Seniors Housing Development, Scottish Hospital Paddington - Transport Assessment

20 June 2011

Prepared for

Presbyterian Church (NSW) Property Trust

Halcrow

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This report has been issued and amended as follows:

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0	Draft for internal review	15/07/11	PT	KH
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Halcrow
Suite 20, 809 Pacific Highway, Chatswood, NSW 2067 Australia
Tel +61 2 9410 4100 Fax +61 2 9410 4199
www.halcrow.com/australasia

Contents

1 Introduction

Presbyterian Aged Care NSW & ACT (PAC) proposes to expand its aged care services on the Scottish Hospital Site, Paddington.

PAC is a Ministry of the Presbyterian Church in NSW and the ACT. Its charter is to provide care and accommodation for older people, with a commitment to excellence inspired by the Christian faith. PAC provides residential care, community care and seniors housing at sites across NSW and the ACT. PAC has been providing aged care and health services at the Scottish Hospital Site for over 100 years and currently operates the 88 bed aged care building on the site that provides nursing home and hostel accommodation.

With a rapidly ageing population and fewer opportunities available for older people to secure accommodation in Inner Sydney, the redevelopment of the site will greatly assist in addressing the insufficient supply of aged care accommodation across all welfare levels.

PAC seeks to develop on the site:

- 79 independent living units on the site ranging in size from 1 through to 3 bedroom apartments;
- 100 residential care beds in nursing home style accommodation with a proportion set aside for dementia patients; and
- ancillary care services to facilitate an ageing in place care model.

This report has been prepared for PAC to examine the transport implications of a proposed expansion of aged care facilities. The now terminated hospital function on the site would be displaced by the proposed aged care facilities, but existing heritage buildings would be retained.

This report addresses issues pertaining to site access, parking and internal traffic arrangements, traffic generation and its impact on the surrounding road system and intersections. It also addresses pedestrian and public transport access to the site.

It is organised into the following chapters:

- Chapter 2 describes the existing traffic conditions in the vicinity of the site;
- Chapter 3 examines the proposed development, its internal traffic arrangement and its predicted traffic generation;
- Chapter 4 examines the site access and any implications this will have on the neighbouring roads;
- Chapter 5 presents a summary and conclusion.

This report updates and builds on earlier 1997, 2001 and 2010 Halcrow (formerly Masson Wilson Twiney) studies for similar schemes on the hospital site. The latest scheme is generally similar to that which was the subject of the October 2010 Environmental Impact Assessment application. However, the latest preferred scheme is now supported by an alternative scheme.

In terms of Aged Care Facilities, both schemes propose the same number of independent living units and nursing home beds. The difference relates mainly to servicing. The latest scheme maintains a loading dock at Level 1 with access to the dock from Stephen Street. The alternative scheme incorporates a loading dock at Upper Basement Level, with access provided via the main vehicular access road from Brown Street.

The implications of the two schemes are covered within the following sections of this report.

2 Background Situation

2.1 Site Location

The Scottish Hospital site is located in Paddington in Sydney's Eastern Suburbs. The campus is surrounded by residential areas and is bounded by Brown Street/Neild Avenue, Cooper Street, Stephen Street and a reserve on its northern side. Development on the site comprises the Scottish Hospital building on the southern side and an aged care building on the western side.

The site has one main vehicle access on Neild Avenue, almost opposite Dillon Street. This entry provides access to the car park and the main entrance to the hostel and nursing home. The front entry to the former hospital is located on Cooper Street. There is no vehicle access at this entrance but there is an ambulance bay. There is also a loading bay on Stephen Street that was used by the hospital when operating.

The location of the site is indicated on **Figure 1**.

2.2 Development on the Site

2.2.1 Scottish Hospital

The Scottish Hospital was a private hospital formerly under the care of Impact Health Pty Ltd. After the dissolution of this company in 1997, the hospital ceased to operate.

The hospital is housed in a 150 year old building which has had additions made at various times. The site ground level falls from south to north. There are two floor levels of the hospital above the level of Cooper Street at the southern end of the site. The northern end of the site consists of a landscaped area and car park which is set well below the level of the main ward block.

The main entrance to the hospital building is on Cooper Street and is a pedestrian only entrance. The existing car park on the lower level of the site accessed via the vehicle entrance on Neild Avenue, provided parking for staff and visitors to both the hospital and the nursing home.

SITE LOCATION

SENIORS HOUSING DEVELOPMENT, SCOTTISH HOSPITAL

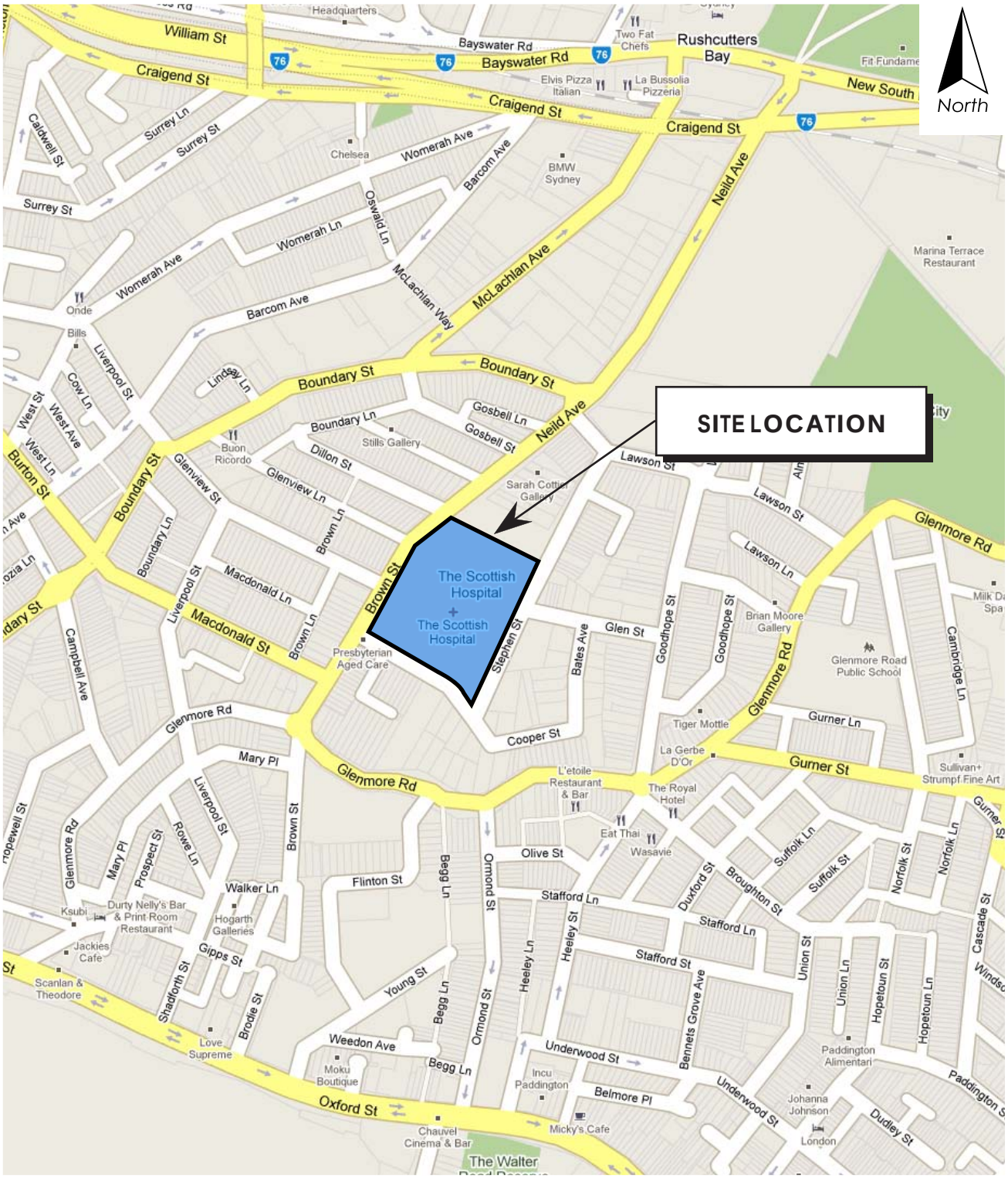

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Figure 1

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Date: 11 June 2010

The hospital provided between 54 and 60 beds when operating. It had operating rooms in which both day surgery and overnight care surgery were performed.

2.2.2 Nursing Home/Hostel

An aged care facility comprising a nursing home and hostel is located in a separate building on the western end of the site, with its lower level at the same level as the car park. The aged care facility has always been run separately from the hospital by PAC.

The aged care facility is still operational and has 88 beds. There is a car park underneath with parking for 12 cars. Previously, when the Scottish Hospital operated, the aged care building was allocated a further 9 spaces in the open. It now has full use of all car parking on the site. The complex also has one space dedicated for a 19 seater minibus which is used for resident outings.

2.3 Description of the Road System

2.3.1 Local Road Network

The main road that serves the area is Brown Street, which changes name to Neild Avenue near the site access. These roads serve as a collector route in the road hierarchy which provides a southbound access function to/from New South Head Road, an arterial route. Parking is restricted along one or both sides of Brown Street and Neild Avenue in the vicinity of the site to ensure that one free flowing travel lane is provided for traffic each way

Cooper Street is a narrow local street cul-de-sac. Parking is allowed on the southern side but not on the northern side (adjacent to the hospital building). Lawson Street operates as a collector road between Neild Avenue and Glenmore Road. It has parking on each side plus one travel lane each way.

Stephen Street is a local street. Between Lawson Street and Glen Street it is relatively wide for a local street with one parking lane and one traffic lane each way. At Glen Street it forms a cul-de-sac and tapers to afford only one travel lane between parking on each side of the road.

2.3.2 Traffic Flows

In order to determine the traffic currently generated by the nursing home and hostel, weekday morning and evening traffic counts at the site access on Neild Avenue were undertaken during the first week of December, 2009.

These peak hour traffic flows are presented on **Table 2.1** along with historic traffic counts carried out in 1999 for an earlier study of the site.

Table 2.1 – Existing Traffic Flows at Site Access, Neild Avenue

	Inbound	Outbound	Two-way
Morning Peak			
- 2009 Survey	3	3	6
- 1999 Survey	4	3	7
Evening Peak			
- 2009 Survey	2	2	4
- 1999 Survey	9	9	18

Table 2.1 shows that the morning peak traffic generation has remained fairly constant, whilst the evening peak flows indicate a drop in evening peak traffic generation. Part of the drop of evening traffic generation is explained by the fact that in 1999, 95 care beds were in operation whereas the number now is 88. However, as staff shift changes do not take place during the evening peak period, the change is most likely attributable to changed visitor patterns.

Not only are the 1999 surveyed flows higher, they were average results for a week long survey of traffic to/from the site. Therefore, the 1999 results are considered to provide the more suitable and conservative reflection of the site's traffic generating potential.

The 1999 survey also indicated that on average the facility generated 208 vehicle movements per day.

By applying the 95 care beds to the 1999 average survey results, an indicative trip generation by care bed for the existing nursing home can be calculated. The resulting trip rates from this calculation are:

- Morning peak hour – 0.08 vehicles / hour / bed;
- Evening peak hour – 0.19 vehicles / hour / bed; and
- Daily – 0.46 vehicles / day / bed.

Traffic surveys of local intersections were also undertaken in December 2009 at the same time as the site access counts above.

The traffic counts were undertaken at the following intersections:

- Brown Street / MacDonald Street;
- Brown Street / Cooper Street;
- Neild Avenue / Dillon Street / hospital entrance;
- Neild Avenue / Lawson Street;
- Stephen Street / Glen Street.

Details of the 2009 peak hour traffic flows on the road network surrounding the site are summarised in **Table 2.2** and **Figure 2**.

