DA/460/2021
Proposed Redevelopment of an
Existing Residential Aged Care Facility

"Brentwood"
28 Glebe Street, Parramatta

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

21 October 2021

Ref 20717

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

This revised report has been prepared to accompany an amended development application to Council for the proposed redevelopment of an existing residential aged care facility located at 28 Glebe Street, Parramatta (Figures 1 and 2).

In June 2021, DA/460/2021 was lodged with Council for the demolition of the existing 78-bed "Brentwood" residential aged care facility (RACF) on the site and the construction of a new, more modern 108-bed facility. The proposed new facility included a number of common/ancillary areas including lounge and dining areas, sitting areas and a salon.

Off-street parking in the original scheme was proposed for a total of 23 cars in a new at-grade undercover car parking area, in accordance with the *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* requirements.

Council have reviewed the development application and provided formal comments which require a number of design changes, including raising the building and ramp levels due to stormwater and flooding. Notwithstanding, it is understood that the Council comments were not related to traffic or parking.

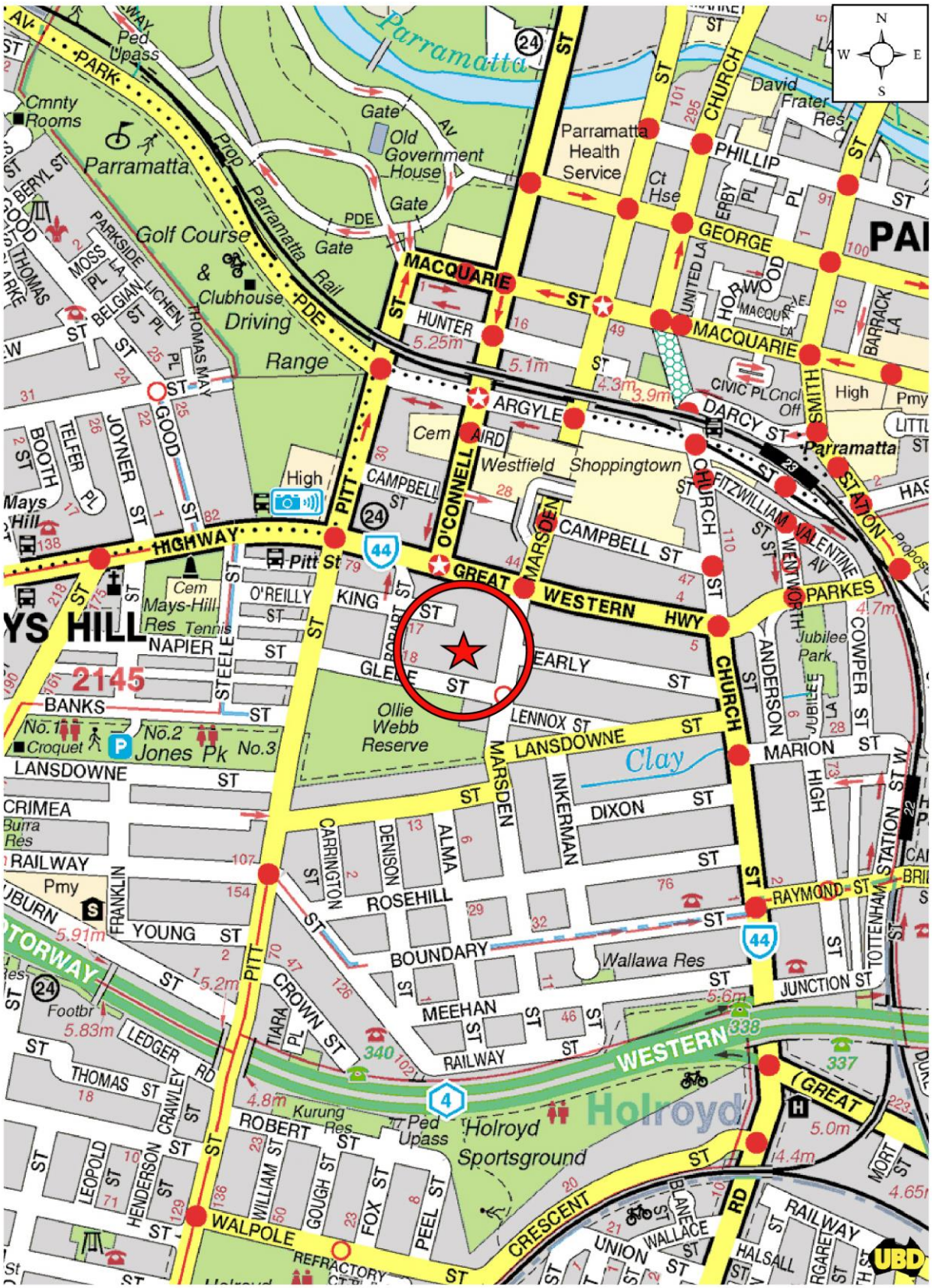
The amended scheme therefore again involves the demolition of the existing RACF building on the site and the construction of a new, more modern facility, now comprising 102 beds – i.e. a *reduction* of 6 beds from the originally proposed development.

Off-street car parking is again proposed for a total of 23 cars in a new at-grade undercover car parking area, albeit in a slightly reconfigured arrangement from the original scheme.

Vehicular access to the car parking area, set-down/pick-up area, ambulance bay and loading/servicing area (for vans and small trucks) remains proposed via the two existing separate driveways located at opposite ends of the Glebe Street site frontage. It also continues to be proposed to switch the direction of traffic flow to comprise a more conventional entry via the western driveway and exit via the eastern driveway.

The purpose of this revised report is to assess the traffic and parking implications of the amended development proposal and to that end this report:

- describes the site and provides details of the amended development proposal
- reviews the road network in the vicinity of the site
- reviews the public transport services available in the vicinity of the site
- estimates the traffic generation potential of the amended development proposal
- assesses the traffic implications of the amended development proposal in terms of road network capacity
- reviews the geometric design features of the proposed amended car parking and loading facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.



