TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

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director: Graham Pindar
acn: 065132961
abn: 66065132961

Reference: 18.672r01v01

15 February 2019

Leech Harmon Architects
80a Park Street
MONA VALE NSW 2103

Attention: Mr Denis Leech, Director

Re: 1955 Pittwater Road, Bayview – Proposed Seniors Housing Development
Traffic Impact Statement

Dear Denis,

TRAFFIX has been commissioned to prepare this Traffic Impact Statement to accompany a development application for a proposed seniors housing development at the subject property. Having reviewed the architectural drawings and assessed the parking requirements under local and state planning policies, our advice is outlined below.

Site and Location

The subject property is situated at 1,955 Pittwater Road in Bayview, on the southern side of the road, approximately 95 metres east of Loquat Valley Road. In a regional context, it lies approximately 25 kilometres north of the Sydney central business district.

The site is irregular shaped in configuration and has a site area of 1,296.6m². It has a north-eastern frontage to Pittwater Road of 34.09 metres, with all remaining boundaries shared with neighbouring residential properties. The north-west and south-east boundaries both measure approximately 43 metres in length, while the south-west boundary measures approximately 28 metres in length.

The existing development on-site comprises of a detached two storey dwelling house. A vehicular crossing is positioned adjacent to the western site boundary.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should be made to the Photographic Record presented in **Attachment 1**, which provides an appreciation of the general character of roads and other key attributes within proximity of the site.