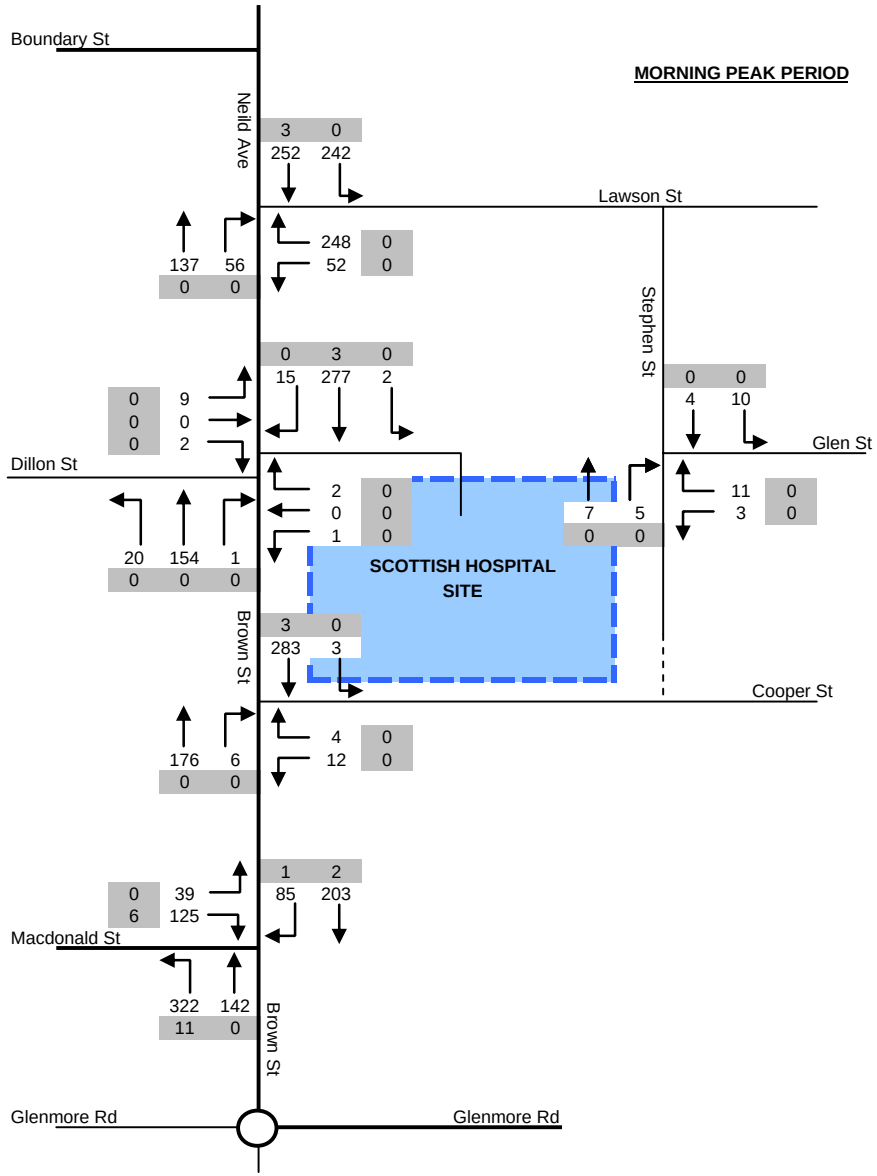
Table 2.2 – Existing 2009 Traffic Flows

Street	Location	Function	Morning Peak Hour	Evening Peak Hour
Brown St	S of Dillon St	Collector	459	390
Cooper St	E of Brown St	Local	25	16
MacDonald St	W of Brown St	Collector	571	435
Dillon St	W of Neild Ave	Local	46	38
Neild Ave	S of Lawson St	Collector	497	404
Lawson St	E of Neild Ave	Collector	598	433
Stephen St	N of Glen St	Local	32	26
Stephen St	S of Glen St	Local	19	13

Ideally traffic flows on a local road should be below 300 vehicles per hour and on collector roads below 500 vehicles per hour. Traffic flows on local roads near the site

2009 BACKGROUND TRAFFIC FLOWS

SCOTTISH HOSPITAL DEVELOPMENT - PADDINGTON



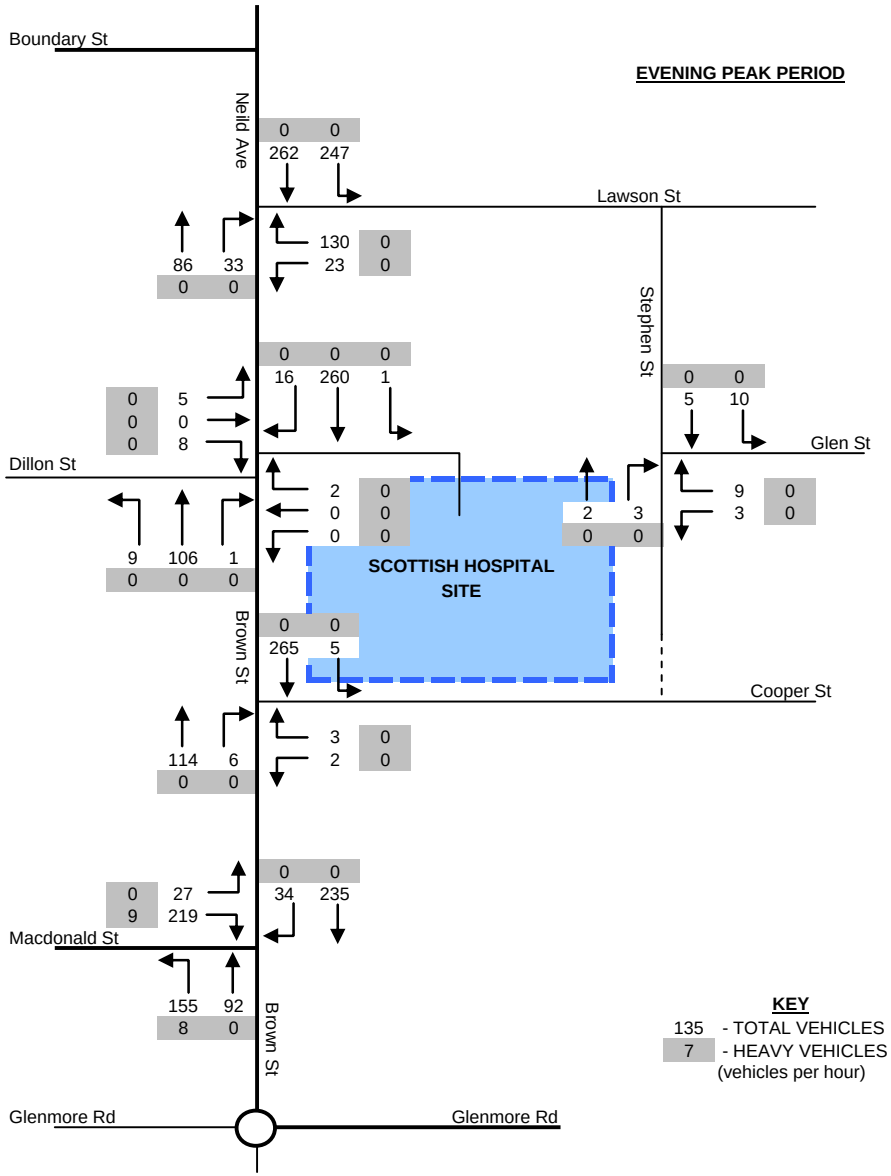


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Figure 2

are within the limit. However because of the topography of the area and the way that the road system developed over time, traffic flows on Lawson and MacDonald Streets exceed the limits for collector roads.

2.3.3 Intersection Operation

The critical intersections in the immediate vicinity of the site are that of MacDonald Street with Brown Street and Lawson Street with Neild Avenue. From inspection, all other intersections operate well within capacity.

To examine their operation, these intersections were analysed using the SIDRA intersection analysis program.

The analysis found that both intersections operated well at a Level of Service (LoS) A in both the morning and evening peak periods. LoS A is the highest operating level of service. LoS D is usually the lowest acceptable level of service in an urban road system and LoS F represents failed operation with traffic levels exceeding capacity

2.4 Public Transport

The nearest bus service is the 389 that runs along MacDonald Street / Brown Street / Glenmore Road local to the site, as shown on **Figure 3**. The nearest bus stops for the service are:

- Approximately 100m walk from the southwest corner of the site, on Brown Street between MacDonald Street and Glenmore Road for the city bound service; and
- Approximately 180m walk on MacDonald Street east of Liverpool Street for eastbound (towards Bondi) services.

Service 389 links Circular Quay in the west with North Bondi in the east and travels via Martin's Place, Burton Street in Darlinghurst, Bondi Junction and Bondi Beach. The frequencies of Service 389 are:

- Every 10mins on weekdays and Saturdays; and
- Every 15mins on Sundays and Public Holidays.

LOCAL BUS SERVICES

SENIORS HOUSING DEVELOPMENT, SCOTTISH HOSPITAL

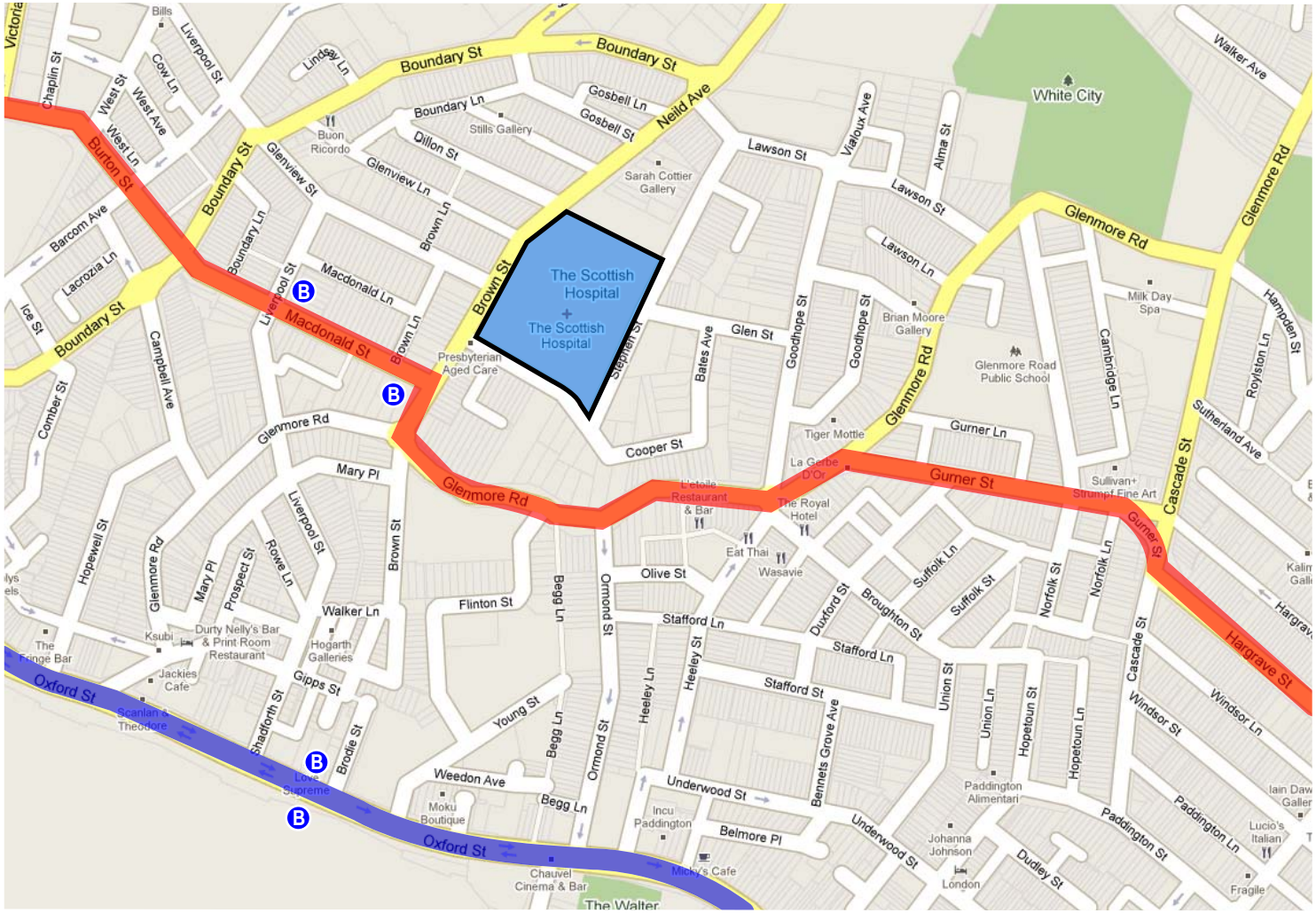

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Figure 3

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Date: 11 June 2010

In addition to the public bus service, the care facility on the site operates a minibus to take residents on outings.

2.5 Walking and Cycling

Streets in the area all tend to have a sealed footpath on each side.

There is a marked pedestrian crossing over Brown Street on its approach to Glenmore Road and over Glenmore Road on one side of the roundabout that controls their intersection. There are also marked pedestrian crossings over MacDonald Street east of Liverpool Street and over Neild Avenue north of Lawson Street.
Otherwise pedestrians need to cross the nearby roads by waiting for gaps in the passing traffic.

Near the site there is a bike route along MacDonald Street/Brown Street/Glenmore Road. This route connects to Queen Street and other cycle routes in the east and to Darlinghurst across Boundary Street in the west.

Future bike routes are proposed along Boundary Street and Lawson Street and along Neild Avenue north of the site.

