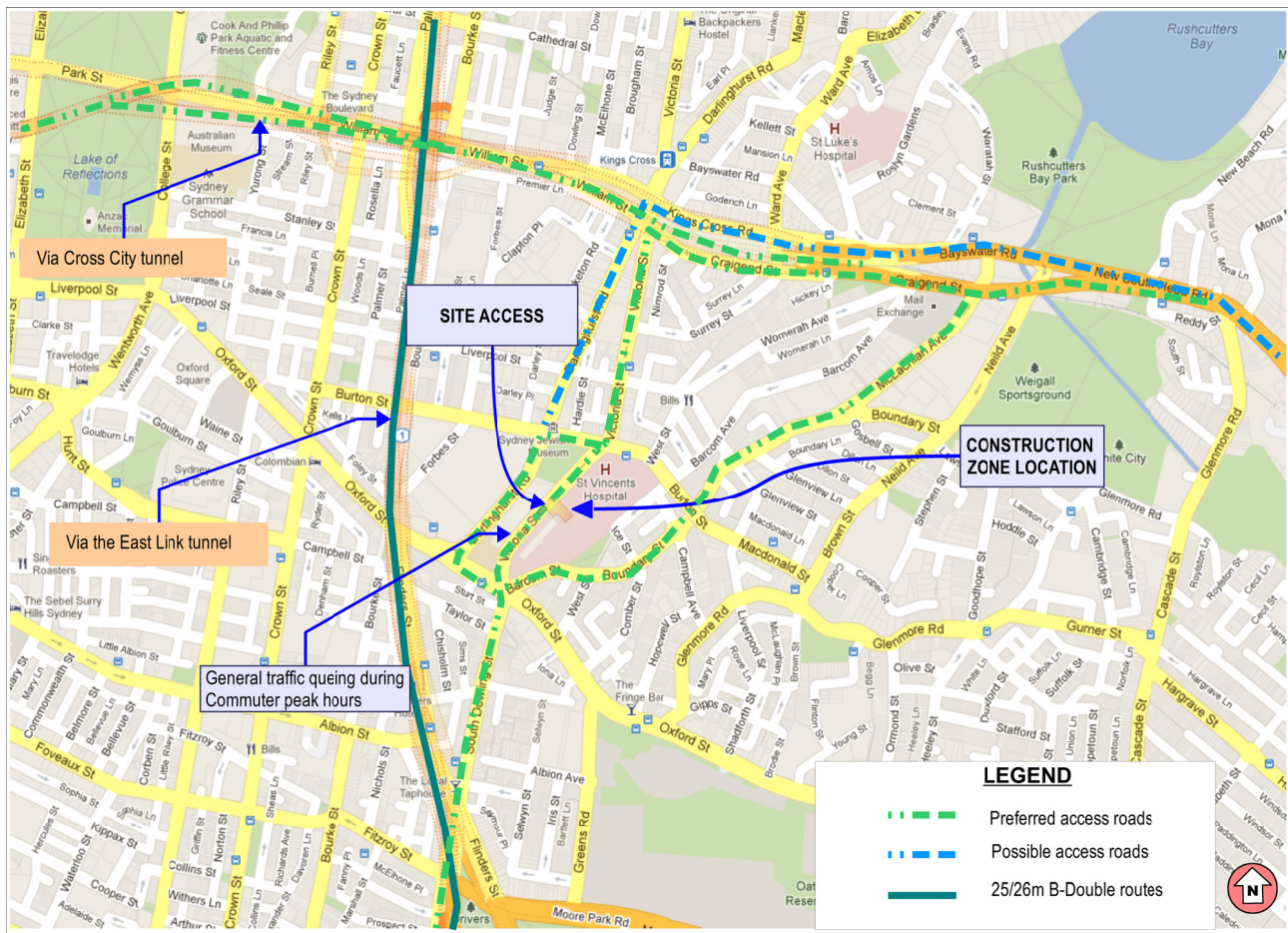


Figure 2. Proposed truck delivery routes.