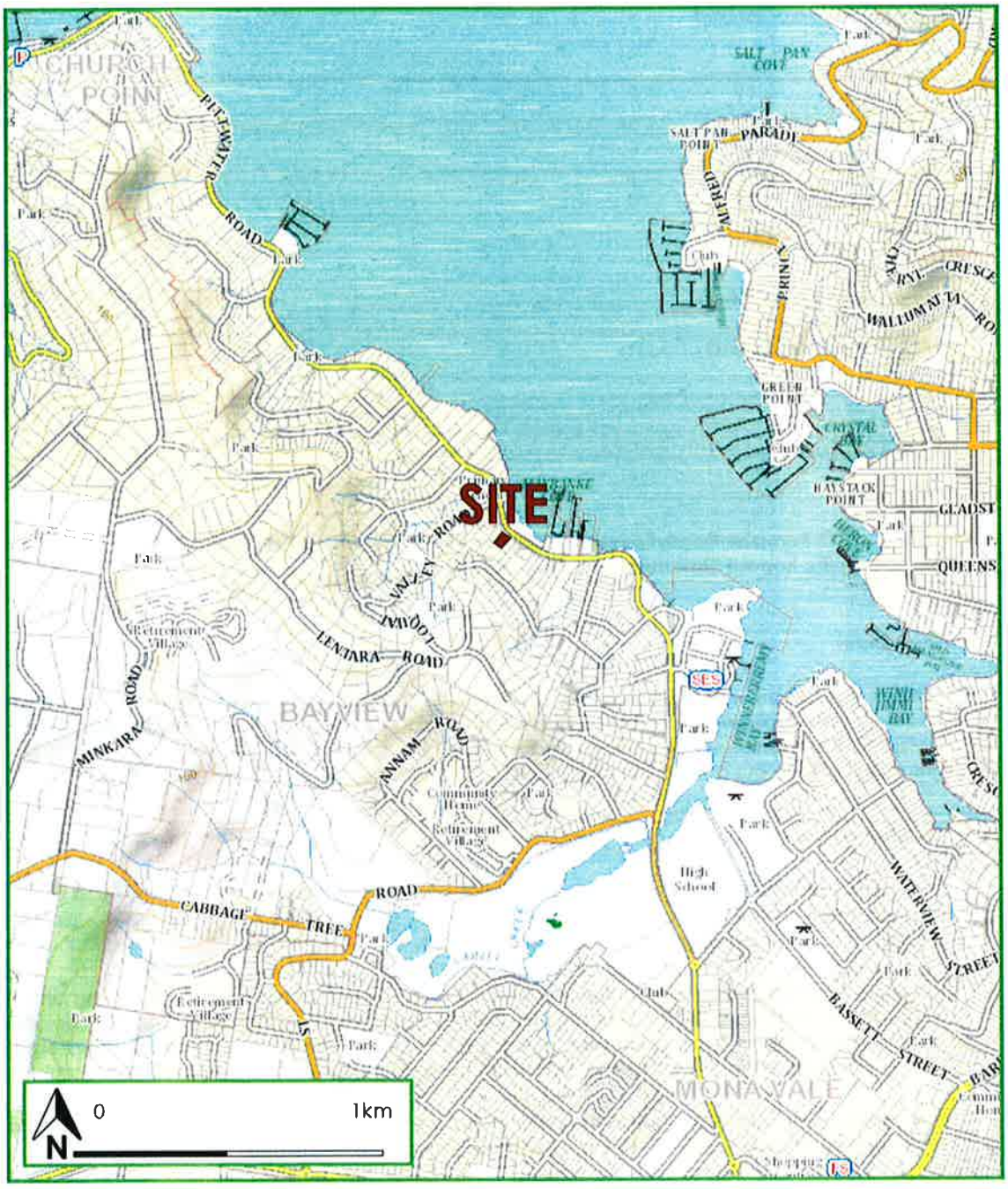

Figure 1: Location Plan

Figure 2: Site Plan

Road Hierarchy

The road hierarchy in the vicinity of the site is show in **Figure 3** with the following roads of particular interest:

- Pittwater Road: an RMS Main Road that traverses in a north-south direction between McCarrs Creek Road (Bayview) in the north and Belgrave Street (Manly) in the south. Pittwater Road has sections that comprises of three (3) RMS Main Road routes being MR159, MR164 and MR174. North of Barrenjoey Road, it has been recorded to carry approximately 9,000 vehicles per day (2009 AADT).

  The subject site is located on Pittwater Road and forms part of the MR174 section, between McCarrs Road in the north and Barrenjoey Road in the south. Within this section, it is subject to a speed limit of 50km/h however, a 40km/h 'school zone' does apply during school days. Pittwater Road accommodates a single lane of traffic in each direction, with parking prohibited on the northern kerbside in the vicinity of the site.

- Loquat Valley Road: a local road that generally traverses in a north-south direction between Pittwater Road in the north and Lentara Road in the south. It is subject to a speed limit of 50km/h however, a 40km/h 'school zone' does apply during school days. Loquat Valley Road accommodates a single lane of traffic in each direction and permits unrestricted on-street parking along sections of the road.

It is evident that the site has direct access only to the arterial road network via Pittwater Road. Notwithstanding, in this location, this road accommodates lower traffic volumes that are more consistent with a collector road status. Hence, the application rests on a merit assessment based on direct access to this main road.