These routes will be of future use to staff but would not be of major benefit to future residents given their age and the topography of the area.

3 Proposed Development

3.1 Introduction

As mentioned earlier, the current proposal consists of two options, a preferred Option A with a loading dock accessed from Stephen Street, and an alternative Option B with a loading dock on the upper basement level, accessed via the main access road from Brown Street.

It should be noted that both schemes propose the same scale of development in terms of independent living units and nursing home beds and that the only variations relate to access and parking on the upper and lower basement levels and at Level 1.

Relevant architectural plans for the preferred Option A are attached at **Appendix A**. Similarly, architectural plans for the alternative Option B are attached at **Appendix B**.

3.2 Aged Care Facility

The proposal incorporates 79 Independent Living Units (ILUs) and 100 new nursing home beds to replace the existing 88 beds.

In terms of bedrooms, the proposed 79 ILUs consist of:

- 13 x 1 bedroom units;
- 30 x 2 bedroom units; and
- 36 x 3 bedroom units.

Therefore, the ILUs provide a total of 181 bedrooms.

During the busiest period of the day for the site, up to 26 staff could be on duty, consisting of 22 staff for the nursing home and 4 staff servicing the ILUs.

3.3 Site Access

3.3.1 Main Access Road and Forecourt

The existing site access is located on a bend at the junction of Brown Street and Neild Avenue. At this location sight distance is good along Neild Avenue but because of vegetation and the bend in Neild Avenue, sight distance is poor along Brown Street.

It is proposed that this problem be rectified by cutting back vegetation for a distance of about 3 metres opposite Dillon Street and removing part of the boundary wall. This will yield the minimum sight distance of 55m recommended by the Australian Standard.

The main access road runs south from Brown Street to a landscaped forecourt located central to the site. Under both options, vehicles will be able to circulate around the forecourt in a clockwise direction. No parking will be allowed within the forecourt; however, drop-off and collection will be permitted from the canopy-covered section of kerb that runs along the southwest edge of the forecourt.

3.3.2 Access to Basement Parking

The basement parking will be accessed via two ramps. Ramp 1 is located towards the northern end of the site and is directly access from the main access road. Entry and exit movements can occur simultaneously at Ramp 1, as shown by the swept path analysis on **Figure C.1** at **Appendix C**.

Ramp 2 is located east of the forecourt. The location of Ramp 2 and its intended operation varies under the two option scenarios. Under the preferred Option A, entry and exit movements will be controlled by flashing lights so that entering and exiting vehicles do not use the ramp at the same time. **Figures C.2** and **C.3** at Appendix C, show a vehicle entering and exiting Ramp 2, respectively. Both figures include a zone 2.1m wide within which vehicles can alight for drop-off or collect purposes. Figure C.3 shows that there is sufficient space for an exiting vehicle to pass clear of this zone.

Under the alternative Option B, Ramp 2 shifts laterally about 6-7m to the north, as shown on the drawings attached at Appendix B. Standard car entry and exit movements can occur simultaneously (as shown on **Figure C.4**) and exiting cars will depart in a northerly direction, as shown on **Figure C.5**, without circulating the forecourt.

However, vehicles dropping off or collecting people/items will still be able to circulate the forecourt in a clockwise direction.

Under Option B, service vehicles will also use Ramp 2 to access the loading dock on the upper basement level. **Figures C.6** and **C.7** show a 12m truck entering and exit Ramp 2, respectively. A flashing light system will be used to stop other vehicles entering the ramp when a truck is exiting.

3.4 Parking and Loading Facilities

3.4.1 Preferred Option A – Loading Dock on Stephen Street

Under Option A, 132 on-site parking spaces are proposed. These will consist of:

- 124 spaces over two basement levels; and
- 8 spaces on the access road from Brown Street.

All parking will be designed in accordance with AS2890.1/6 requirements for the appropriate user class.

A loading bay for the aged care facility is to be provided at Level 1 with access from Stephen Street.

3.4.2 Alternative Option B – Loading Dock on Upper Basement Level

Under Option B, 124 on-site parking spaces are proposed. These will consist of:

- 116 spaces over two basement levels; and
- 8 spaces on the access road from Brown Street.

A loading dock is to be provided on the upper basement level. **Figure C.8** shows a 12m truck entering and exiting the loading dock. As can be seen, the loading dock provides sufficient area for all necessary truck manoeuvres to occur within the proposed loading dock.

As can be seen, Option B proposes a slight reduction in on-site parking compared with Option A. This lost parking is the result of dedicating space to manoeuvring service vehicles accessing the loading dock and the loading dock itself. Once again, all parking

will be designed in accordance with AS2890.1/6 requirements for the appropriate user class.

4 Traffic Analysis

4.1 Estimated Traffic Generation

4.1.1 Standard Vehicle Traffic

The RTA's *Guide to Traffic Generating Development* provides indicative traffic generation rates for housing for the aged. During the evening peak hour, 0.1-0.2 vehicle trips per dwelling are expected. The lower number is for subsidised dwellings and the higher number for self funded facilities. To be conservative, it is assumed that each new ILU would generate 0.2 trips during the peak hour and 2.0 trips daily.

As set out in Section 2.3.2, trip rates by bed have been calculated for the existing care facility. These site specific trip rates have been used in the following traffic generation analysis as they provide the best basis upon which to forecast the future traffic generation of the proposed nursing home beds.

Table 4.1 presents the forecast traffic generation for the full site upon completion of the proposed development consisting of 79 new ILUs and a total of 100 new nursing home beds.

Table 4.1 – Estimate of Future Traffic Generation

Period	79 ILUs		100 Care Beds		Total
	Gen. Rate veh/hr/unit	Trips veh/period	Gen. Rate veh/hr/unit	Trips veh/period	Trips veh/period
Morning Peak	0.2	16	0.07	8	24
Evening Peak	0.2	16	0.19	21	37
Daily	2.0	158	2.17	217	375

In summary, when compared with the 2009 survey data, the forecast additional traffic generation of the proposal is:

- Morning peak hour - 17 veh/hr
- Evening peak hour - 31 veh/hr

This level of traffic generation is very low given the existing volume of 400 to 450 vehicles per hour passing the site on Brown Street and the fact that the generated traffic would spread in two directions on Brown Street and Neild Avenue.

4.1.2 Service Vehicle Traffic

The typical food deliveries for food cooked on site would be:

- 1 bread truck delivery per day (x 6 days per week)
- 3 times a week juice and milk
- 1 per week meat
- 1 per week frozen goods
- 1 per week dry goods
- 1 per week fruit and veg

These would generally range in size between vans and medium rigid (8.8m long) trucks. In addition there would be weekly deliveries of cleaning supplies and other consumables plus waste collection which would include recycling, kitchen and other general waste and medical waste. There would also be laundry collections and deliveries.

Overall, there would typically be 5-6 service vehicle visits per weekday. These would be a little less if pre-prepared meals were brought in.

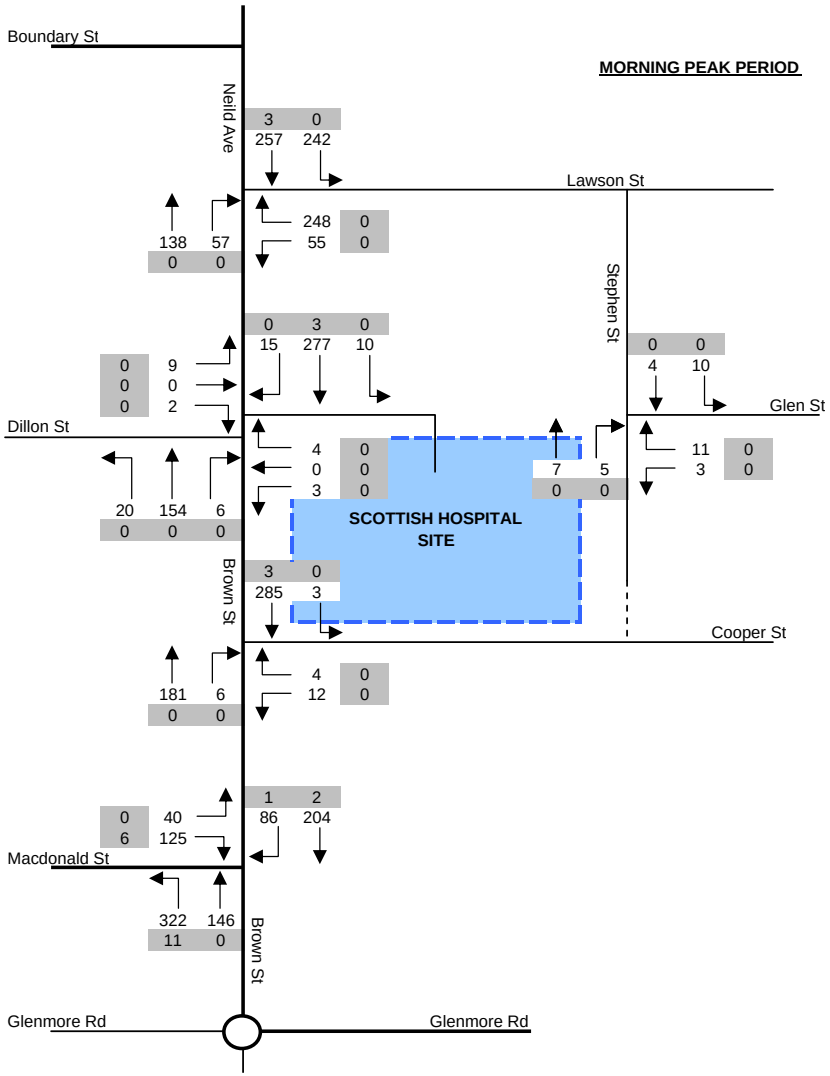
The largest size delivery vehicle that would regularly visit the site would be a 10m linen service truck. However the loading area and access thereto have been designed to allow large trucks up to 12m in length to be accommodated in the loading area on an occasional basis.

4.2 Traffic Impact on Local Road Network

The additional traffic generation arising from the development was added to the surveyed existing traffic to produce estimates of future traffic levels. These are presented on **Figure 4** and summarised in **Table 4.2** below.

FUTURE TRAFFIC FLOWS

SCOTTISH HOSPITAL DEVELOPMENT - PADDINGTON



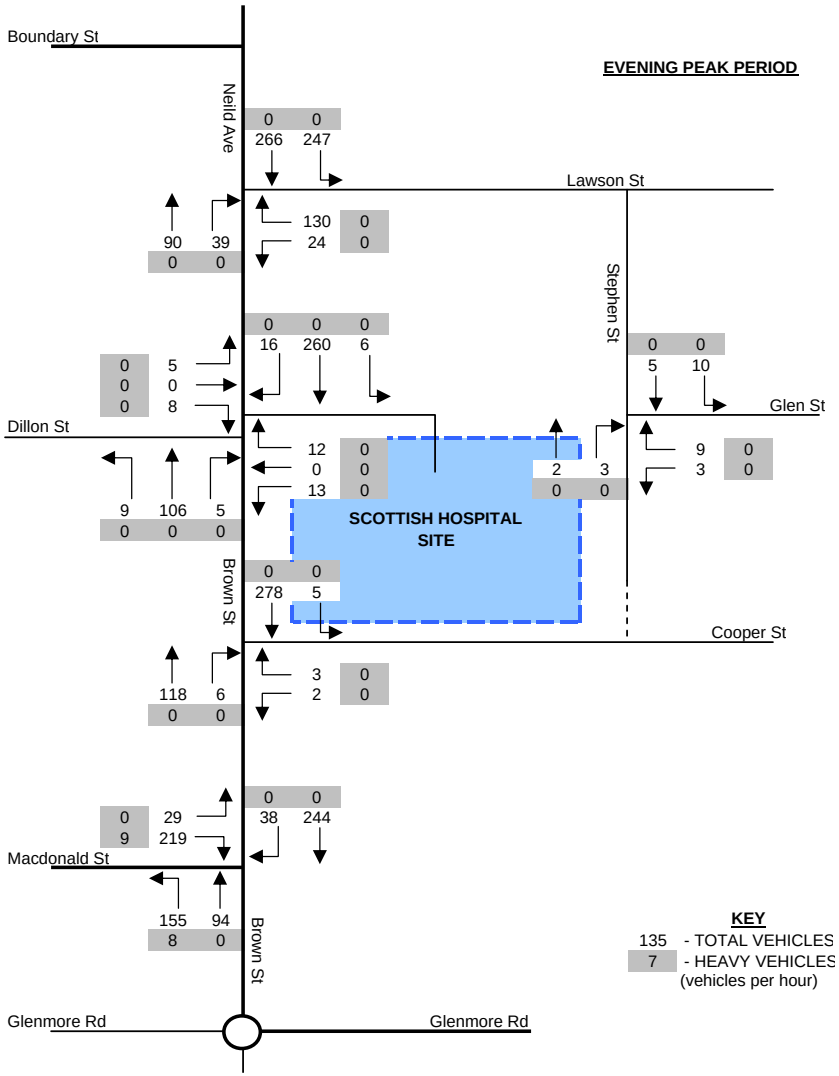


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Figure 4

Table 4.2 – Traffic Changes as a Result of Proposal (veh/hr)

Street	Location	Morning Peak		Evening Peak	
		2009	Future	2009	Future
Brown St	S of Dillon St	459	467	390	403
Cooper St	E of Brown St	25	25	16	16
MacDonald St	W of Brown St	571	573	435	441
Dillon St	W of Neild Ave	46	46	38	38
Neild Ave	S of Lawson St	497	507	404	419
Lawson St	E of Neild Ave	598	602	433	440
Stephen St	N of Glen St	32	32	26	26
Stephen St	S of Glen St	19	19	13	13

Table 4.2 indicates that the traffic changes would be very low.