3.2 Traffic management details

Works Zone

- It is proposed to establish a construction zone (with Works Zone restrictions) for 30 metres on the western frontage of the site (eastern side of Victoria Street).
- Establishment of the construction zone will result in a temporary loss of 5 car parking spaces and 15-20 motorcycle spaces.
 - All other existing on-street car parking areas and vehicular, pedestrian and bicycle access points will not be affected.
 - Refer to **Figure 3**.

Site protection

- All loading and unloading activities will be contained within the construction zone.
- It is proposed that the construction zone be separated and protected from the main traffic movements by New Jersey (NJ) barriers.
 - Refer to an **Appendix** for proposed NJ barrier arrangements

Access for construction vehicle

- Refer to **Figures 4 and 5**.
- Trucks will be able to enter the SVPHS site for unloading
- Trucks will park parallel to the kerb in the construction zone for loading and unloading. Some trucks will reverse into the site from the construction zone for loading and unloading and then exit in a forward direction, with both movements

under traffic control to protect pedestrians.

- Reversing manoeuvres will be fully contained within the construction zone
 - Design checks have been carried out HRVs and smaller vehicles
- There will be no reversing movements on the main carriageway of Victoria Street

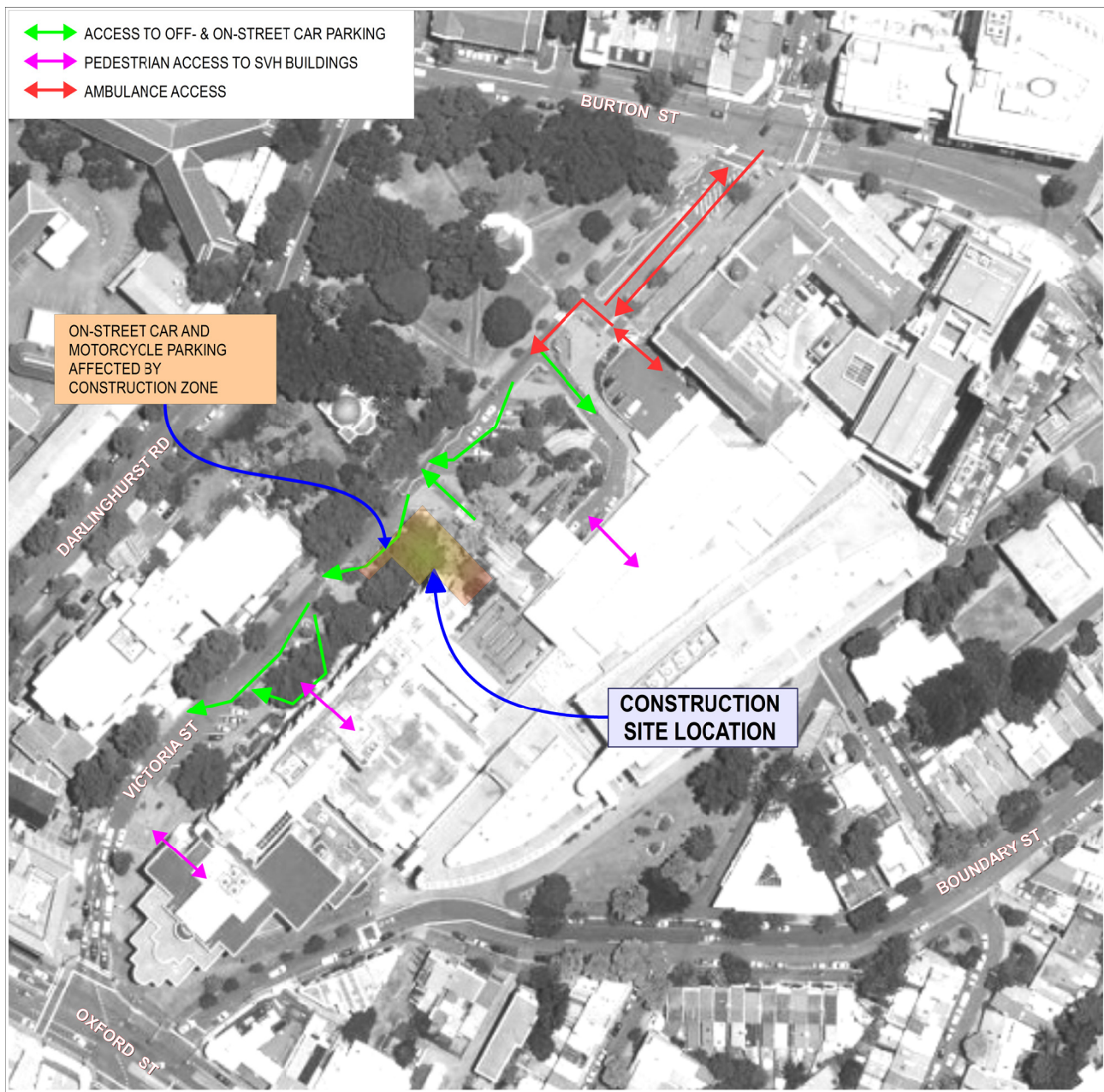


Figure 3. Impacts on the existing on-street car parking and access.

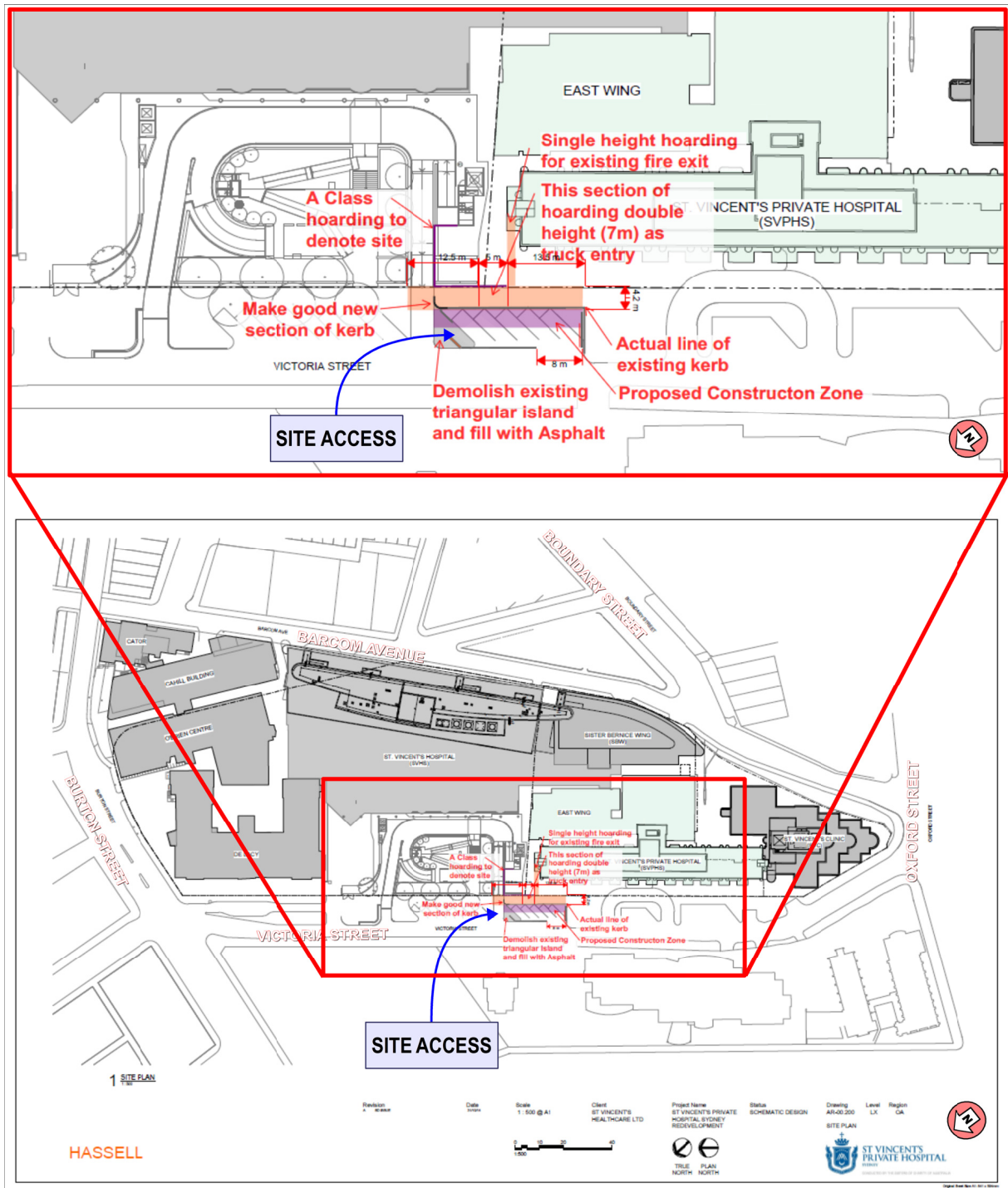


Figure 4. Proposed construction zone and hoarding – Stage 1 (source: HASSELL).