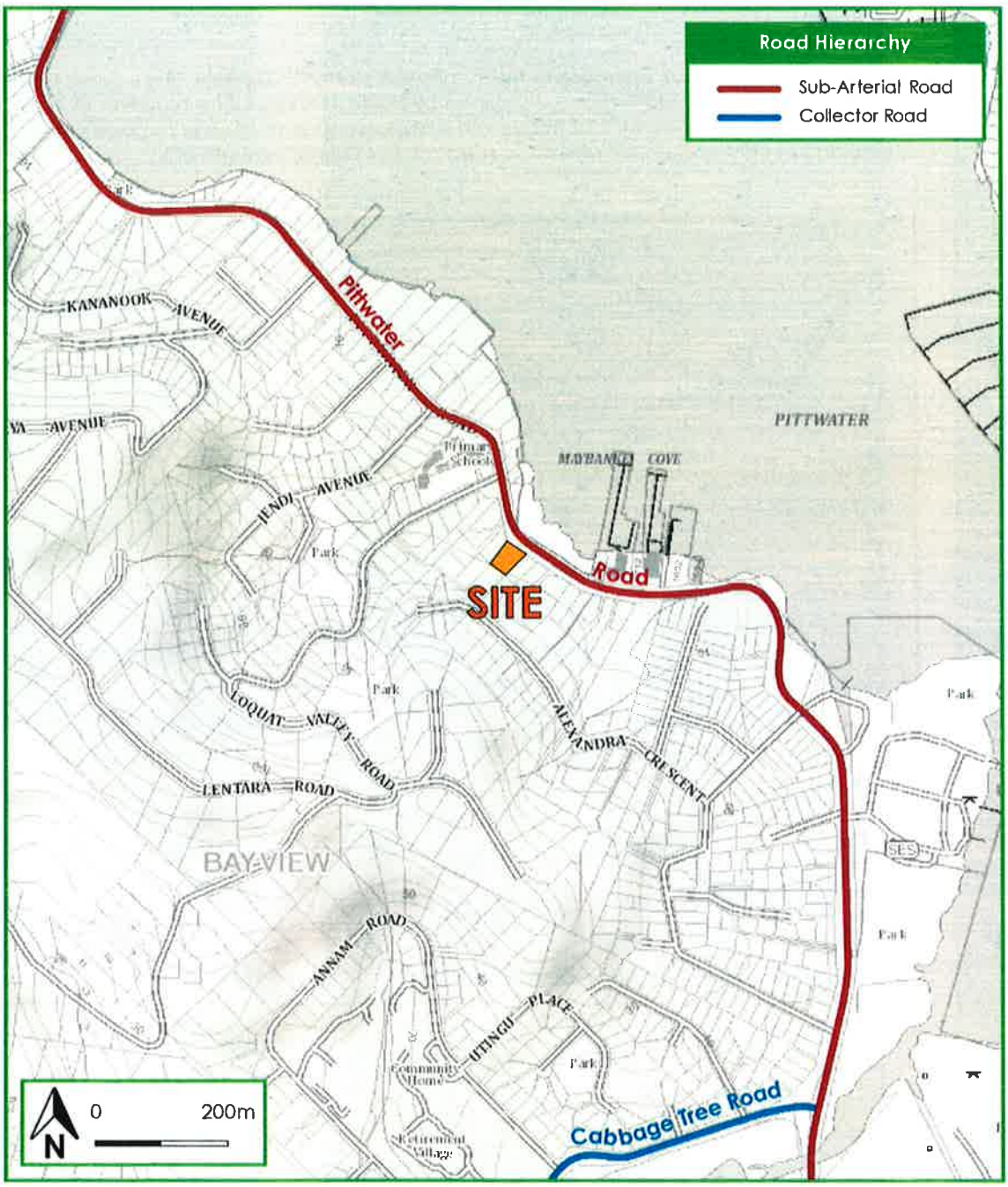

Figure 3: Road Hierarchy

Public Transport

The public transport network operating in the locality is illustrated in **Figure 4**. It is evident that the site is within 150 metres of bus stops that are serviced by Route 156, operating between McCarrs Creek and Mona Vale. It is noteworthy that this service is available at least once in the morning (8:00am to 12:00pm) and at least once in the afternoon (12:00pm to 6:00pm), throughout the week.