The SIDRA intersection analysis has been repeated for the intersections of MacDonald Street with Brown Street and Lawson Street with Neild Avenue. The results are presented in the following **Table 4.3** alongside the SIDRA result for the existing 2009 traffic flows.

Table 4.3 – SIDRA Analysis Results

Intersection	Control Type	Level of Service		Average Delay (sec)	
		Existing	Future	Existing	Future
Morning Peak					
MacDonald Street-Brown Street	Roundabout	A	A	13.5	13.6
Lawson Street-Neild Street	Priority	A	A	8.1	8.2
Evening Peak					
MacDonald Street-Brown Street	Roundabout	A	A	12.8	13.0
Lawson Street-Neild Street	Priority	A	A	7.8	7.9

Average Delay is for the worst movement at priority and roundabouts.

The results in Table 4.3 confirm that the development would have a negligible impact on the operation of the two intersections, which will continue to operate well at a Level of Service A.

As indicated above, the additional service vehicles would be unlikely to exceed about 1 or 2 movements in any one hour. To put this in context, if the site's frontage below the Stephen Street stops was developed with terrace houses, it could accommodate about 8 to 10 such houses. The peak traffic generation of these would be 5 to 7 vehicles per peak hour. Thus the traffic generation of the loading dock under the preferred option would not be numerically inconsistent with that of other prevailing uses in the area.

To minimise potential impacts of service vehicles on local amenity it is proposed that all deliveries and collections would take place in accordance with a management plan specific to the site.

Finally, it is worth noting that under the Option B scenario, no service vehicle movements would be generated on Stephen Street.

4.3 Parking Implications

4.3.1 Parking Provision

Parking provision on the site is required to comply with SEPP (Seniors Living) 2004.

SEPP (Seniors Living) 2004 requires that parking be provided as follows:

- 1 space per 10 nursing home beds (for residents and visitors);
- 1 space per 15 nursing home beds for dementia patients (for residents and visitors);
- 1 space per 2 staff on duty at any one time (for staff); and
- 1 space per 2 ILU bedrooms (for residents and visitors).

SEPP Seniors indicates the following parking provision:

ILUs	181 bedrooms @ 1/2 bedrooms	= 90.5 spaces
Nursing home	79 normal beds @ 1/10	= 7.9 spaces
	21 dementia beds @ 1/15	= 1.4 spaces
	26 staff @ 1/2 staff	= 13.0 spaces
Total (rounding)		113 spaces

Under the preferred scheme, 132 parking spaces are proposed; therefore, the parking provision will be satisfactory. It will include an allowance for visitors to the ILUs, which is not strictly a requirement of SEPP Seniors.

Furthermore, the alternative Option B scheme proposes 124 spaces. This indicates that the reduced parking provision (necessary to accommodate the loading dock on the upper basement level) still achieves SEPP requirements.

4.3.2 On-Street Parking

Reactivation of a loading bay on Stephen Street, as proposed by the preferred scheme, will result in the loss of two public parallel parking on the western side of Stephen Street. To keep the loading access clear and facilitate vehicle turns into and out of it. Otherwise the proposal would have no impact on on-street parking. The applicant is willing to make up this parking by replacing parallel parking adjacent to the site to the south of Glen Street with 90º parking as shown on a plan in **Appendix D** of the report.

It should be noted that under the alternative Option B, there will be no change to existing parking on Stephen Street.

4.4 Pedestrians

The proposed development will provide internal vertical and horizontal circulation to allow pedestrians to interconnect easily either with the upper street level at Cooper Street in the south, at a midpoint street level on Brown Street about mid block along the frontage of the site and at the lower level on Brown Street at the northern end of the site. Thus staff and residents would be able to use any entrance without having to negotiate steps.

The principal pedestrian desire lines will be to from bus stops on the northern side of MacDonald Street and on the western side of Brown Street and to from Glenmore Road or towards New South Head Road on Neild Avenue.

The major deficiency in this route is the absence of a crossing point on Brown Street. To remedy this it is proposed, with the agreement of Woollahra Council, to convert an existing speed hump in Brown Street next to Glenview Street to a raised pedestrian

crossing. This would both slow traffic and assist pedestrians. This crossing would provide a complying accessible pedestrian route to the bus stops on MacDonald Street as indicated on the plan in **Appendix E**.

4.5 Promotion of Travel by Sustainable Modes

The nature of an aged care home is that:

- full care residents tend to only travel when driven by someone else so there is no individual use of private vehicles; and
- independent living residents tend to be on average over 75 years of age.

In relation to the ILU residents, many do not drive. Those that do drive do so only to a limited extent. For their non-car journeys, these will be catered for by a resident bus that will take residents shopping and on excursions, or by public buses. As mentioned, improved walking access to bus stops is proposed.

Because most staff work shifts involving night work or start before 7.00am, they would have difficulty using public transport. Accordingly, car parking is essential for staff.

Notwithstanding the above, four bicycle parking spaces will be provided.

5 Summary and Conclusions

The following are the key findings of this investigation with regard to the preferred option, which proposes a loading bay off Stephen Street:

- The Scottish Hospital site is presently occupied by the now disused hospital building and an 88 bed aged care facility;
- It is proposed to redevelop the site to provide 100 aged care places plus 79 independent living units;
- The existing aged care building would be demolished while the heritage listed hospital building would be refurbished to accommodate nine of the independent living units;
- 132 parking spaces are proposed in a basement car park and on the entry road. This provision exceeds the requirements of SEPP Seniors and is considered to be satisfactory;
- Principal vehicular access will be provided off Brown Street in the same location as at present. The driveway will be modified to improve visibility along Brown Street;
- A loading bay is proposed to serve the aged care facility off Stephen Street. This in effect will re-activate the existing disused hospital loading bay in Stephen Street;
- The loading bay will generate only a low level of traffic that would be equivalent to or less than that which would have occurred if that part of the site was developed with Terrace housing. Its hours of use will be restricted and managed by way of a management plan;
- As some parking in Stephen Street would be lost through the provision of the service bay, compensating 90º parking in Stephen Street is proposed with this requiring a small length of road dedication;
- The proposed development is expected to generate about 17 additional vehicle trips in the morning peak hour and 31 in the evening peak hour. At other times the traffic generation would typically be less;
- The additional traffic generation would split into two directions on Brown Street and Neild Avenue and would be low enough to have negligible impact on operation of the adjoining road network;

- The nearest bus stops are located in Brown Street near MacDonald Street and in MacDonald Street. These are respectively 100m to the city bound stop and 180m to the Bondi bound stop. These services operate every 10 to 15 minutes; and
- To improve access to these stops it is proposed to provide a pedestrian crossing in Brown Street at Glenview Street. This would provide complying accessible travel routes to bus stops on MacDonald Street. It would be subject to agreement with Woollahra Council.

The latest proposal includes an alternative Option B with a loading dock on the upper basement level, accessed via the main access road from Brown Street. It should be noted that both schemes propose the same scale of development in terms of independent living units and nursing home beds and that the only variations relate to access and parking on the upper and lower basement levels and at Level 1.

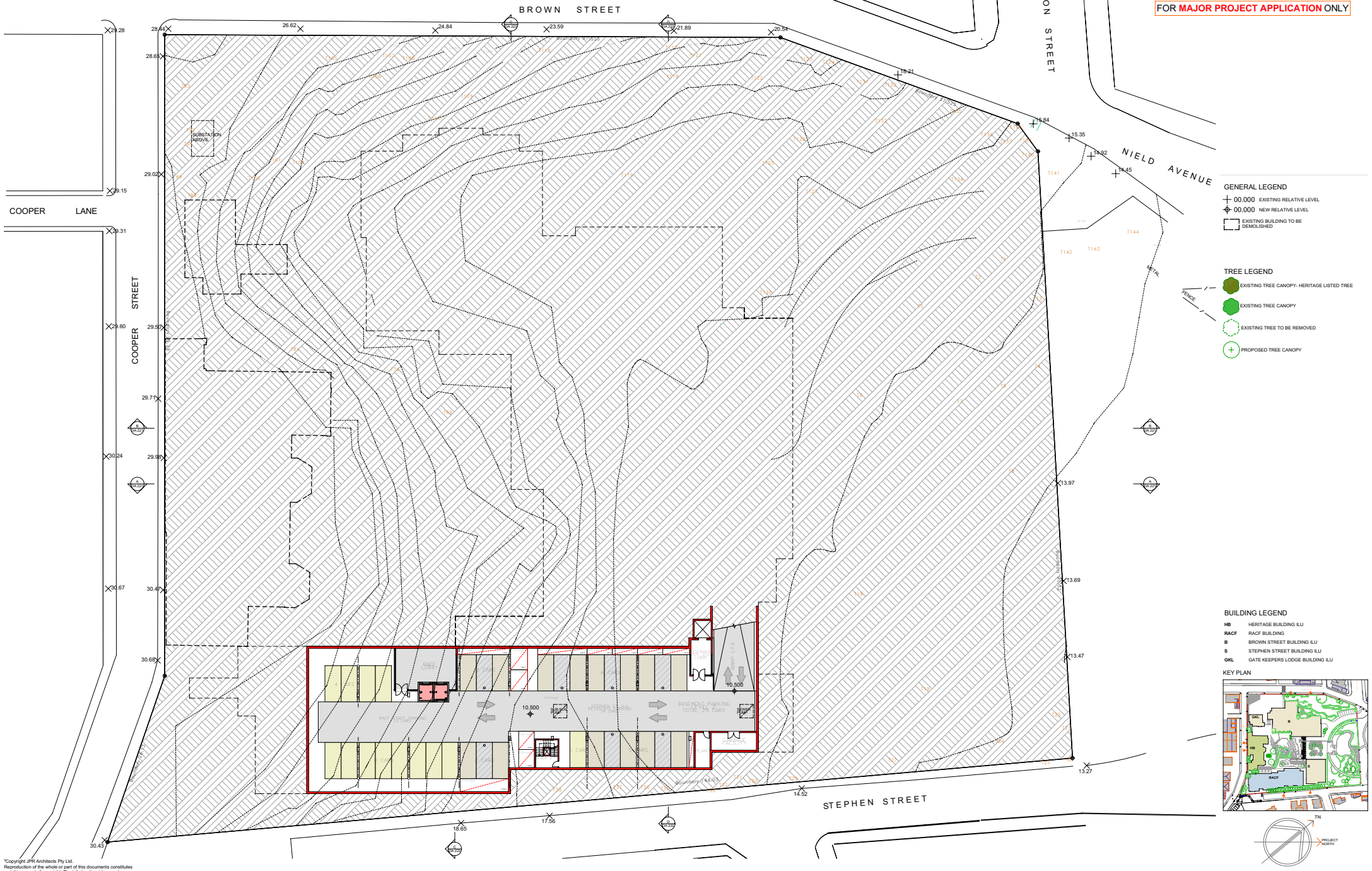
Generally the conclusions listed above for the preferred scheme hold true for the alternative scheme, such as negligible impact on the surrounding road network and improved access to local bus stops. However, the following lists the key findings of the investigation that relate solely to the alternative scheme:

- In order to accommodate the loading dock on the upper basement level, Option B proposes a reduced parking provision of 126 parking spaces. However, this provision also exceeds the requirements of SEPP Seniors and is therefore considered to be satisfactory;
- The improved principal vehicular access off Brown Street will also provide access for service vehicles;
- The loading dock for the aged care facility will be located on the upper floor basement level. Analysis shows that all necessary truck manoeuvres can be accommodated within the loading dock;
- Stephen Street remains as it currently is in the alternative Option B scheme.