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LOCATION
FIGURE 1


AIRD ST
CAMPBELL ST
PITT ST
O'CONNELL ST
CAMPBELL ST
MARSDEN ST
GREAT WESTERN HWY
KING ST
BOBART ST
GLEBE ST
EARLY ST
LENNOX ST
LANSDOWNE ST
INKERMAN ST
CRIMEA ST
DIXON ST
CARRINGTON ST
DENISON ST
ALMA ST
MARSDEN ST
ROSEHILL ST
N
W
E
S
Road Closure / Unformed Road
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the northern site of Glebe Street, approximately 80m west of Marsden Street, and is situated approximately 1.1km walking distance to/from Parramatta railway station. The site has a street frontage of approximately 50m in length to Glebe Street and occupies an area of approximately 3,485m².

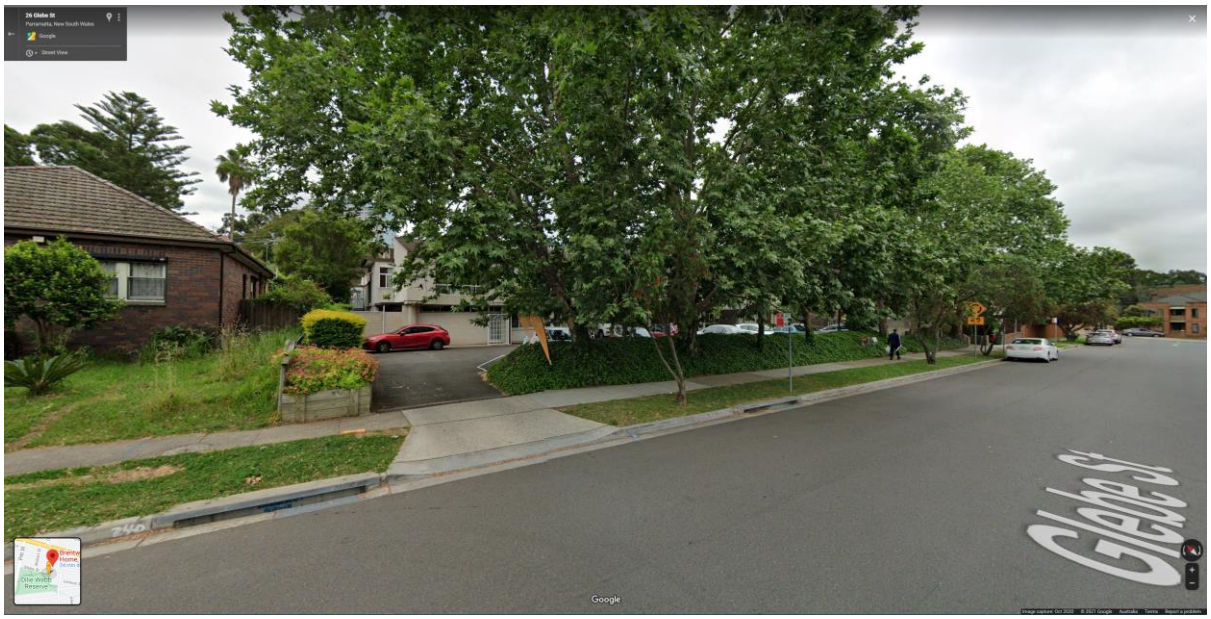
A recent aerial image of the site and its surroundings is reproduced below.

The subject site is currently occupied by *Brentwood Nursing Home*, a 78-bed residential aged care facility across 23 rooms, plus a number of common/ancillary areas including lounge and dining areas, sitting room and dayroom.

Off-street parking is provided for 18 cars plus a separate loading/servicing area. Vehicular access to the site is provided via separate driveways located at opposite ends of the Glebe Street site frontage, with entry via the eastern driveway and exit via the western driveway.

Waste collection for the existing development is undertaken by a private contractor using an 8m long garbage truck. The loading/servicing area is located on the eastern side of the existing building. Vehicular ingress *and* egress for service vehicles currently occurs via the abovementioned eastern driveway.

Streetview images of the Glebe Street site frontage and driveways are reproduced below.



Proposed Development

The proposed amended development again involves the demolition of the existing residential aged care facility on the site and the construction of a new residential aged facility in its place. A total of 102 single-bed rooms are now proposed, including 68 rooms designated for dementia patients, with 29 staff.

The proposed facility will also include a number of common/ancillary areas including lounge and dining areas, sitting areas and a salon. A number of back-of-house areas are also proposed, such as an administration/community facilities office, laundry, a kitchen, a staff room and a maintenance room.

Off-street parking is again proposed for a total of 23 cars in a new at-grade undercover car parking area in accordance with the *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* requirements.

A porte-cochere is proposed in front of the main entrance to the RACF building for passenger set-down/pick-up. A dedicated ambulance bay is also proposed at the eastern end of the ground floor level, with easy access to the building.

The day-to-day servicing and delivery needs of the existing and proposed RACF are undertaken by a variety of light commercial vehicles such as vans and small sized trucks, with the loading/servicing area again to be located at the eastern end of the new ground floor level.

Vehicular access to the car parking area, set-down/pick-up area, ambulance bay and loading/servicing area (for vans and small trucks) is to be provided via the two existing separate driveways located at opposite ends of the Glebe Street site frontage.

Notwithstanding, it is again proposed to switch the direction of traffic flow to comprise a more conventional entry via the western driveway and exit via the eastern driveway.

Waste collection is expected to continue to be undertaken by private contractor using an 8m long garbage truck. Vehicular ingress *and* egress for the garbage truck is again to be provided via the abovementioned eastern driveway, consistent with the existing arrangements.

As noted in the foregoing, due to stormwater and flooding matters raised by Council in their initial assessment, the building and driveway levels have been raised. Whilst the driveways and internal manoeuvring areas remain generally unchanged from the original scheme in a spatial sense, the raised levels have resulted in an overhead clearance of 2800mm underneath the porte-cochere.