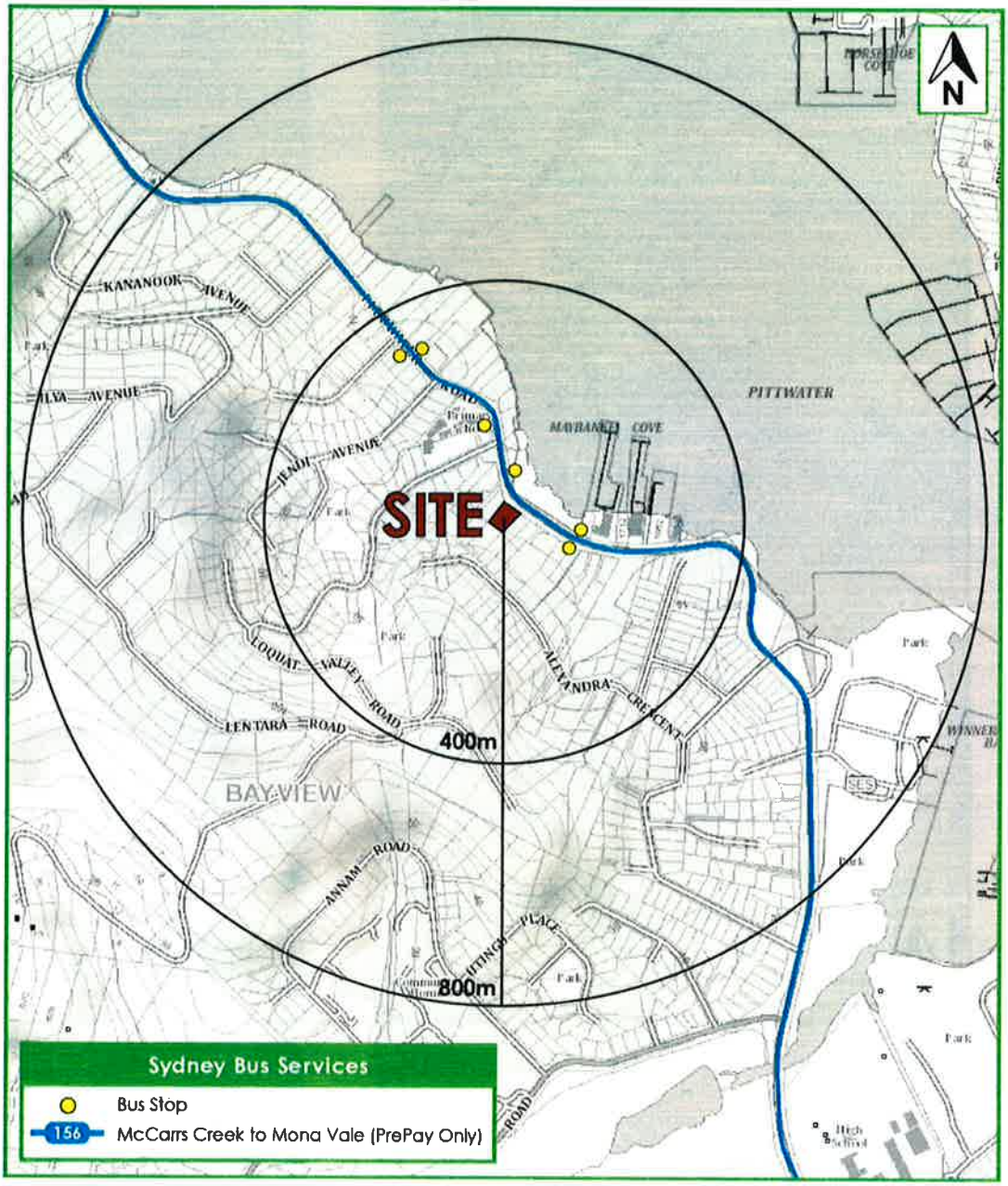

Figure 4: Public Transport

Description of Proposed Development

A detailed description of the proposed development can be found in the Statement of Environmental Effects, prepared separately. In summary, approval is sought to demolish all existing structures on-site and for the construction of a three storey seniors housing development comprising of:

- Four (4) self-contained dwellings, consisting of:
  - 1 x two-bedroom dwelling; and
  - 3 x three-bedroom dwellings.
- A single level basement car park containing seven (7) parking spaces, accessed from Pittwater Road.

The development application also proposes to construct a footpath on Pittwater Road, which will adjoin an existing footpath and pedestrian crossing approximately 72 metres west of the proposed access.

Reference should be made to the architectural drawings submitted separately to Council, for which the Carpark Floor Plan is presented in **Attachment 2**.

Parking Requirements

Car Parking

Under Division 4 of *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 ("SEPP")*, a consent authority must not refuse consent to a development application on parking grounds, should parking be provided in accordance with the rates shown listed in **Table 1**.

Table 1 – SEPP Parking Rates and Provision

Type	No. of Dwellings	No. of Bedrooms	SEPP Parking Rate	Parking Required[1]	Parking Provided
Self-Contained Dwellings					
2 Bedroom	1	2	0.5 car parking spaces per bedroom[2]	1	1
3 Bedroom	3	9		4.5 (5)	6
			Totals	**6**	**7**

1 – Calculations are rounded to the nearest whole number
2 – Where the development application is made by a person other than a social housing provider.

It can be seen from **Table 1** that the proposed development is required to provide six (6) car parking spaces under the SEPP and compliance with this voids any refusal on parking grounds. In response, provision for seven (7) parking spaces has been made, thus slightly exceeding the SEPP requirement. The level of car parking provided on-site is therefore considered satisfactory.

Accessible Parking

Schedule 3 of the SEPP stipulates that parking for self-contained dwellings should be designed for accessible use, where:

- Car parking spaces must comply with the requirements for parking for persons with a disability set out in AS 2890; and

- 5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres.

In response, four (4) parking spaces have been designed for accessible use, including:

- Three (3) parking spaces measuring 3.8m wide, thus complying with the adaptable housing standard AS4299 (1995); and
- One (1) parking space that is 2.4m wide and adjacent to a shared area that is 2.4m wide, thus complying with the accessible car parking standard AS2890.6 (2009).

These provisions will ensure that each dwelling is allocated a single parking space that is suitable for accessible use, which is considered to be a suitable outcome.

Bicycle Parking

The *Pittwater 21 Development Control Plan 2014* ("DCP") does not stipulate a bicycle parking rate for seniors housing developments. Accordingly, no bicycle parking spaces are warranted for the proposed development.