Overall it is the conclusion of this investigation that both the preferred scheme and the alternative scheme provide sufficient parking and the forecast traffic impacts would be low and overall traffic effects would be satisfactory.

Appendix A Preferred Option A, Architectural Plans

FOR MAJOR PROJECT APPLICATION ONLY



OPTION A - RACF LOADING FACILITY

0 5 10m

This design has had no input from relevant planning and services or BCA consultants and should not be construed as final

"THE TERRACES"

SCOTTISH HOSPITAL - 2 COOPER ST. PADDINGTON

PRINCIPAL ARCHITECT
jpr architects pty limited
20/50 Stanley Street East Sydney NSW 2010 tel +61 2 9360 1133 fax +61 2 9360 1166 email jpr@jpra.com.au

CONSULTING ARCHITECT: URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios

CONSULTING ARCHITECT: HERITAGE
Conybeare Morrison International Pty Ltd

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	07/10/2010	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
A	RM / YS/ RK	37550	Presbyterian Aged Care PADDINGTON

DRAWING TITLE
Lower Basement

DRAWING No
DA 200

Plotted: 15/06/2011 E:\2006067-ScottishHospital\2006067 DA\PLN files\2006067-DA_Layout.pln

FOR MAJOR PROJECT APPLICATION ONLY

GENERAL LEGEND

- 00.000 EXISTING RELATIVE LEVEL
- 00.000 NEW RELATIVE LEVEL
- EXISTING BUILDING TO BE DEMOLISHED

TREE LEGEND

- EXISTING TREE CANOPY- HERITAGE LISTED TREE
- EXISTING TREE CANOPY
- EXISTING TREE TO BE REMOVED
- PROPOSED TREE CANOPY

BUILDING LEGEND

HB	HERITAGE BUILDING ILU
RACF	RACF BUILDING
B	BROWN STREET BUILDING ILU
S	STEPHEN STREET BUILDING ILU
GKL	GATE KEEPERS LODGE BUILDING ILU

KEY PLAN

TN

PROJECT NORTH

OPTION A - RACF LOADING FACILITY

"THE TERRACES"

SCOTTISH HOSPITAL - 2 COOPER ST. PADDINGTON

PRINCIPAL ARCHITECT
jpr architects pty limited
2050 Stanley Street East Sydney NSW 2010 tel +61 2 9360 1133 fax +61 2 9360 1166 email jpr@jpra.com.au

CONSULTING ARCHITECT: URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios

CONSULTING ARCHITECT: HERITAGE
Conybeare Morrison International Pty Ltd
Architecture Interiors Heritage Urban Design Masterplanning
T: 61 2 9264 6888 F: 61 2 9264 8877 E: mail@cmplus.com.au

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	07/10/2010	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
A	RM / YS/ RK	37551	Presbyterian Aged Care PADDINGTON

DRAWING TITLE
Upper Basement Parking

DRAWING No
DA 201

FOR **MAJOR PROJECT APPLICATION** ONLY

GENERAL LEGEND

- 00.000 EXISTING RELATIVE LEVEL
- 00.000 NEW RELATIVE LEVEL
- EXISTING BUILDING TO BE DEMOLISHED

TREE LEGEND

- EXISTING TREE CANOPY- HERITAGE LISTED TREE
- EXISTING TREE CANOPY
- EXISTING TREE TO BE REMOVED
- PROPOSED TREE CANOPY

1. Loading dock amended to accomodate 10m rigid truck
2. Stairs amended as per increased floor height
3. RACF AC condensor units relocated to below ground level
4. Kerbline adjusted as per

Rev B 06/06/2011 Traffic engineers advice

BUILDING LEGEND

HB	HERITAGE BUILDING B.U
RACF	RACF BUILDING
B	BROWN STREET BUILDING B.U
S	STEPHEN STREET BUILDING B.U
GKL	GATE KEEPER'S LODGE BUILDING B.U

KEY PLAN

OPTION A - RACF LOADING FACILITY

This design has had no input from relevant planning and services or BCA consultants and should not be construed as final.

"THE TERRACES"

SCOTTISH HOSPITAL - 2 COOPER ST. PADDINGTON

PRINCIPAL ARCHITECT
jpr architects pty limited

CONSULTING ARCHITECT: URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios

CONSULTING ARCHITECT: HERITAGE
CM+

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	07/10/2010	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
B	RM / YS / RK	37552	Presbyterian Aged Care PADDINGTON

DRAWING TITLE
Level 01 Plan

DRAWING No
DA 202

Appendix B Alternative Option B, Architectural Plans

FOR MAJOR PROJECT APPLICATION ONLY

GENERAL LEGEND

- 00.000 EXISTING RELATIVE LEVEL
- 00.000 NEW RELATIVE LEVEL
- EXISTING BUILDING TO BE DEMOLISHED

TREE LEGEND

- EXISTING TREE CANOPY- HERITAGE LISTED TREE
- EXISTING TREE CANOPY
- EXISTING TREE TO BE REMOVED
- PROPOSED TREE CANOPY

Rev A 06/06/2011 New drawing

BUILDING LEGEND

HB	HERITAGE BUILDING ILU
RACF	RACF BUILDING
B	BROWN STREET BUILDING ILU
S	STEPHEN STREET BUILDING ILU
GKL	GATE KEEPERS LODGE BUILDING ILU

KEY PLAN

TN

PROJECT NORTH

OPTION B - RACF LOADING FACILITY

0 5 10m

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PRINCIPAL ARCHITECT
jpr architects pty limited
20/50 Stanley Street East Sydney NSW 2010 tel +61 2 9360 1133 fax +61 2 9360 1166 email jpr@jpra.com.au

CONSULTING ARCHITECT: URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios

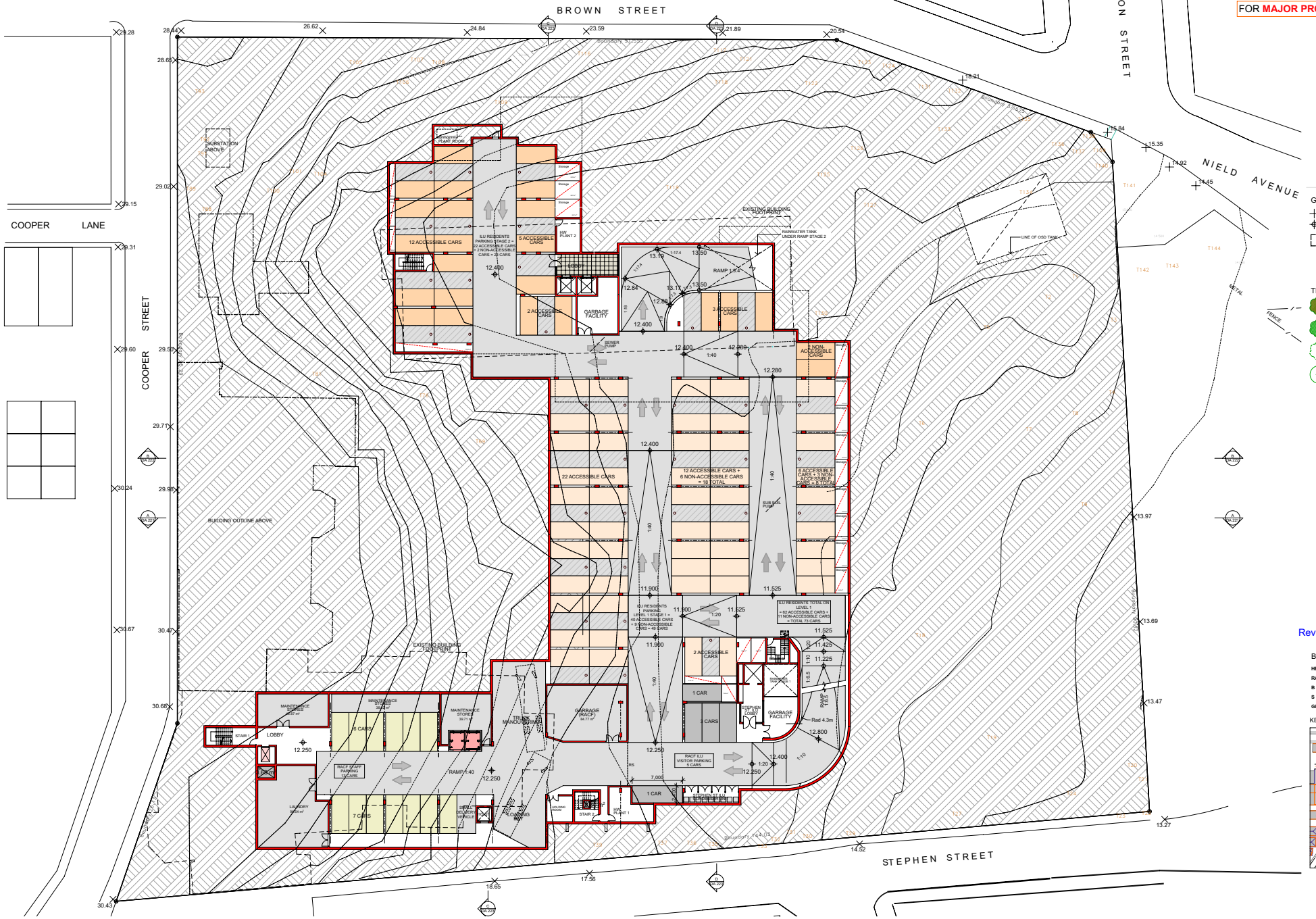
CONSULTING ARCHITECT: HERITAGE
CM+ Conybeare Morrison International Pty Ltd
Architecture Interiors Heritage Urban Design Masterplanning
T: 61 2 8244 8888 F: 61 2 8244 8877 E: mail@cmplus.com.au

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	06/06/2011	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
A	RM / YS/ RK	39373	Presbyterian Aged Care PADDINGTON

DRAWING TITLE
Lower Basement Parking Option B

DRAWING No
DA 214

FOR MAJOR PROJECT APPLICATION ONLY



GENERAL LEGEND

- 00.000 EXISTING RELATIVE LEVEL
- 00.000 NEW RELATIVE LEVEL
- EXISTING BUILDING TO BE DEMOLISHED

TREE LEGEND

- EXISTING TREE CANOPY- HERITAGE LISTED TREE
- EXISTING TREE CANOPY
- EXISTING TREE TO BE REMOVED
- PROPOSED TREE CANOPY

Rev A 06/06/2011 New drawing

BUILDING LEGEND

HB	HERITAGE BUILDING ILU
RACF	RACF BUILDING
B	BROWN STREET BUILDING ILU
S	STEPHEN STREET BUILDING ILU
GKL	GATE KEEPERS LODGE BUILDING ILU

KEY PLAN

OPTION B - RACF LOADING FACILITY

0 5 10m

"THE TERRACES"

SCOTTISH HOSPITAL - 2 COOPER ST. PADDINGTON

PRINCIPAL ARCHITECT
jpr architects pty limited
2050 Stanley Street East Sydney NSW 2010 tel +61 2 9360 1133 fax +61 2 9360 1166 email jpr@jpra.com.au

CONSULTING ARCHITECT: URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios

CONSULTING ARCHITECT: HERITAGE
Conybeare Morrison International Pty Ltd
Architecture Interiors Heritage Urban Design Masterplanning
T: 61 2 9264 6888 F: 61 2 9264 8877 E: mail@cmplus.com.au

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	07/10/2010	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
A	RM / YS/ RK	39374	Presbyterian Aged Care PADDINGTON

DRAWING TITLE
Upper Basement Parking Option B

DRAWING No
DA 215

FOR **MAJOR PROJECT APPLICATION** ONLY

OPTION B - RACF LOADING FACILITY

This design has had no input from relevant planning and services or BCA consultants and should not be construed as final

"THE TERRACES"

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jpr architects pty limited

CONSULTING ARCHITECT, URBAN DESIGN
GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT, AGED CARE
Flower and Samios

CONSULTING ARCHITECT, HERITAGE
CM+ Conybeare Morrison

SCALE AT A1	DATE	PROJECT No	PROJECT ADDRESS
1:250	06/06/2011	2006067	2 COOPER ST. PADDINGTON
REVISION	DRAWN	ITEM No	CLIENT
A	RM / YS/ RK	38378	Presbyterian Aged Care PADDINGTON