The Mercedes Sprinter used by NSW Ambulance has a standard height of 2595mm, however that doesn't include sirens or the unit fixed to the roof at the rear. The NSW Ambulance vehicle design specifications indicates that the 4WD Mercedes Sprinter is 2720mm high, such that the 2800mm clearance underneath the porte-cochere is sufficient.

The larger/taller bariatric ambulance, which requires 3200mm clearance, is for obese patient transfer and is far less common. As such, the vast majority of ambulances will continue to enter/exit the way it was originally proposed. Only the larger, seldom bariatric ambulance would need to enter via the exit driveway, as per truck access. When ready, the bariatric ambulance would exit by doing a three-point-turn in the truck turning area.

Should a bariatric ambulance be required, it would be managed by Brentwood staff when they make the call through, that they have an obese resident, and that the bariatric ambulance should use the exit driveway to access the ambulance loading bay. Signage could be installed at the driveways to that effect.

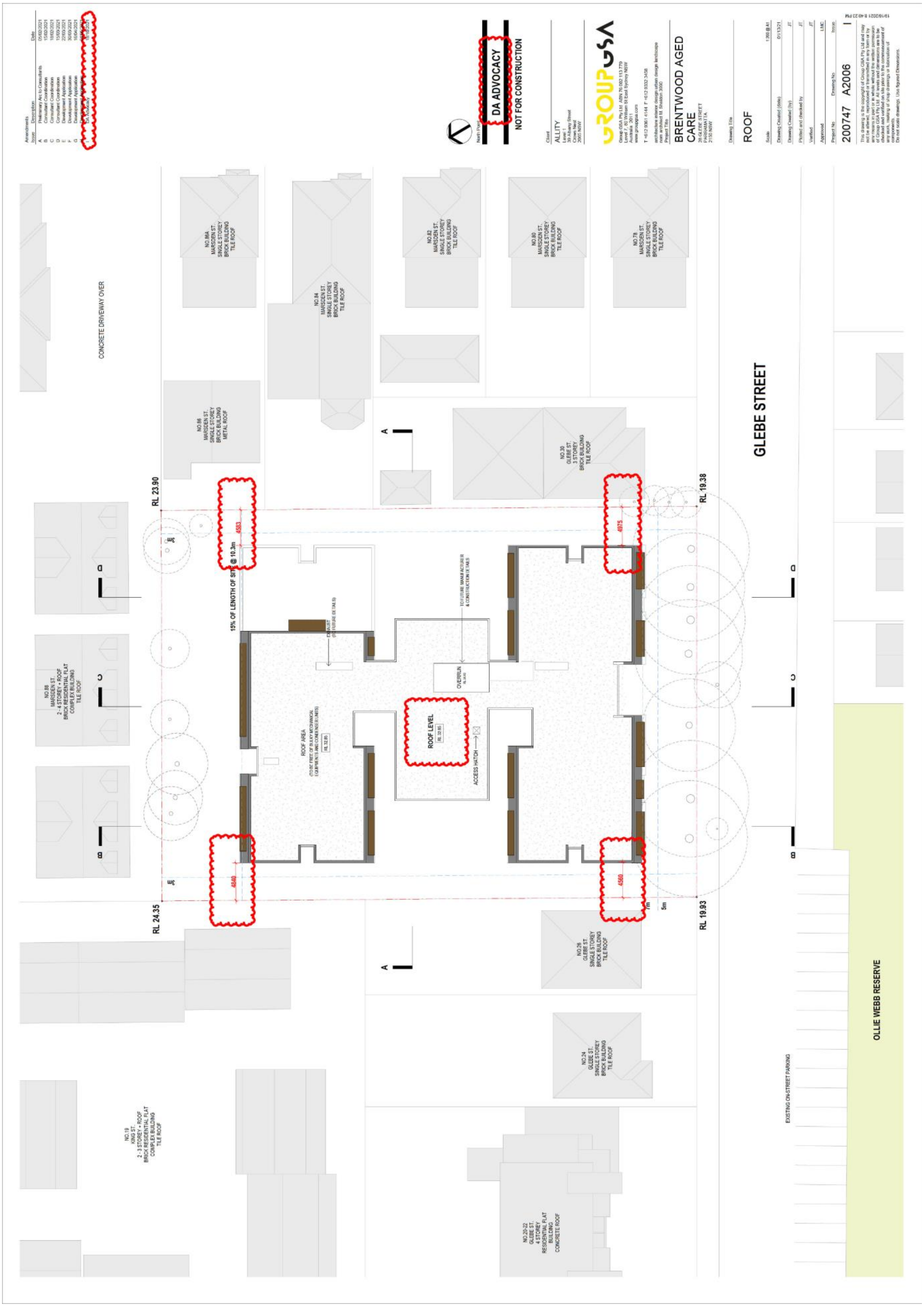
Plans of the proposed amended development have been prepared by *Group GSA* and are reproduced in the following pages.


DA ADVOCACY
NOT FOR CONSTRUCTION
BRENTWOOD AGED CARE
GROUND FLOOR PLAN
200747 A2002 K
GLEBE STREET
OLLIE WEBB RESERVE
EXISTING EASEMENT
EXISTING STRUCTURES
CONCRETE DRIVEWAY OVER
15% OF LENGTH OF SITE @ 10.3m
RL 23.90
RL 24.35
RL 19.38
RL 19.93
LOADING
AMBULANCE
GROUND
CAR PARK
23 bays
PERMEABLE SURFACE
(LIGHT PAVING, GRASS GRID PAVER ETC.)
IN-SITU EXISTING FOOTPRINT
REFER TO ARBORIST'S REPORT
EXISTING ON-STREET PARKING