Motorcycle Parking

The DCP does not stipulate a motorcycle parking rate for seniors housing developments. Accordingly, no motorcycle parking spaces are warranted for the proposed development.

Servicing and Refuse Collection

It is proposed that servicing and waste collection occur on-street, whereby bins will be wheeled from the car park for kerbside collection (the ramp is limited to a gradient of 1:8). This is considered to be an acceptable arrangement, noting the scale of the proposed development.

Traffic Impacts

For seniors housing developments, the Roads and Maritime Services *Technical Direction TDT 2013/04a* recommends an hourly trip generation rate of 0.4 vehicles per dwelling during peak periods. Application of the above rate to the proposed development with four (4) dwellings results in the following traffic generation:

- 1-2 vehicle trips per hour during the AM peak period; and
- 1-2 vehicle trips per hour during the PM peak period.

Notwithstanding that the Technical Direction acknowledges that morning traffic generation does not coincide with the network peak period, the above volumes are considered to be a negligible increase over what would be generated by the existing dwelling house on-site. In any case, it is expected that the traffic impacts arising from the proposal will cause minimal impacts on the surrounding road network. In any event, the traffic generation is negligible and comparable to that generated by a 'domestic dwelling' as defined in AS2890.1.

Access and Internal Design

Access

The proposed development incorporates a total of seven (7) car parking spaces with access from Pittwater Road (arterial road). In accordance with AS2890.1 (2004), the proposed development requires a Category 1 vehicular driveway, being a combined entry and exit driveway of 3.0 metres to

5.5 metres. In response, the development proposes to provide a driveway with a kerb-to-kerb width of 3.5 metres and as such is sufficient to comply with the minimum requirements of AS2890.1 (2004).

In relation to access onto Pittwater Road, it is noted that the generation is the same as would occur for a domestic dwelling as defined in AS2890.1, such that the site cannot be considered to be an overdevelopment on traffic grounds and is worthy of RMS support.

Signalling System and Queuing

As the proposed access arrangement is via a one-way ramp, a traffic signal management system will need to be implemented to facilitate flow between the access and car park. The signal system can be designed to be a passive green for entering vehicles from Pittwater Road. A detector loop positioned on a waiting bay within the car park area can trigger the signals for exiting vehicles (without obstructing circulation for incoming vehicles). It is envisaged that the detailed design of this system can be undertaken prior to the release of a Construction Certificate.

For mechanical parking installations, AS2890.1 (2004) requires the 98th percentile queue to be accommodated on-site. A queuing analysis was thus undertaken with the results in **Attachment 3** revealing a 99.9% probability for only one or no cars to be using the system. As such, an on-site waiting bay for entering vehicles is not warranted under the standard.

Sight Distances

AS2890.1 (2004) requires access driveways need to be located to enable adequate entering sight distance to traffic on the frontage road. In this respect, Figure 3.2 of the standard illustrates and publishes these requirements for which an extract is shown in **Figure 5**. With Pittwater Road having a posted speed limit of 50 km/h (a 40 km/h School Zone is also operational), the access driveway is required to have a minimum 'Y' value of 45 metres and a desirable value of 69 metres.

During a site inspection, the proposed access was assessed to have a Y value of approximately 145 metres to the west along Pittwater Road and approximately 170 metres to the east along Pittwater Road. Accordingly, the available sight distance substantially exceeds the requirements of the standard, which is attributed to the access being ideally situated on the (outside) apex of a curve. Furthermore, it is noteworthy that kerbside parking is prohibited on the northern kerbside of Pittwater Road which will ensure no obstructions to circulating traffic. Reference should be made to the Photographic Record in **Attachment 1**, which includes photographs taken from the proposed access location at driver eye level (1.15 metres).

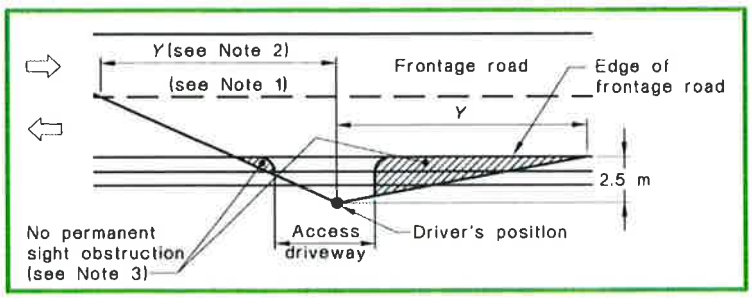

Figure 5: Sight Distance (AS2890.1)