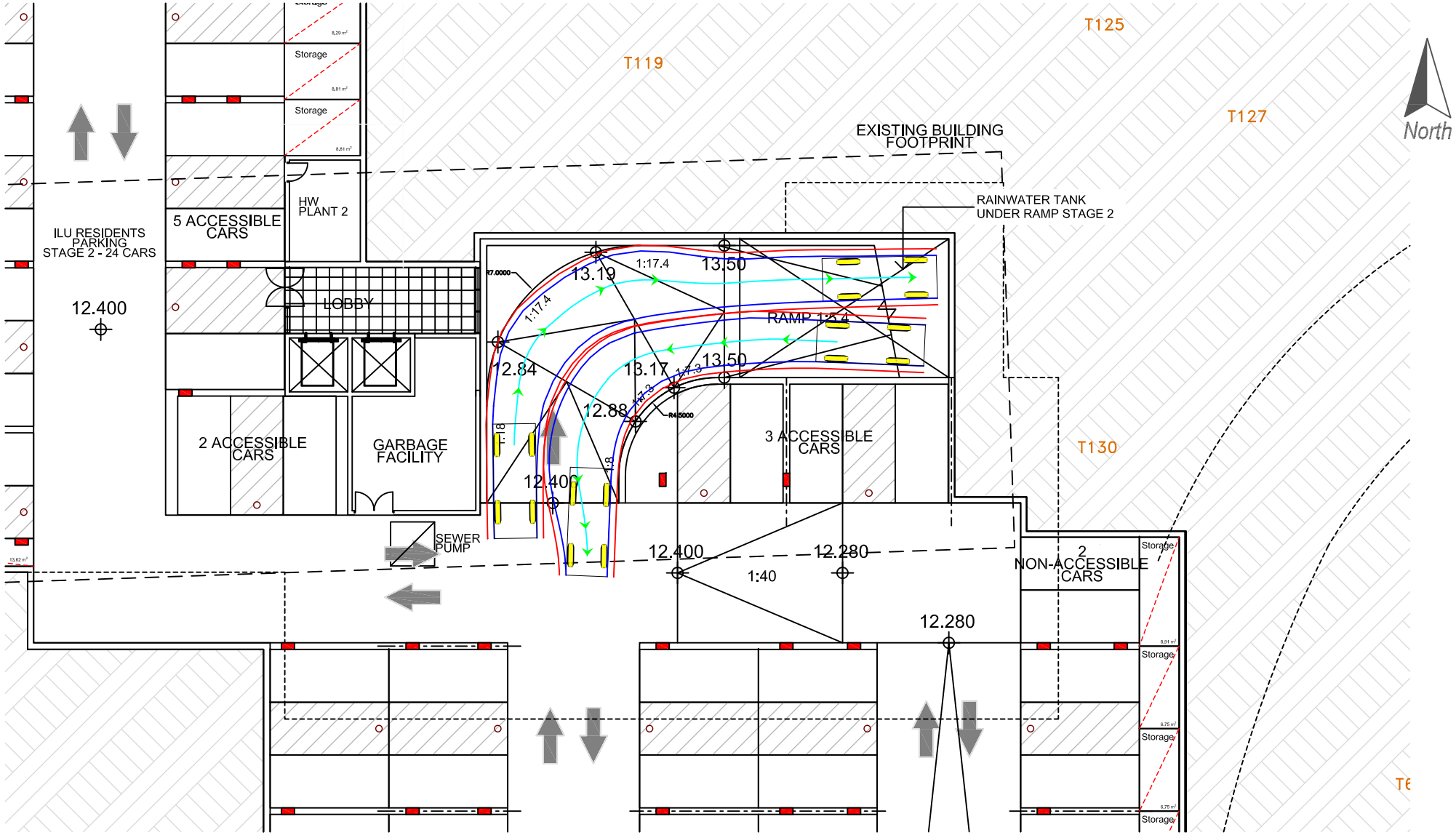
DRAWING TITLE
Level 01 Plan - Option B

DRAWING No
DA 216

Appendix C Swept Path Analysis

B99 CAR ENTRY & B85 CAR EXIT ON RAMP 1 (OPTIONS A+B)

SCOTTISH HOSPITAL



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Halcrow

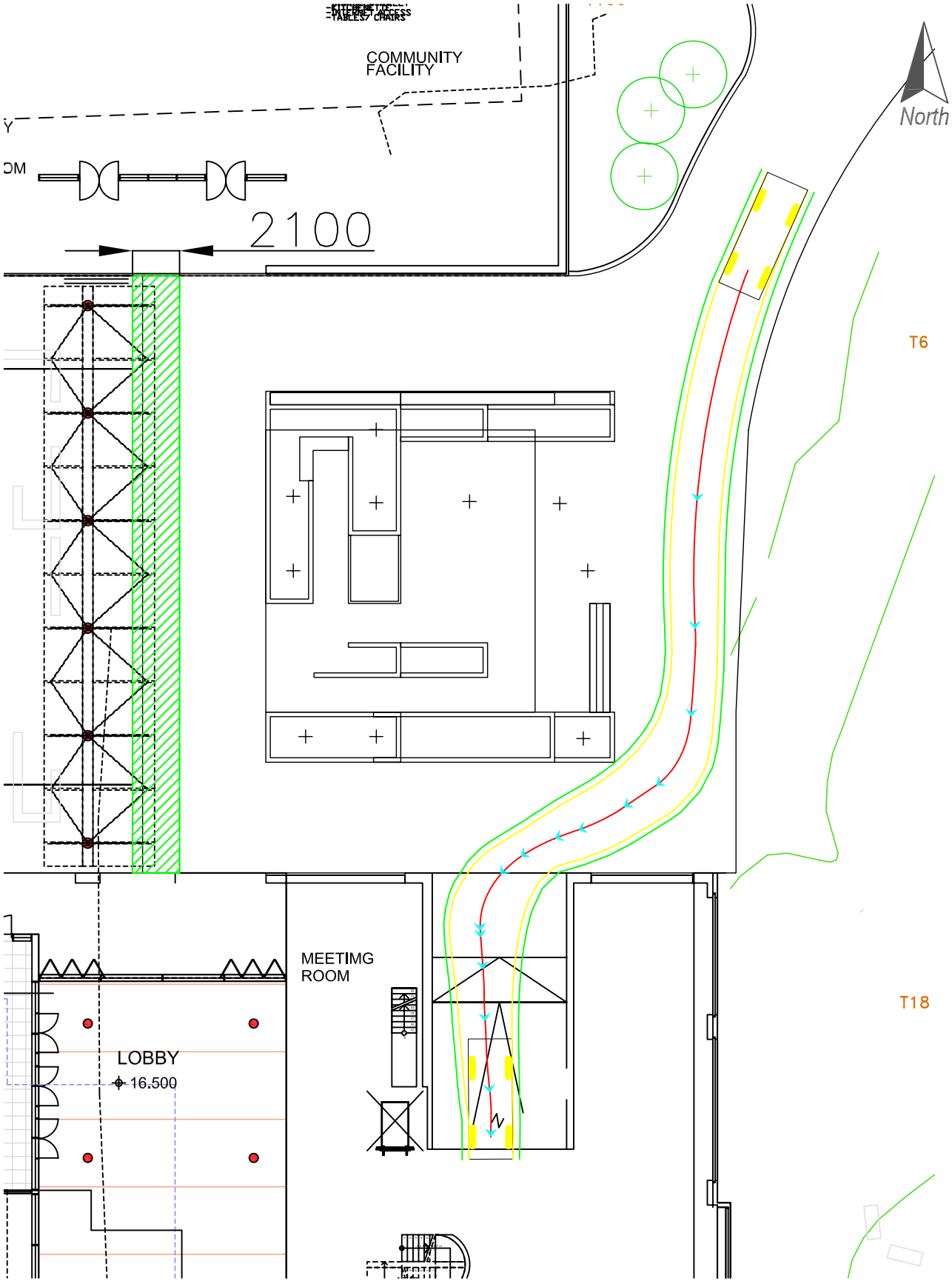
Filename: CTLRETda11

Figure C.1

Date: 15 June 2011

B99 CAR ENTRY TO RAMP 2 (OPTION A)

SCOTTISH HOSPITAL



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Halcrow

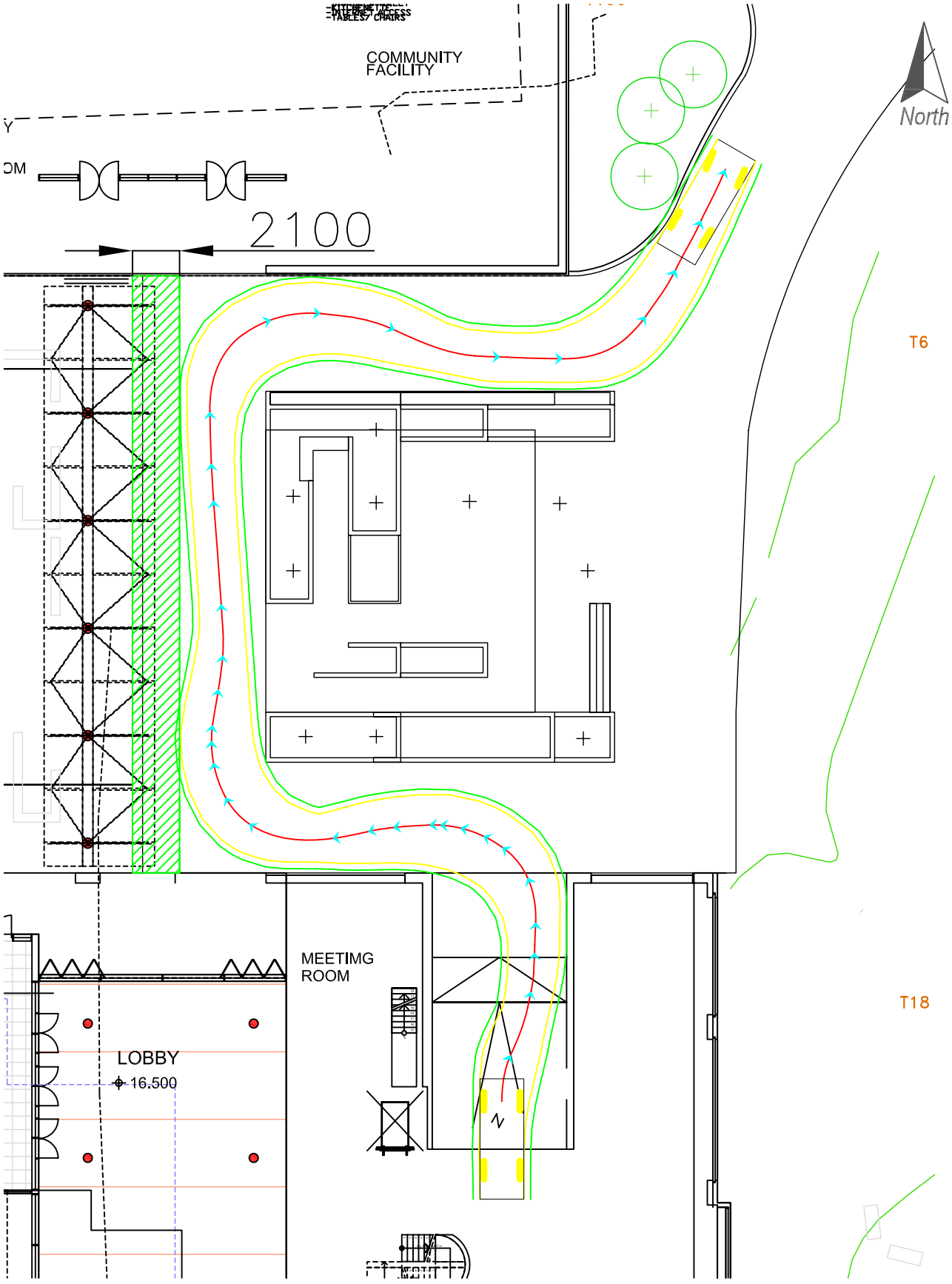
Figure C.2

Date: 15 June 2011

Filename: CTLRETda13

B99 CAR EXIT FROM RAMP 2 (OPTION A)