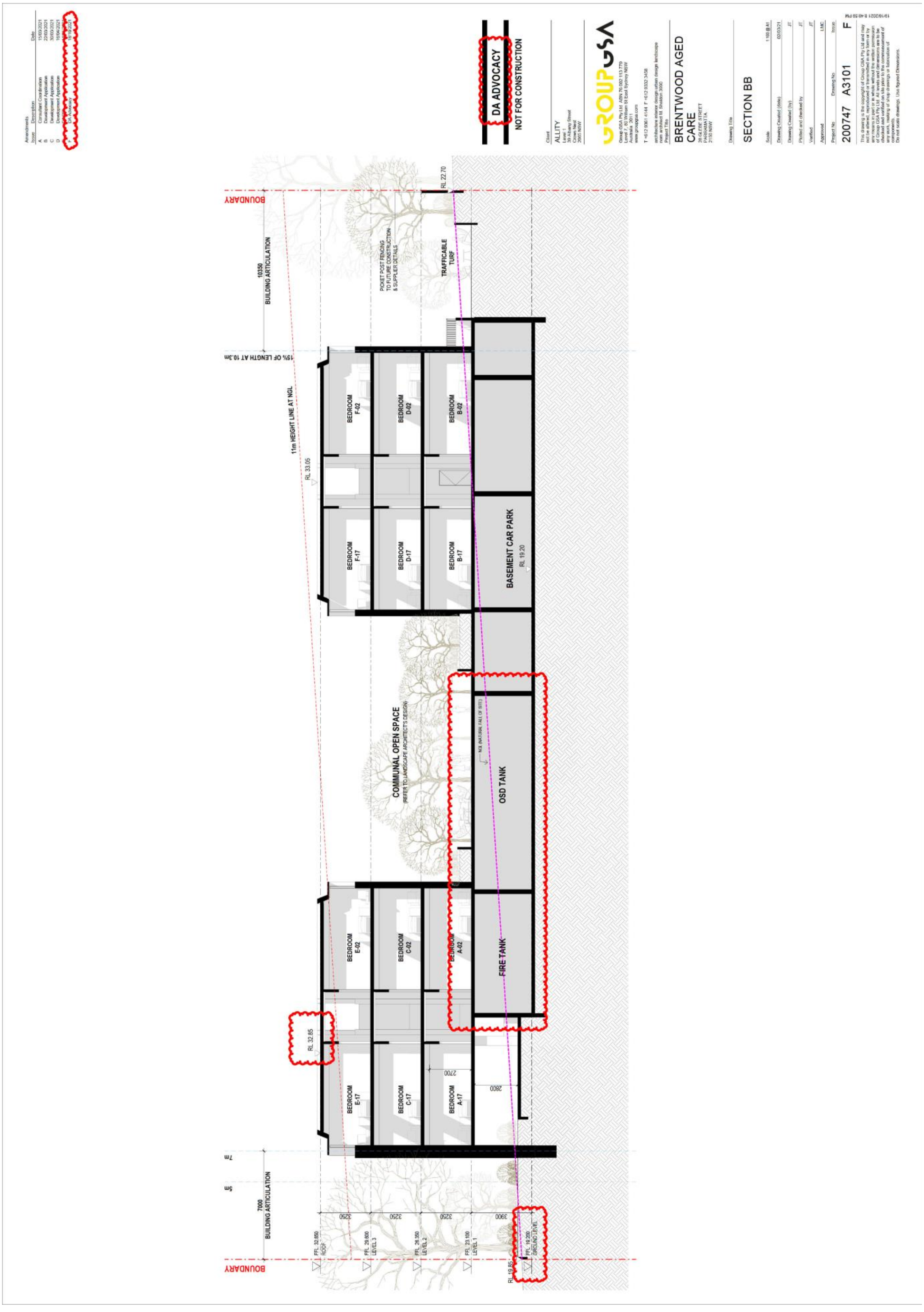

DA ADVOCACY
NOT FOR CONSTRUCTION
BRENTWOOD AGED CARE
LEVEL 1
200747 A2003 J
GLEBE STREET
OLLIE WEBB RESERVE
LANDSCAPE BUFFER
CONCRETE DRIVEWAY OVER
EXISTING ON-STREET PARKING
RL 23.90
RL 24.35
RL 19.38
RL 19.93


DA ADVOCACY
NOT FOR CONSTRUCTION
BRENTWOOD AGED CARE
LEVEL 2
200747 A2004
GLEBE STREET
OLLIE WEBB RESERVE
CONCRETE DRIVEWAY OVER
RL 23.90
RL 24.35
RL 19.38
RL 19.93
15% OF LENGTH OF SITE @ 10.3m
LEVEL 2
EXISTING ON-STREET PARKING


DA ADVOCACY
NOT FOR CONSTRUCTION
BRENTWOOD AGED CARE
LEVEL 3
A2005
GLEBE STREET
OLLIE WEBB RESERVE
CONCRETE DRIVEWAY OVER
15% OF LENGTH OF SITE @ 19.3m
RL 23.90
RL 24.35
RL 19.38
RL 19.93
LEVEL 3
LOUNGE AREA
DINING AREA
HOUSE 1 - 16 BED HOME
HOUSE 2 - 16 BED HOME
EXISTING ON-STREET PARKING


DA ADVOCACY
NOT FOR CONSTRUCTION
BRENTWOOD AGED CARE
ROOF
200747 A2006
GLEBE STREET
OLLIE WEBB RESERVE
ROOF LEVEL
OVERRUN
ACCESS HATCH
CONCRETE DRIVEWAY OVER
EXISTING ON-STREET PARKING
15% OF LENGTH OF SITE @ 10.3m
RL 23.90
RL 24.35
RL 19.38
RL 19.93


DA ADVOCACY
NOT FOR CONSTRUCTION
ALLITY
BRENTWOOD AGED CARE
SOUTH ELEVATION (GLEBE ST.)
200747
A3000
H
BOUNDARY
NO.88 MARSDEN ST.
4 STOREY + ROOF
RESIDENTIAL FLAT BUILDING
NO.84 MARSDEN ST.
4 STOREY + ROOF
RESIDENTIAL FLAT BUILDING
11m HEIGHT LINE AT NGL (BEYOND)
NATURAL FALL OF SITE
FFL 32.850
ROOF
FFL 29.600
LEVEL 3
FFL 26.350
LEVEL 2
FFL 23.100
LEVEL 1
FFL 19.200
GROUND LEVEL