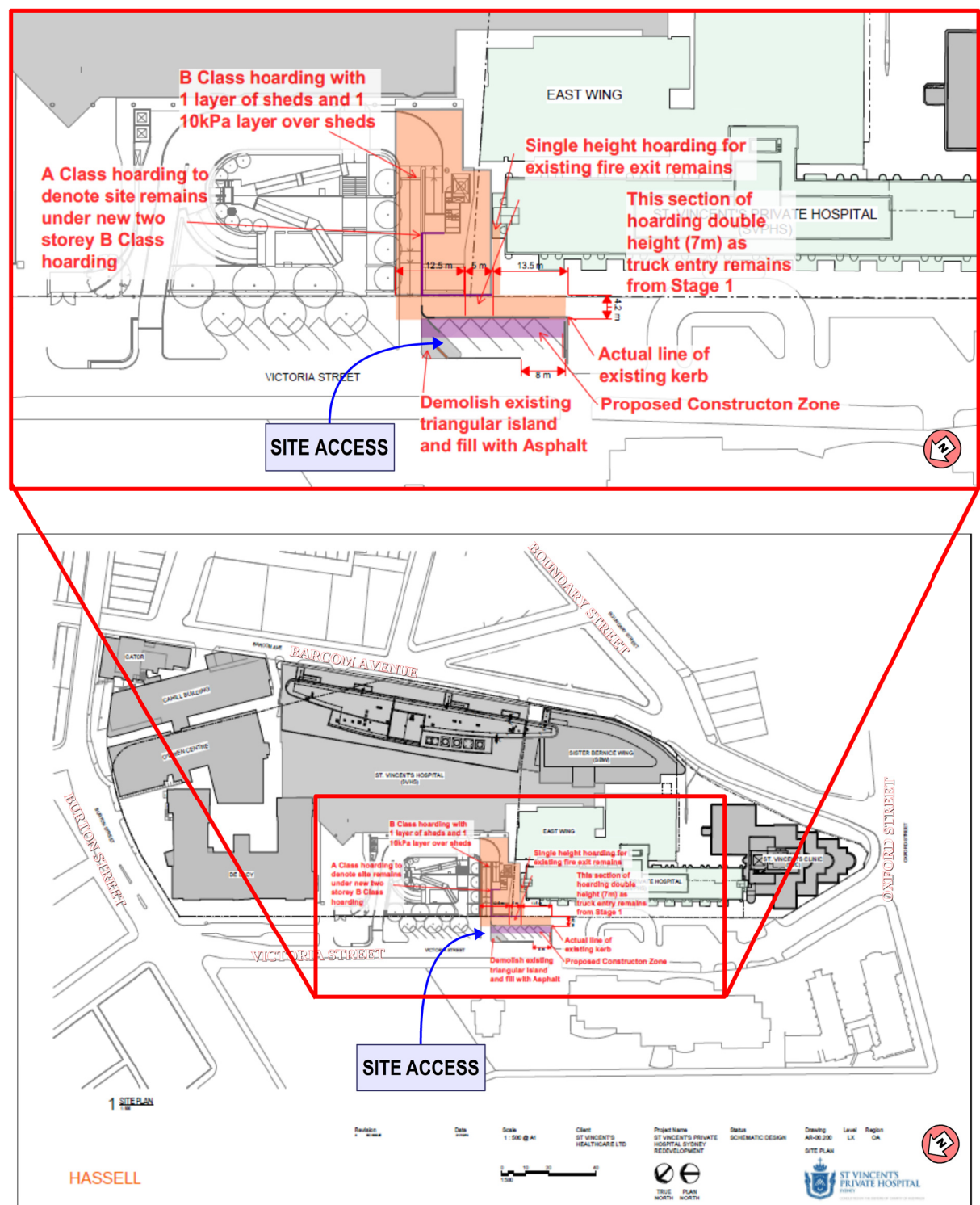


Figure 5. Proposed construction zone and hoarding – Stage 2 (source: HASSELL).