SCOTTISH HOSPITAL



Scale: 1:250@A4

Halcrow

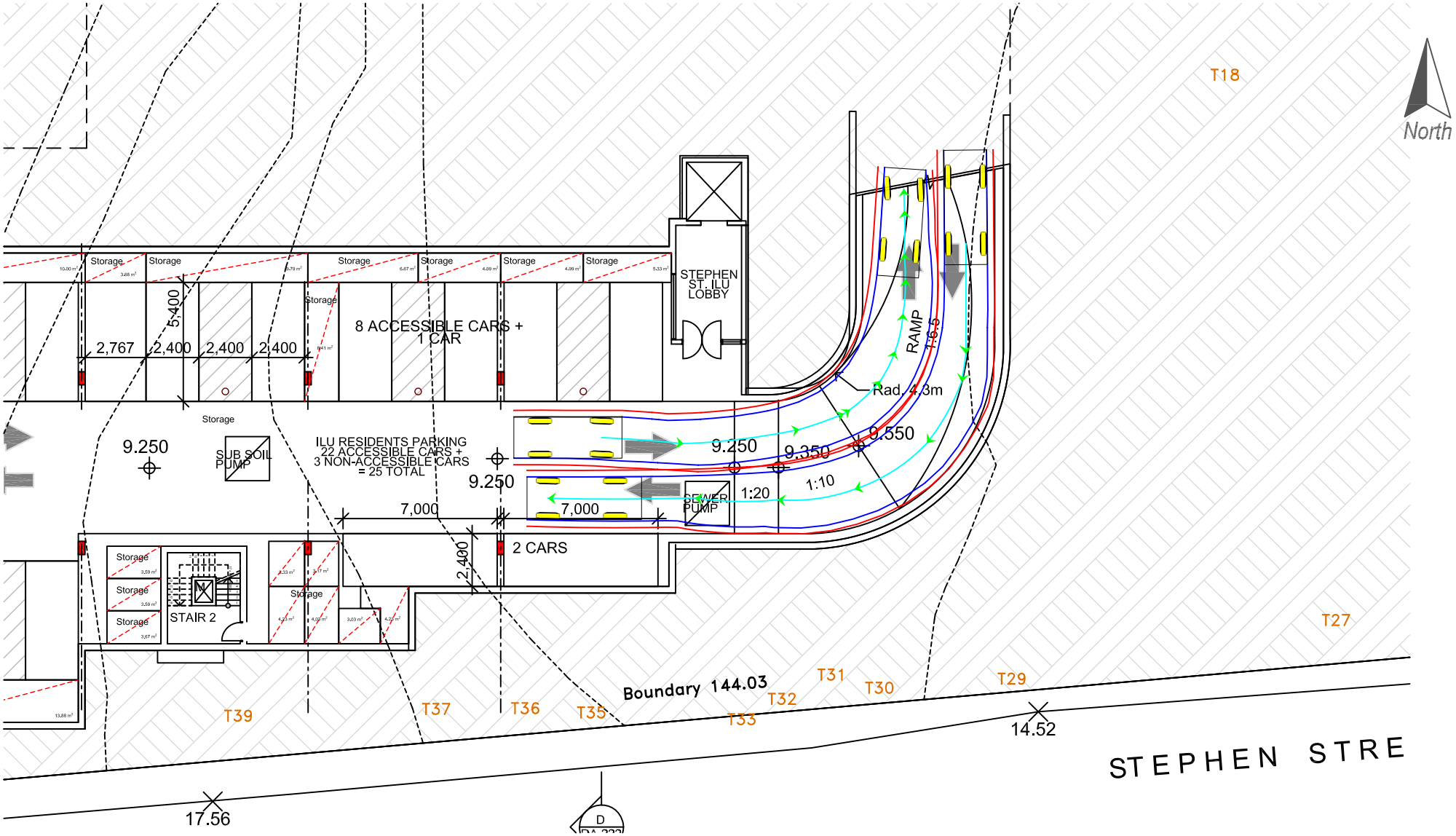
Figure C.3

Date: 15 June 2011

Filename: CTLRETda13

B99 CAR ENTRY & B85 CAR EXIT ON RAMP 2 (OPTION B)

SCOTTISH HOSPITAL



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Halcrow

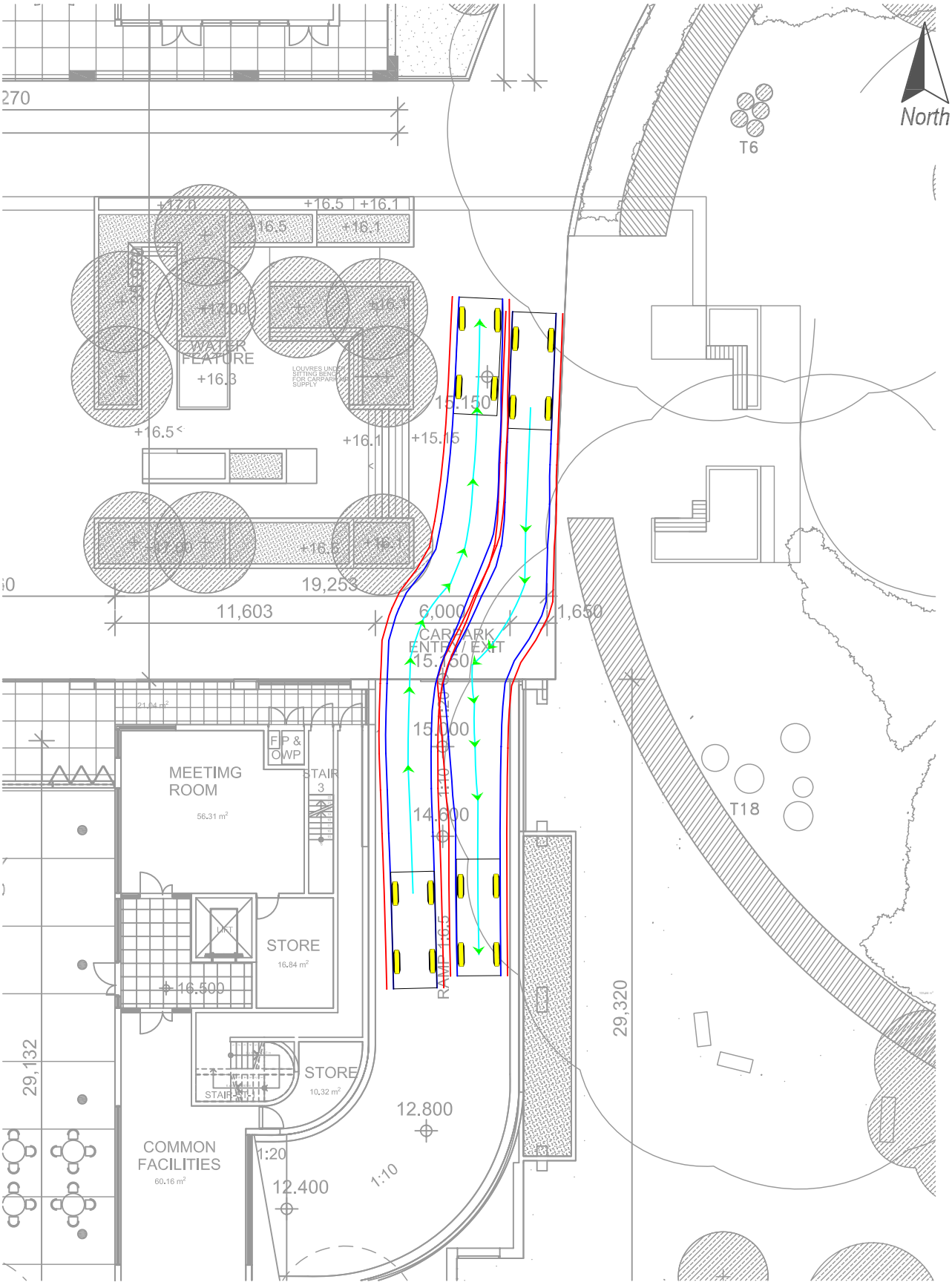
Filename: CTLRETda10

Figure C.4

Date: 15 June 2011

TWO B99 CARS ON RAMP 2 (OPTION B)

SCOTTISH HOSPITAL



Scale: 1:250@A4

Halcrow

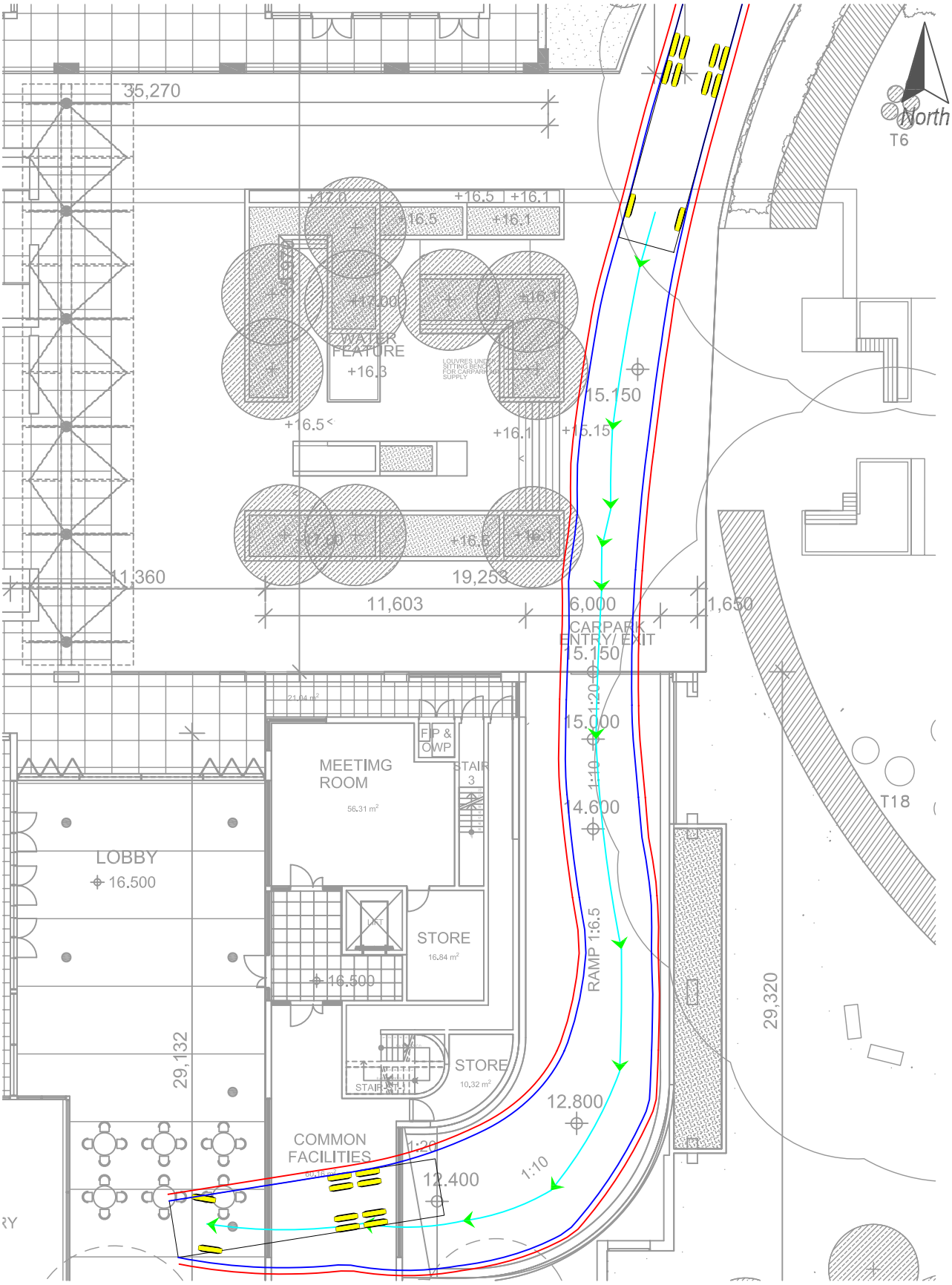
Figure C.5

Date: 15 June 2011

Filename: CTLRETda12

12m TRUCK, ENTRY TO RAMP 2 (OPTION B)