DA ADVOCACY
NOT FOR CONSTRUCTION
GROUP GSA
BRENTWOOD AGED CARE
SECTION BB
200747
A3101
F
BOUNDARY
10350
BUILDING ARTICULATION
7000
BUILDING ARTICULATION
11m HEIGHT LINE AT NGL
15% OF LENGTH AT 10.3m
TRAFFICABLE TURF
BEDROOM F-02
BEDROOM D-02
BEDROOM B-02
BEDROOM F-17
BEDROOM D-17
BEDROOM B-17
BEDROOM E-02
BEDROOM C-02
BEDROOM A-02
BEDROOM E-17
BEDROOM C-17
BEDROOM A-17
BASEMENT CAR PARK
RL 19.20
COMMUNAL OPEN SPACE
OSD TANK
FIRE TANK
RL 33.05
RL 32.85
RL 22.70
RL 19.85
ROOF
LEVEL 3
LEVEL 2
LEVEL 1
GROUND LEVEL
3250
3900
2700
2800

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

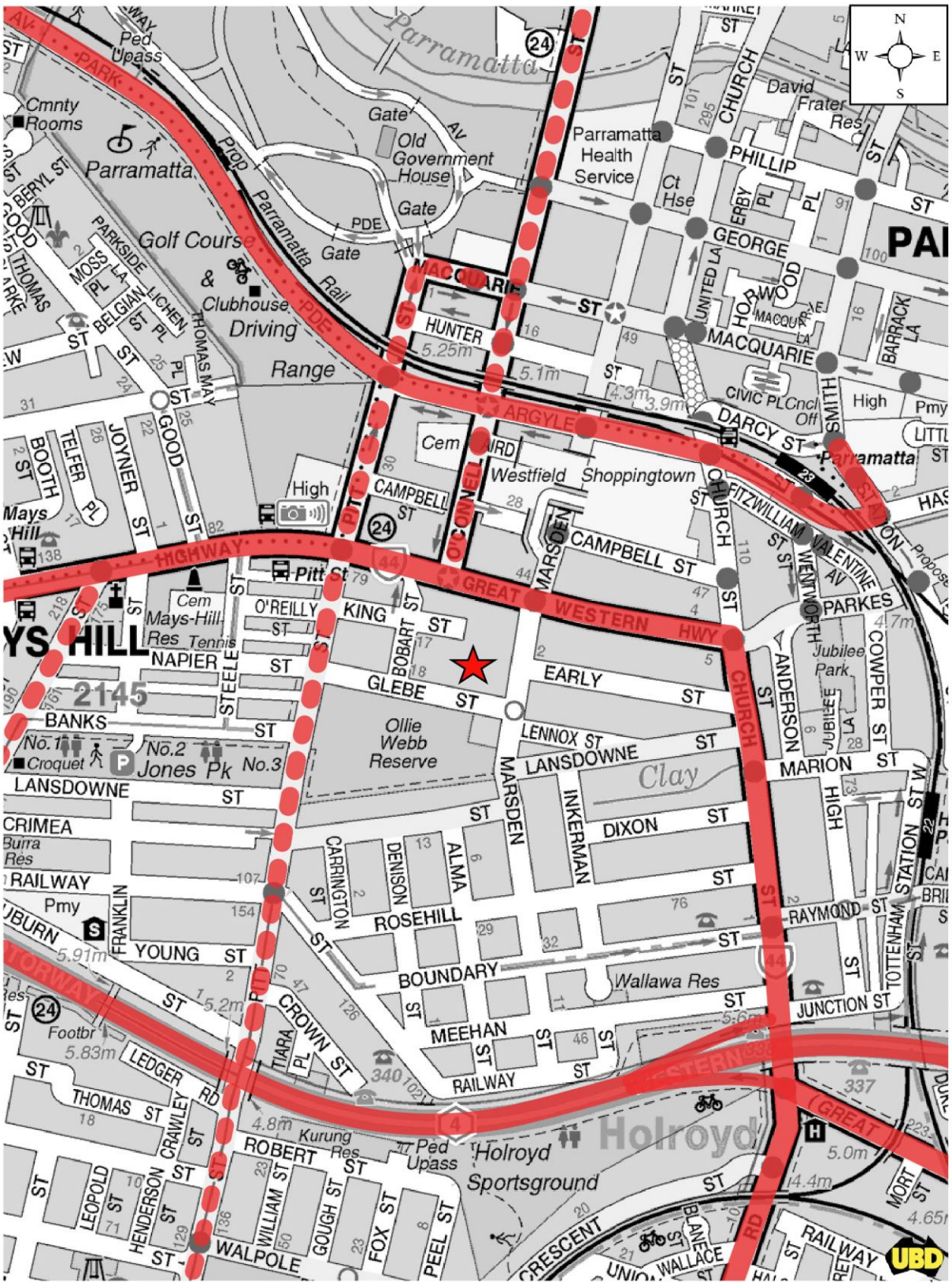
The M4 Motorway is classified by the RMS as a *State Road* and provides the key east-west road link in the area, extending from Haberfield in Sydney's inner west to Lapstone at the foothills of the Blue Mountains. It typically carries four traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. All intersections with the M4 Motorway are grade-separated.

The Great Western Highway is also classified by the RMS as a *State Road* and provides another key east-west road link in the area, linking Parramatta to the Blue Mountains. It typically carries two traffic lanes in each direction in the vicinity of the site with additional lanes provided at selection locations with opposing traffic lanes separated by a central median island and additional lanes provided at key locations.

Church Street (south of the Great Western Highway) is also classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking Parramatta to Granville. It typically carries two traffic lanes in each direction in the vicinity of the site with opposing traffic lanes separated by a central median island. Additional traffic lanes are provided at key locations.