Vehicle manoeuvring	◦ Vehicle turning diagrams demonstrating adequacy of manoeuvring are attached in the Appendix. ◦ Vehicles will enter and leave the site in a forward direction only in all options. • There will be no obstruction to existing traffic on Victoria Street, Darlington Road or Burton Street. ◦ Traffic controllers will be positioned at all entry / exits to the site to control truck movements and to ensure pedestrian safety.
Circulation	• The proposed construction zone is sufficient to contain one truck at a time • Truck movements will be scheduled so as to avoid simultaneous arrivals of two trucks or more. • Site supervisors will use two-way radio communication with drivers to control truck arrivals. • Should a truck arrive whilst there is one already parked in the construction zone, it will be directed to continue along Victoria Street without stopping and to return after the other truck leaves the site. ◦ The shortest nominated circulation route is Victoria Street southbound – Oxford Street westbound – Darlington Road northbound – Burton Street eastbound - Victoria Street southbound ◦ Other routes will be nominated using streets of collector or higher category.
Pedestrian management	• Refer to Figures 4 and 5. • In Stage 2, a type 'B' hoarding will be installed along Victoria Street for the full length of the construction site to protect pedestrians from any overhead risk. Pedestrian access along these footpaths would be maintained throughout the works. • An 'A' class hoarding will be installed to denote the site (remains under the two storey B class hoarding) • Traffic controllers would be used to assist with pedestrian movements along Victoria Street ▪ Refer to hoarding design details on drawings prepared by Hassell and reproduced in Figures 4 and 5. • Access to the neighbouring properties will not be affected. • Site fencing will have gates to allow trucks access/egress from the site. • The proposed footpath closures will have minimal effect on pedestrian connections and movements and are thus supportable on traffic grounds.
Traffic controllers	• Traffic controllers will adhere to the following standard Council's conditions: ◦ <i>Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - the vehicles already on the road have right-of-way.</i> ◦ <i>Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. at all times the pedestrians have right-of-way on the footpath not the trucks.</i>
Internal traffic management	• No specific internal traffic management on the site will be required.

3.3 Traffic management issues

Traffic control on street	• All construction activities will be contained within the site. • Traffic controllers will be only required to ensure safety of pedestrians when trucks will enter or leave the site from the construction zone across the footpath. • Apart from the above, there will be no need for traffic management measures on the street network (except weekend road closures).
Traffic impacts on the street network	• Negligible due to a low number of additional vehicle trips compared with the existing traffic flows.
Vehicle manoeuvring	• The proposed arrangements for vehicle movements (mostly through traffic, entering at one end of the construction zone and leaving through the other end) provide for a simple solution. ◦ The existing street widths provide sufficient room for manoeuvring of largest vehicles (HRV). ◦ When necessary (i.e. for HRV reversing from Victoria Street into the site for a limited number of deliveries), traffic controllers will be used to ensure safety of pedestrians.
Parking	• It is proposed that the construction personnel and contractors use public transport ◦ Kings Cross station is within a walking distance ◦ There are multiple bus stops for services in all directions near the site. • Contractors may make their own arrangements for parking in legally available areas on street. Minor increases in parking demand may be expected on the existing streets. These are proposed to be mitigated as follows ◦ During the induction process subcontractors will be encouraged to leave their tools on site for the duration of works. Lockable boxes will be provided on site for this purpose. Contractors will then be able to use public transport as there will be no need to bring their tools on a daily basis.
Temporary road closures	• Closure of Victoria Street between Burton Street and Oxford Street for general traffic may be necessary for certain construction activities, for example for a crane set-up. ◦ Road closures will be subject of separate applications to Council and to the Traffic Management Centre (TMC) of the NSW RMS. ◦ Road closures will be limited to weekend days and public holidays only. ◦ A specific Traffic Control Plan (TCP) shall be prepared in accordance with the requirements of RMS (2010) ◦ Traffic control management for Victoria Street closure will include, as a minimum, the following measures to direct traffic as depicted in Figure 6. ▪ “Roadwork ahead” T1-1 signs ▪ “Victoria St closed” in Burton St west of Darlinghurst Road ▪ Barrier boards at the northern end of Victoria Street

- “Road closed” T-24 signs
- “Detour” T5-1 and “Detour ahead” T1-6 signs
- “No left turn” and “No right turn” R2-6 signs in Burton Street

- The proposed temporary road closure will result in a blockage of vehicular access to off-street and on-street car parking in Victoria Street.