SCOTTISH HOSPITAL



Scale: 1:250@A4

Halcrow

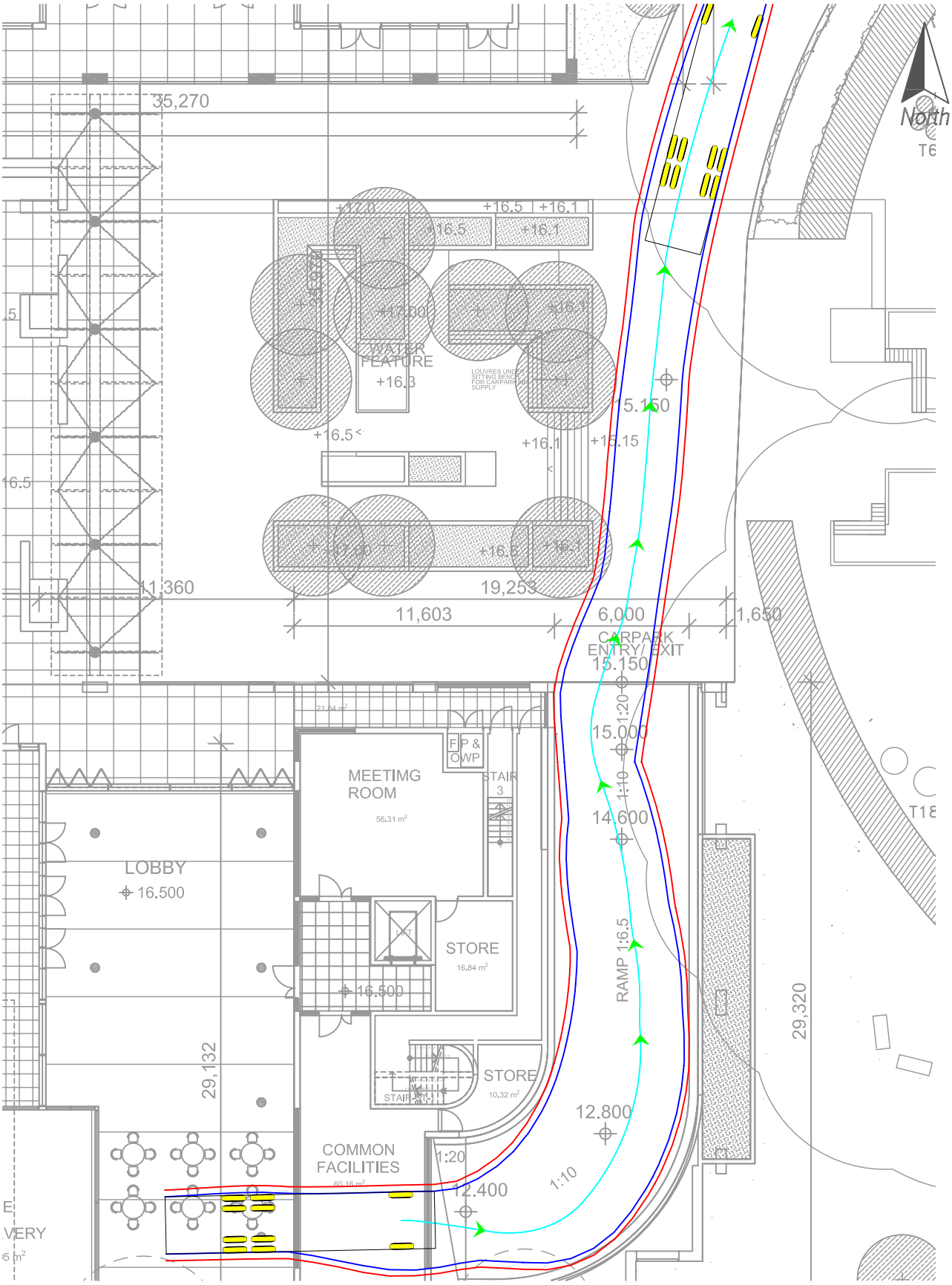
Figure C.6

Date: 15 June 2011

Filename: CTLRETda12

12m TRUCK, EXIT FROM RAMP 2 (OPTION B)

SCOTTISH HOSPITAL



Scale: 1:250@A4

Halcrow

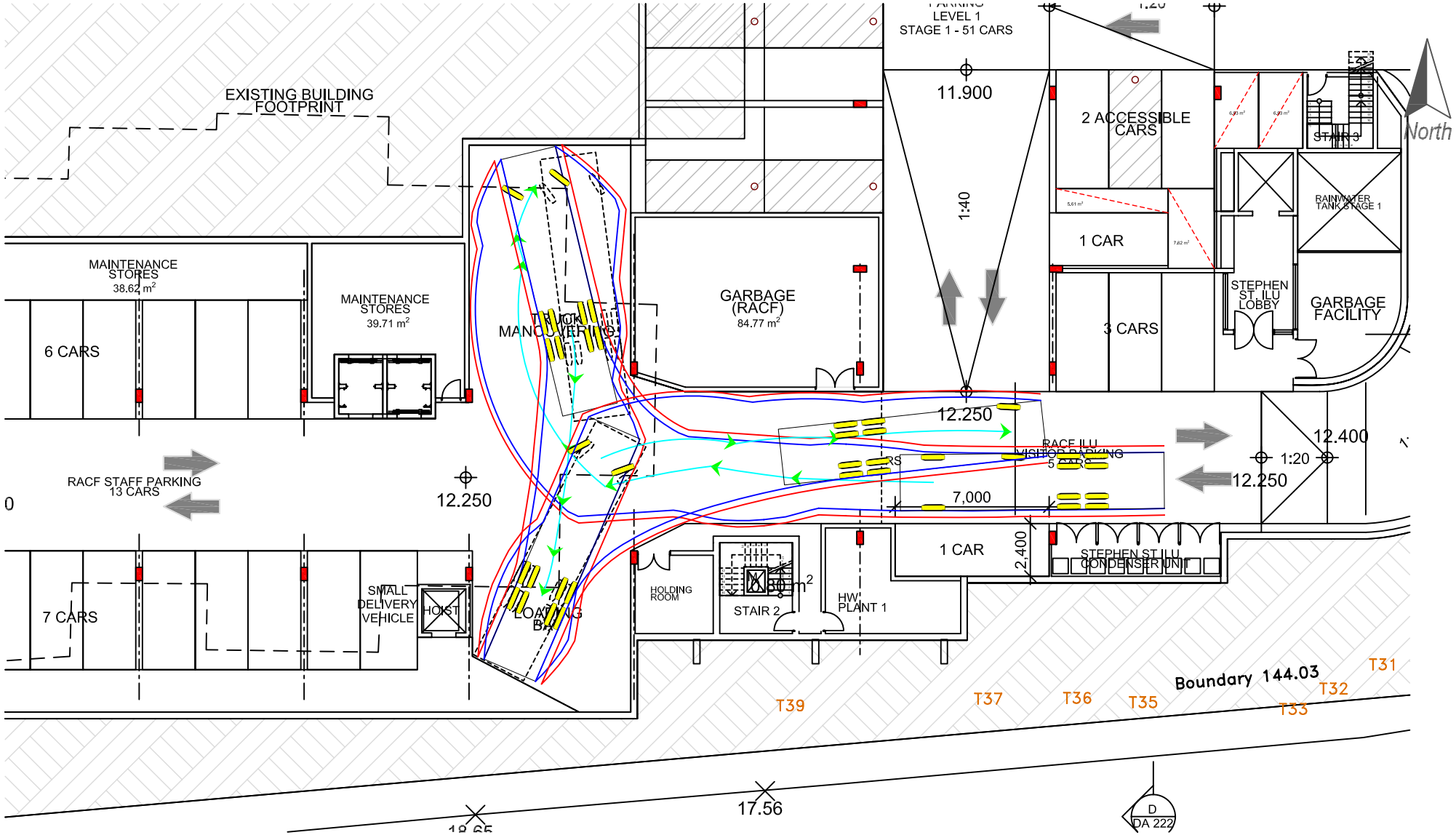
Figure C.7

Date: 15 June 2011

Filename: CTLRETda12

12m TRUCK ACCESSING UPPER BASEMENT LOADING DOCK (OPTION B)

SCOTTISH HOSPITAL



Scale: 1:250@A4

Halcrow

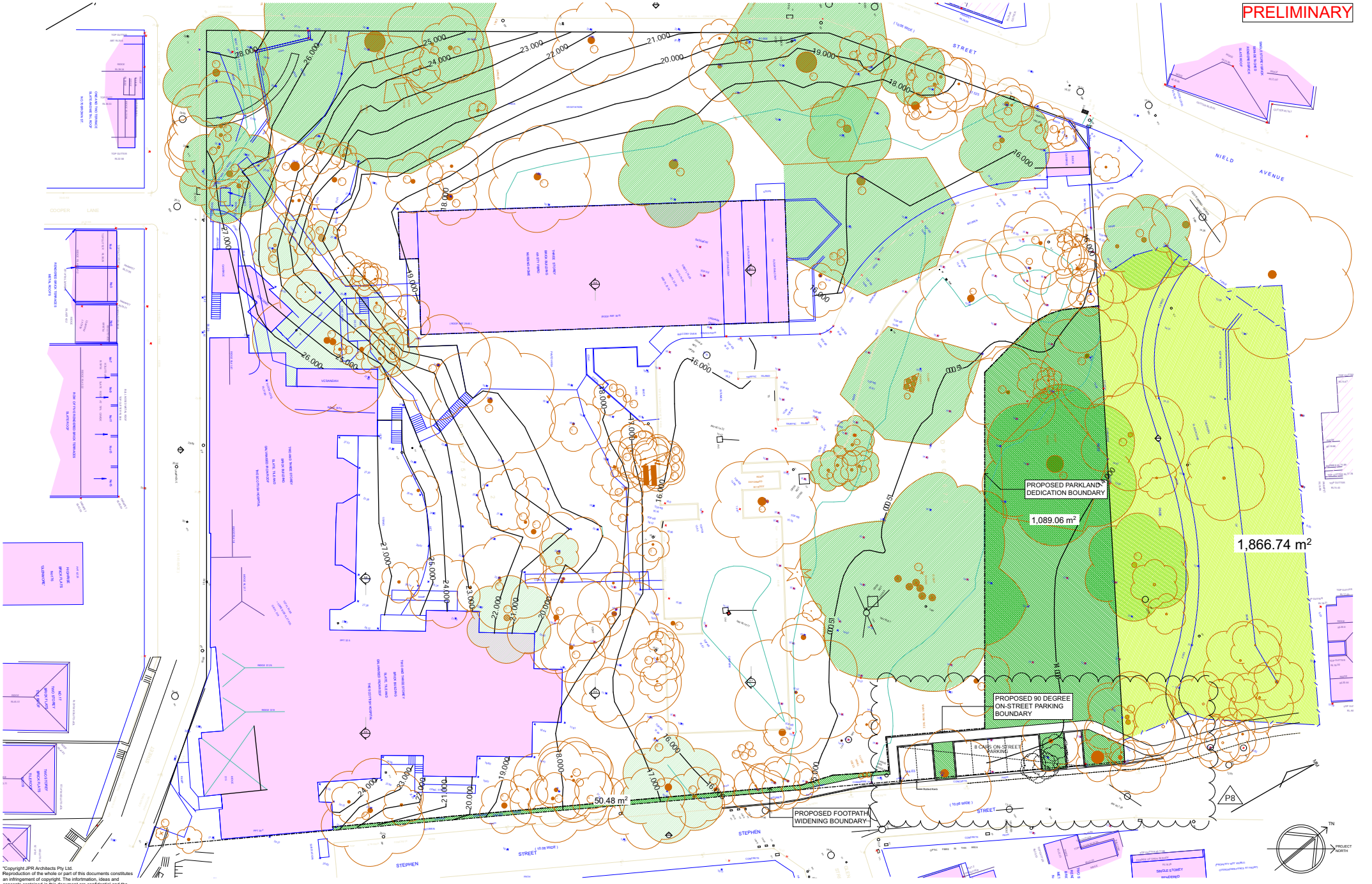
Filename: CTLRETda11

Figure C.8

Date: 15 June 2011

Appendix D Possible 90º Parking on Stephen Street

PRELIMINARY



Rev P8 10/08/10 90° On-street parking along Stephen St. shown

0 5 10m

"THE TERRACES"

SCOTTISH HOSPITAL - 2 COOPER ST. PADDINGTON

PRINCIPAL ARCHITECT
jpr architects pty limited
20/50 Stanley Street East Sydney NSW 2010 tel +61 2 9360 1133 fax +61 2 9360 1166 email jpr@jpra.com.au

CONSULTING ARCHITECT: URBAN DESIGN
GMU GM Urban Design + Architecture Pty Ltd

CONSULTING ARCHITECT: AGED CARE
Flower and Samios architects

CONSULTING ARCHITECT: HERITAGE
CM+ Conybeare Morrison International Pty Ltd
Architecture Interiors Heritage Urban Design Masterplanning
T. 61 2 8244 8888 F. 61 2 8244 8877 E. mail@cmplus.com.au
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SCALE AT A1	DATE	PROJECT No
1:250	07/06/2010	2006067
REVISION	DRAWN	ITEM No
P11	RM / YS	RM / YS

PROJECT ADDRESS
2 COOPER ST. PADDINGTON

CLIENT
Presbyterian Aged Care PADDINGTON

DRAWING TITLE
VPA- Proposed Boundary

DRAWING No
DA 101

Appendix E Proposed Accessible Pedestrian Route to MacDonald Street Bus Stops


Footpath to be repaired due to tree root damage
1:20 or less
Raised Crossing to be installed
Kerb Ramps to be installed
1:12 approx
Bus Route 389
290 metres from the Scottish Hospital
The Scottish Hospital
Glenview St
Glenview Ln
Dillon St
Brown St
Liverpool St
Macdonald St
Macdonald Ln
Brown Ln
Cooper Ln
Glenmore Rd
Glenview B & B
Jane Austen Society of Aust
Presbyterian Aged Care
Sabbia Gallery
20 m
100 ft