Argyle Street / Park Parade is also classified by the RMS as a State Road and provides another key east-west road link in the area, linking Parramatta to Westmead. It typically carries one westbound traffic lane in the vicinity of the site.

Pitt Street is classified by the RMS as a *Regional Road* and provides a secondary north-south road link in the area, linking Macquarie Street and Neil Street. It typically carries one to two traffic lanes in each direction in the vicinity of the site.



Key: State Road

Regional Road

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ROAD HIERARCHY

FIGURE 3

Glebe Street is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of the road.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to the Great Western Highway
- a 50 km/h SPEED LIMIT which applies to Glebe Street and all other local roads in the area
- a 40 km/h SCHOOL ZONE SPEED LIMIT which applies within the vicinity of Parramatta High School
- TRAFFIC SIGNALS in the Great Western Highway where it intersects with Marsden Street, O'Connell Street and Pitt Street
- a ROUNDABOUT in Glebe Street where it intersects with Marsden Street
- a GIVE WAY SIGN in Glebe Street where it intersects with Pitt Street
- RIGHT TURNING BAYS in the Great Western Highway turning onto Marsden Street and westbound on the Great Western Highway turning onto Pitt Street
- ONE WAY northbound restriction in Pitt Street, north of the Great Western Highway
- ONE WAY southbound restriction in O'Connell Street.


AIRD ST
CAMPBELL ST
CAMPBELL
PITT ST
O'CONNELL ST
GREAT WESTERN HWY
For Vehicles Longer than 6m
40
MARSDEN
60
KING
BOBART
50
GLEBE
EARLY ST
LENNOX ST
LANSDOWNE
INKERMAN
DIXON ST
CRIMEA
CARRINGTON ST
DENISON ST
ALMA ST
MARSDEN ST
ROSEHILL
N
W
E
S
Key:
Give Way Sign
Roundabout
Stop Sign
Traffic Signal
No Right-Turn
Right-Turn Bay
School Zone
Speed Limit
One-Way
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Traffic and Parking Consultants
EXISTING TRAFFIC CONTROLS
FIGURE 4

Existing Public Transport Services

The existing public transport services available in the vicinity of the site are illustrated on Figure 5a and 5b.

There are currently 2 bus services which operate within approximately 240m walking distance to/from the site along Lansdowne Street and a further 3 bus services which operate within approximately 340m walking distance to/from the site along Pitt Street.

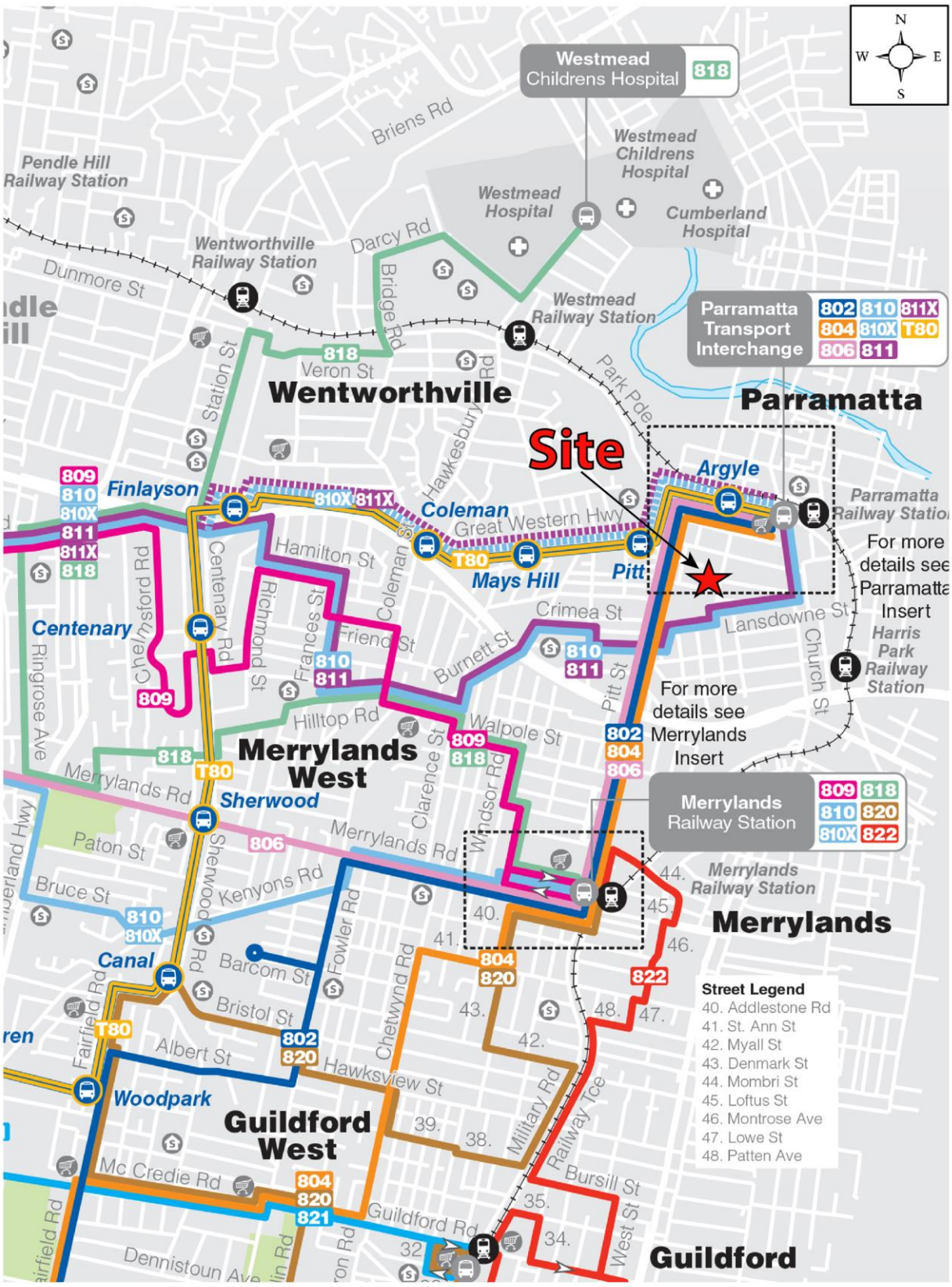
In summary, there are more than 290 bus services per day travelling near the site on weekdays, approximately 210 bus services per day on Saturdays and approximately 170 bus services per day on Sundays, as set out below.