- This is satisfactory for weekend and public holiday conditions, when the car parking demand for the St Vincent Campus is substantially lower than that on weekday

- Access for ambulances will continue to be allowed via the existing separate laneway.

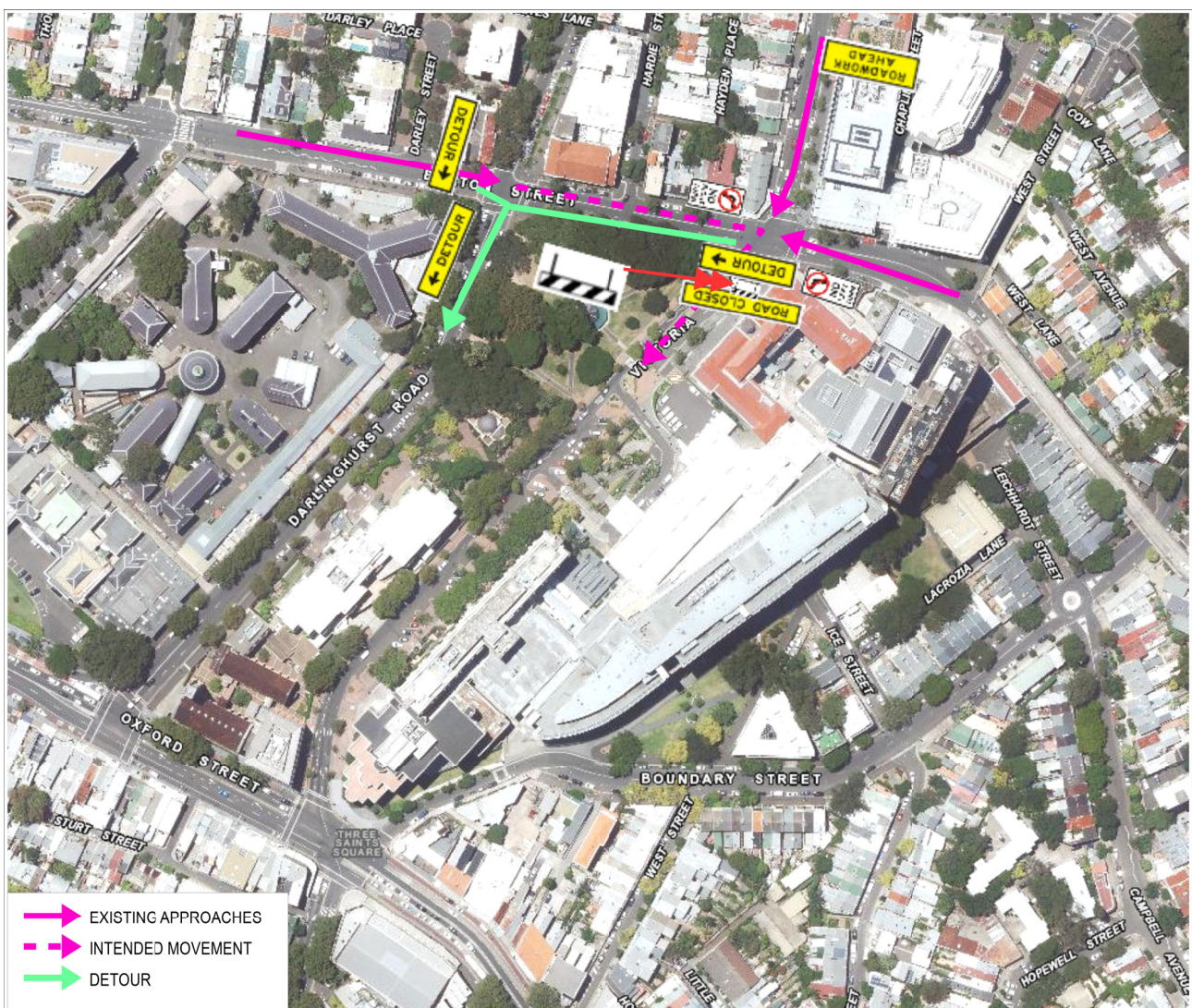


Figure 6. Minimum requirements for Victoria Street closure TCP.