Internal Design

The internal car park generally complies with the requirements of AS2890.1 (2004), AS2890.6 (2009) and AS4299 (1995), with the following noteworthy:

- Three (3) accessible parking spaces have been designed in accordance with AS4299 (1995) and are provided with a minimum space width of 3.8m and space length of 5.4m.
- One (1) accessible parking space has been designed in accordance with AS2890.6 (2009) and is provided with a space width of 2.4m that is adjacent to a shared area with a width of 2.4m.
- Three (3) non-accessible parking spaces have been designed in accordance with the requirements for a Class 1A user under AS2890.1 (2004), and are provided with a minimum space width of 2.4m, space length of 5.4m and aisle width of 5.8m.
- All spaces adjacent to obstructions greater than 150mm in height are to be provided with an additional width of 300mm.
- Whilst AS2890.1 (2004) requires a blind aisle extension of 1.0m, the aisle width at this section measures 6.9m. Accordingly, a swept path analysis is included in **Attachment 4** to demonstrate vehicles being able to exit the end parking space within three (3) manoeuvres, as permissible for a Class 1A user.
- A minimum clear head height of 2.2m is to be provided for all trafficable areas.
- A minimum clear head height of 2.5m is to be provided for all accessible parking spaces.
- A swept path analysis of all critical movements has been undertaken to confirm geometry and compliance with the relevant standards. The results are presented in **Attachment 4** and demonstrate satisfactory circulation can be achieved.
- 2.0m x 2.5m sight distance triangles are to be kept clear of obstructions to visibility in accordance with Figure 3.3 of AS2890.1 (2004). This should also be adjusted to align with any offset footpath.

In summary, the internal design of the car park has been generally designed in accordance with AS2890.1 (2004), AS 2890.6 (2009) and AS4299 (1995). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards. As such, any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

Conclusion

The proposed development complies with the parking requirements of local and state planning policies, whilst the design has been assessed to operate satisfactorily in accordance with AS2890.1 (2004). The development application is therefore supported on transport planning grounds.

Thank you for referring this matter for our consideration and, in the meantime, please contact us should you have any queries.

Yours faithfully,

Traffix

Kedar Ballurkar
Senior Engineer

Encl: Attachment 1 – Photographic Record
Attachment 2 – Architectural Drawings
Attachment 3 – Queuing Analysis
Attachment 4 – Swept Path Analysis

ATTACHMENT 1

Photographic Record

View looking south from Pittwater Road, towards the subject site.

View looking south from Pittwater Road, towards the vehicular access.

View looking southeast from the vehicular access, towards Pittwater Road.

View looking north from the vehicular access, towards Pittwater Road.

ATTACHMENT 2

Architectural Drawings

BASIX COMMITMENTS– REFER TO BASIX CERTIFICATE 991214M AND DA–04 FOR DETAILS

EXISTING BUILDING TO BE DEMOLISHED SHOWN DASHED

DP 379509 B3 .

EXISTING CROSSOVER TO REMAIN

EXISTING TREE TO BE REMOVED

3METRE SIDE SETBACK

EXISTING TREES TO BE REMOVED SHOWN DASHED

1,2 & 3 STOREY RENDER & CLAD HOUSE (METAL ROOF) No.1957

DEFACTO BUILDING LINE

27°27'30"

42.7 BY SURVEY
42.67 BY TITLE

EXISTING VEGETATION TO REMAIN

PROPOSED FOOTPATH

SIGHTLINES

PROPOSED DRIVEWAY 1:8 GRADE

BM NAIL IN DRIVE RL = 5.68 A.H.D.

LETTERBOXES

PEDESTRIAN ENTRY RAMP (1:14)

EXISTING STONE RETAINING WALL TO BE REMOVED

TERRACE RL 9.50

ROOF TERRACE RL 15.30

DP 373531 1 1296.5m² (BY SURVEY)

28.05 BY SURVEY
28.04 BY TITLE
295°31'

COURTYARD RL12.250

COURTYARD RL 9.350

COMMON LANDSCAPING

PLANTER

2 STOREY BRICK & CLAD HOUSE (METAL ROOF) No.1955

PLANTER BOX 1K METRE HIGH

1.5 METRE SETBACK

ROOF PARAPET RL 18.30

EXISTING VEGETATION TO REMAIN

EXISTING TREES TO REMAIN

32.69 BY TITLE
32.64 BY SURVEY
114°11'00"

2.7METRE SIDE SETBACK

43.00
214°57'50"

DP 509415 1

1 & 2 STOREY BRICK HOUSE

EXISTING TREES TO BE REMOVED SHOWN DASHED (REFER TO ARBORIST REPORT FOR DETAILS)

DP 413098 D

DP 104 1 37.9r (BY DP

DP104705 DIAGRAMATIC POSITION ONLY.