Services operate from these bus stops at least once per hour between 6:00am to 11:00pm Monday to Friday and Saturday, and at least once per hour between 6:00am to 10:00pm Sunday.

Bus Routes and Frequencies

Route No.	Route	Weekday		Saturday		Sunday	
		In	Out	In	Out	In	Out
802	Liverpool to Parramatta via Green Valley	33	36	23	24	14	20
804	Liverpool to Parramatta via Hinchinbrook	44	44	28	29	27	26
806	Parramatta to Liverpool via Abbotsbury	38	36	24	24	12	12
810	Merrylands to Parramatta via Pemulwuy	8	10	11	20	18	20
811	Pemulwuy to Parramatta via Hilltop Road	23	21	15	12	14	11
	TOTAL	**146**	**147**	**101**	**109**	**85**	**89**

The abovementioned bus services provide access to suburban railway stations such as Parramatta, Merrylands, Fairfield and Liverpool.



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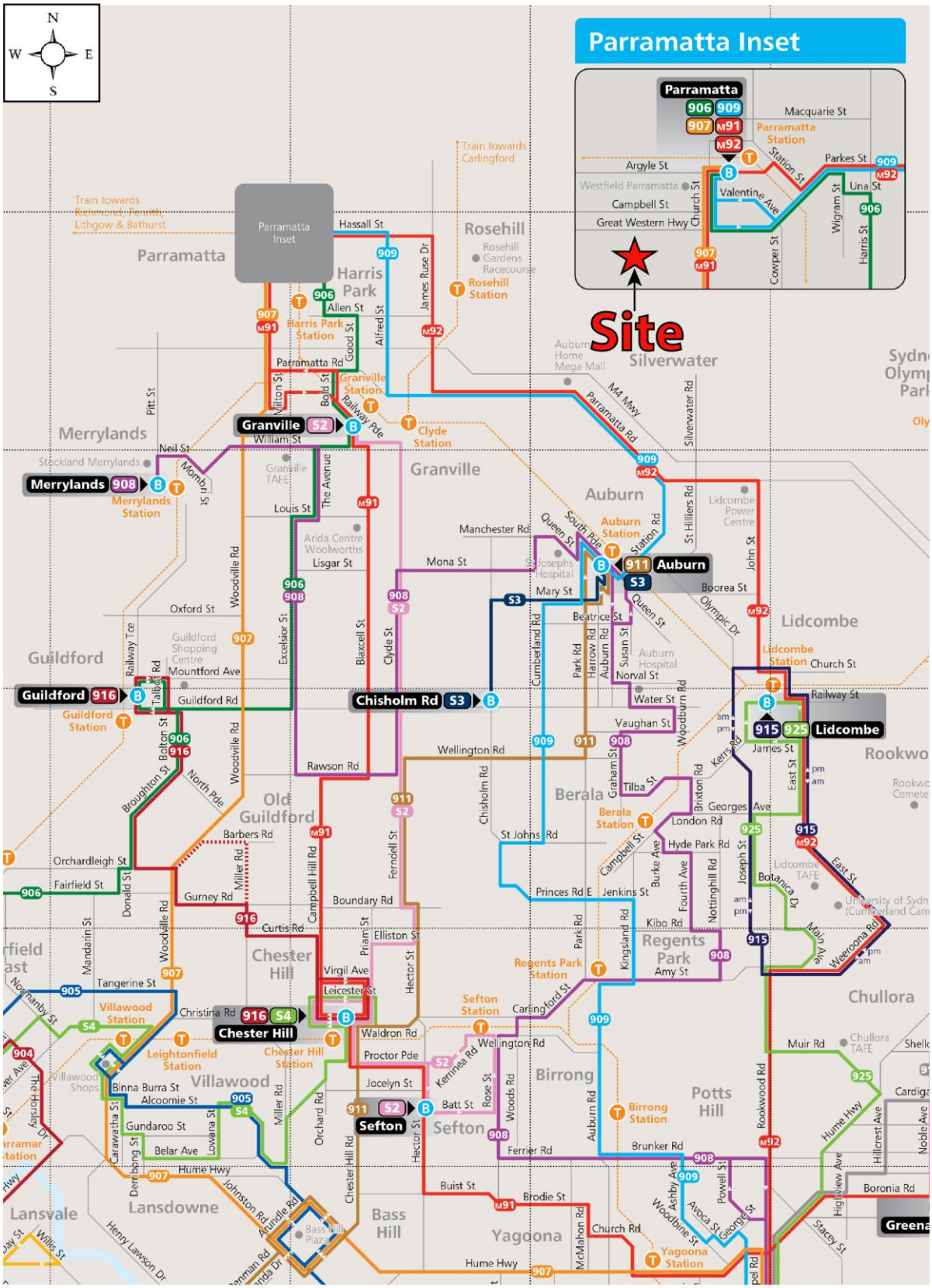
PUBLIC TRANSPORT
FIGURE 5A



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PUBLIC TRANSPORT
FIGURE 5B

Parramatta railway station is also located approximately 1.1km walking distance to/from the site. Parramatta railway station is situated on the T1 Western Line operating between Emu Plains or Richmond to the City, the T2 Inner West Line operating between Parramatta or Leppington, and T5 Cumberland Line.

The site is therefore considered to be readily accessible by public transport services.