4 ADDITIONAL REQUIREMENTS

Parking restrictions	All existing parking restrictions (No Stopping/No Parking/Clearway) are to be maintained and protected (other than those to be removed for construction zone establishment).
Pedestrian and bicycle access points and links	To be maintained and protected.
Marshalling of delivery vehicles	The assessment of the construction material delivery activities revealed no requirement for marshalling of vehicles.
Workplace Travel Management Plan	A Workplace Travel Management Plan (WTMP) is to be developed and issued to all personnel on site during the induction. The WTMP is to include • details of parking arrangements • public transport information (services timetables)
All TCPs shall comply with the provisions of	• Australian Standard 1742.3-2002 Manual of uniform traffic control devices - Traffic control devices for works on roads, • RMS Manual “Traffic control at work sites” (TCWS), • RMS Specification G10 – Control of Traffic, • RMS Road Safety Audit Guide, • RMS Interim Guide to Signs & Markings, • RMS Regulatory Signs Guide, • RMS Road Occupancy Manual, • AUSTROADS Road Safety Audit Guide, • AUSTROADS Guide to Traffic Engineering Practice, Parts 1 to 15, (as required), • Australian Standard AS1742 Manual of uniform traffic control devices, Parts 1, 2 and 4 to 14, (as required), • Australian / New Zealand Standard – AS/NZS3845 Road Safety Barriers Systems.
Qualifications	All TCPs are to be prepared by qualified persons only. Suitable qualifications: • an engineering degree in traffic engineering or related discipline; or • an RMS certificate at an appropriate level.
Time periods of construction traffic	Shall generally be restricted to non-peak periods, reducing the potential for interaction with general traffic and pedestrians.
Signposting and line marking	There shall be no conflicting messages between existing and temporary signs.

Information	Road users and local communities shall be informed in relation to changed traffic conditions for the delivery of silos.
Policies in addition to traffic management and control	All construction personnel, including subcontractors, will be made aware of • OH&S Policy, • Environmental Policy, • Quality Policy, • Drug and Alcohol Policy; and • other policies as required by SVPHS and builder
Approvals	Contractors shall obtain the necessary approvals from Council and RMS for all works within the road reserve and/or any changes to existing infrastructure, installation and/or changes of any regulatory traffic control device.
Access to properties	• maintain existing property access points, • maintain access to community facilities.
Traffic control devices	Shall be • installed in accordance with warrants and relevant guidelines, • regularly maintained, • controlled by appropriately trained traffic control staff.
Unplanned incident management – road network	• inform RMS Traffic Management Centre (TMC), Police and emergency services as required, • if resources are available, provide initial response to unplanned incidents with the aim to make the incident scene safe, and prevent further harm to persons or property, • provide support to emergency services, including traffic control in the vicinity of the incident, • during major incidents, provide a senior construction representative on-site to liaise with the RMS and emergency service agencies; and • reschedule planned works that will interfere with the incident, or create additional delays to those road users already affected by the incident.
Inspections	Carry out regular inspections of temporary traffic controls, as per requirements of RMS TCWS and AS 1742.3, including • pre-start and pre-closedown inspections of short-term traffic control