Projected Traffic Generation

An indication of the traffic generation potential of the proposed development is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 – Land Use Traffic Generation (October 2002).*

The RMS *Guidelines* are based on extensive surveys of a wide range of landuses and nominate the following traffic generation rates which are applicable to the development proposal:

> **Housing for Aged and Disabled Persons**
> 0.1-0.2 peak hour vehicle trips per dwelling

The RMS *Guidelines* also make the following observation in respect of housing for aged and disabled persons:

> **Definition**
> Residential accommodation which may take any building form which is to be intended to be used permanently as housing for the accommodation of aged or disabled persons. The hostel may consist of residencies or a grouping of 2 or more self-contained dwellings and include facilities such as staff accommodation, chapels, medical rooms, recreation facilities, shops and/or therapy rooms.
>
> **Factors**
> These figures at the lower end of the above rates concentrate on *subsidised* developments (often run by religious organisations). Generation rates of *resident fun*ded developments are often greater, as indicated at the higher end of the range.

Application of the higher (i.e. privately-operated) traffic generation rate to the 102-bed facility outlined in the development proposal yields a traffic generation potential of approximately 20 vehicle trips per hour during the weekday commuter peak periods.

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing uses of the site, in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the development proposal.

Application of the above traffic generation to the existing 78-bed aged care facility on the site yields a traffic generation potential of approximately 16 peak hour vehicle trips.

Accordingly, it is likely that the proposed development will result in a *nett increase* in the traffic generation potential of the site of approximately 5 vph, as set out below:

Projected Nett Increase in Peak Hour Traffic Generation Potential of the site as a consequence of the Development Proposal

Projected Future Traffic Generation Potential:	20.4 vehicle trips
Less Existing Traffic Generation Potential:	-15.6 vehicle trips
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	**4.8 vehicle trips**

That projected *nett increase* in traffic activity as a consequence of the development proposal is *minimal*, consistent with the planning controls which apply to the site and will clearly not have any unacceptable traffic implications in terms of road network capacity.

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 6 and comprise:

- 2 HOUR PARKING restrictions along various sections of the northern side of Glebe Street, including partially along the site frontage (Permit Holders Excepted)

- NO STOPPING restrictions along the northern side of Glebe Street, in the vicinity of the site's two existing vehicular access driveways

- NO PARKING restrictions along the western side of Marsden Street, north of Glebe Street

- 90° ANGLED UNRESTRICTED PARKING restrictions along a large section on the southern side of Glebe Street

- UNRESTRICTED PARALLEL kerbside parking elsewhere along the southern side of Glebe Street and throughout the local area.

Off-Street Parking Provisions

The off-street parking rates applicable to the development proposal are specified in *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* in the following terms:

> **Division 2 Residential Care Facilities**
>
> **48 Standards that cannot be used to refuse development consent for residential care facilities**
>
> A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of development for the purpose of a residential care facility on any of the following grounds:
>
> (d) parking for residents and visitors: if at least the following is provided:
>
> (i) 1 parking space for each 10 beds in the residential care facility (or 1 parking space for each 15 beds if the facility provides care only for persons with dementia), and


N
W
E
S
KING STREET
2P*
2P*
2P*
2P*
2P*
90⁰ angle parking
GLEBE STREET
STREET
Authorised Car Share Vehicles Excepted
EARLY STREET
2P*
MARSDEN
1P*
2P*
Key:
No Stopping
No Parking
Restricted Parking
* Permit Holders Excepted
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EXISTING PARKING RESTRICTIONS
FIGURE 6

(ii) 1 parking space for each 2 persons to be employed in connection with the development and on duty at any one time, and
(iii) 1 parking space suitable for an ambulance.

Application of the above parking rates to the 102-bed facility (including 68 dementia beds) with maximum 29 staff, as outlined in the development proposal, yields an off-street parking requirement of 22 parking spaces plus an ambulance bay, as set out below:

34 standard beds:	3.4 spaces
68 dementia beds:	4.5 spaces
29 staff:	14.5 spaces
1 ambulance:	1.0 space
TOTAL:	**23.4 spaces**

The proposed development makes provision for a total of 23 off-street parking spaces plus a dedicated ambulance bay, thereby satisfying the *SEPP* requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1 - 2004* in respect of parking bay dimensions, ramp gradients and aisle widths.

Pedestrian Connectivity

Reference to the Australian Government's *Residential aged care in Australia 2010-11: A statistical overview* document indicates that, *'most people living in residential aged care facilities are women, the majority are aged 80 and over and many are widowed".* Furthermore, *"most residents left due to death (91%), whilst the average completed length of stay for permanent residents in 2010-2011 was 145.7 weeks, an increase of 11% since 1998-1999, when it was 131.3 weeks".*

In essence, residents at RACFs tend to have limited mobility, such that they are unlikely to walk to the nearby bus stops and more likely to be taken for outings by family members and/or a potential mini-bus service.

In this regard, the drop-off/pick-up area directly outside the main entrance to the building is a flat grade, making it easier for residents to access a vehicle when/if required.

In addition, the design also includes an accessible-friendly pathway connecting the existing Glebe Street public footpath to the main building entrance, although it is expected that the use of this pathway by residents will be minimal and primarily used by staff and visitors that access the site via public transport.

Loading / Servicing Provisions

The day-to-day servicing and delivery needs of the RACF are expected to continue to be undertaken by a variety of light commercial vehicles such as vans and small sized trucks. Waste collection is also to continue to be undertaken by private contractor using an 8m long rear-loading garbage truck, as per the specifications below.

Vehicle specifications

Overall length	8.0m
Overall width	2.5m
Height (travel)	3.4m
Height (in operation)	3.4m
Weight (vehicle only)	13.0t
Weight (payload)	9.5t
Turning circle	25.0m

A dedicated service area is proposed to be provided at the eastern end of the ground floor level which has been designed to accommodate the swept turning path requirements of an 8.8m long medium rigid truck, as per *AS2890.2* requirements.

Conclusion

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in the *SEPP* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.