5 REFERENCES

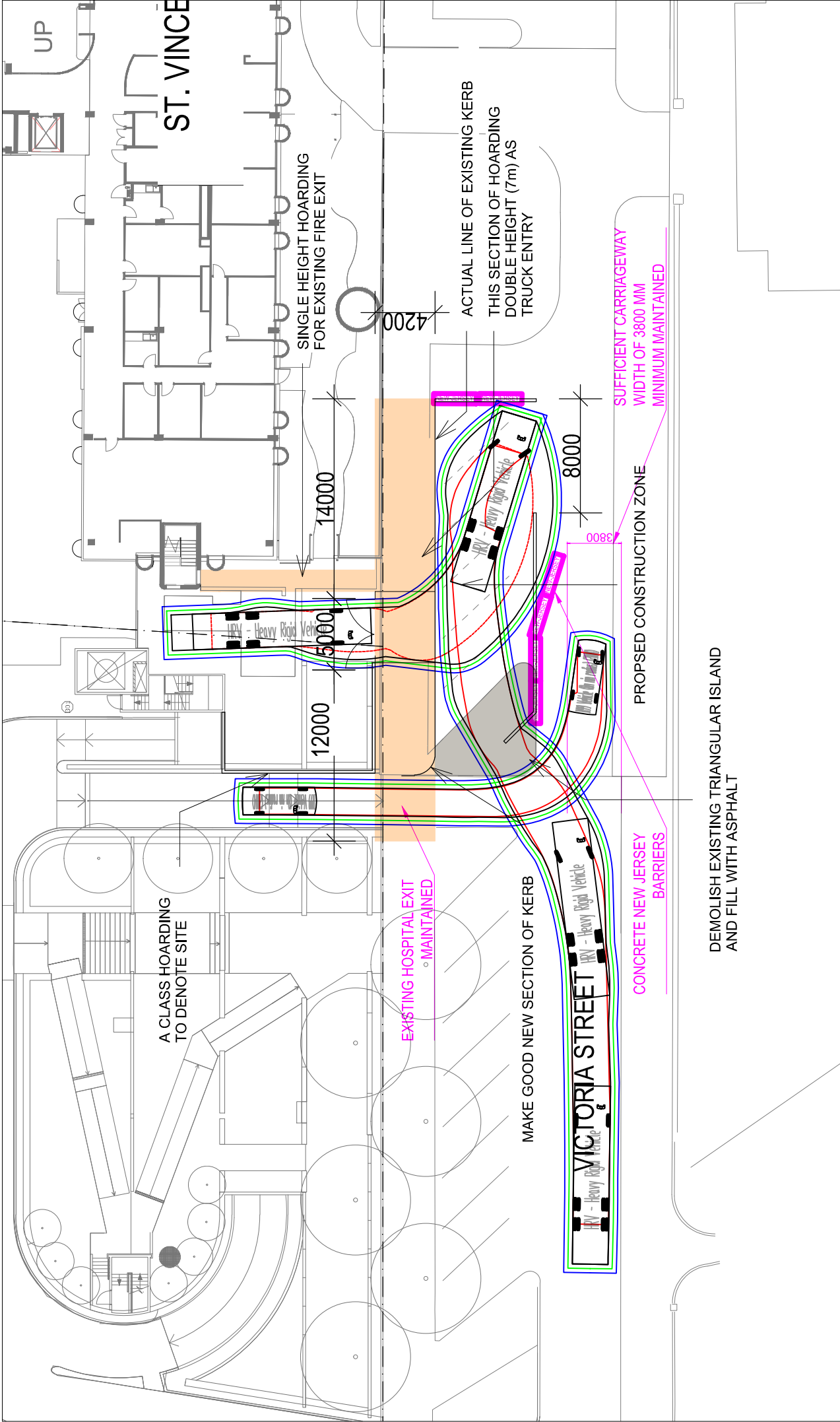
RMS (2010) Traffic Control at Work Sites Manual

Australian/New Zealand Standard 2890.1:2004 Off-street car parking.

Australian Standard 2890.2-2002 Parking facilities. Part 2: Off-street commercial vehicle facilities

Austroads (1995) Guide to Traffic Engineering Practice Part 13 – Pedestrians

Appendix.
Vehicle manoeuvring diagrams.



LEGEND:		St Vincents Private Hospital Sydney - Redevelopment Traffic Management Plan for demolition and construction works		SCALE 1:350 @ A4 SHEET 02
		Heavy vehicle ingress and egress - reversing into the site Design checks as per AS 2890.2:2002 HEAVY RIGID VEHICLE 10 km/h on approach; 5 km/h within construction zone		
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Client:		St Vincents Private Hospital Sydney		