PITTWATER

SITE AREA -1,296.50SQ.M

52.1% DEEP LANDSCAPING (675.6SQ.M)

0.449:1 FSR (667SQ.M. TOTAL INTERNAL UNIT AREA)

LEECH HARMON ARCHITECTS

NOMINATED ARCHITECT: DENIS LEECH REG NO. 3980
INCORPORATED IN NSW ABN 49 002 517 875
SUITE 4, 9 FOAMCREST AVE NEWPORT BEACH NSW 2106
TELEPHONE: (02) 9997 7288 EMAIL: dleech@bigpond.net.au

No.	Description	Date
-		

Project Details
RESIDENTIAL DEVELOPMENT
SENIORS LIVING-LOT 1 DP 373531
1955 Pittwater Road BAVIEW
Client
MR WESTAWAY

SITE PLAN

Project No.	Drawing Number	Rev No.
_	DA-01	-
Current Issue Date: FEBRUARY 14, 2019	Scale	

EXISTING GROUND LEVELS
& LANDSCAPING TO BE RETAINED

FOUNDATIONS

PEDESTRIAN ENTRY
FOYER BELOW
RL 4.00

LIFT

FOYER
RL 6.50

STAIRS

UNIT 1
(ACCESSIBLE)
1.

GARBAGE

SETOUT POINT

DRIVEWAY
1:8 GRADIENT

TUNNEL UNDER
SHOWN DASHED

DRIVEWAY
1:8 GRADIENT

LANDSCAPING

PEDESTRIAN ENTRY
1:14 (8.87m)

EXISTING GROUND LEVELS
TO REMAIN

BOUNDARY

BATTERED EARTH

BATTERED EARTH

7560
1:14 (9m)

LETTERBOX

PP

7 CAR SPACES TOTAL
4 ACCESSIBLE (ONE FOR EACH UNIT)
3 STANDARD SPACES

DRIVEWAY AISLE
RL 6.50

2. UNIT 2 (ACCESSIBLE)
3. UNIT 2
4. UNIT 3
5. UNIT 3 (ACCESSIBLE)
6. UNIT 4
7. UNIT 4 (ACCESSIBLE)

OUTLINE OF BUILDING OVER
SHOWN DASHED

BOUNDARY

LANDSCAPING

LANDSCAPING

AA

10000

LEECH HARMON ARCHITECTS

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No.	Description	Date
-	ISSUE	23.1.19

Project Details
RSESIDENTIAL DEVELOPMENT SENIORS LIVING-1955 Pittwater Road BAVIEW LOT 1 DP 373531

Client
MR WESTAWAY

CARPARK FLOOR PLAN

Project No.	Drawing Number	Rev No.
–	DA-02	-
Current Issue Date: FEBRUARY 14, 2018	Scale: 1:100 @ A3	

RETAINING WALL

3020

SL WINDOW

SL WINDOW

ROBES

ROBES

BED 3
3750x3350

T.V. ROOM
3680x3350

ROBES
3000x3350

SHOWER

ENSUITE
3800x2150

SL DOOR

BED 1
5000x3500

SL DOOR

LIN.

PANTRY

FR

KITCHEN
5680x2850

6225
REAR SETBACK

BATHROOM
2240x2750

LAUNDRY
1400x1700

FAMILY
3850x3500

DINING
5480x3500

UNIT 1
RL 9.50
155SQ.M. INTERNAL

LIVING
6430x4000

BI FOLD DOOR

TERRACE
RL 9.50

DRIVEWAY BELOW

corner of carpark below

SETOUT POINT

SL DOOR

RL 12.50 T.O.W.

COURTYARD
RL 9.350

PLANTER

RL 12.50 T.O.W.

PLANTER
RL 12.35

RL 9.50

1520

WALKWAY BELOW

BOUNDARY

REINF. CONC. BLOCK WALL
100MM HIGH, STONE CLAD FINISH

PLANTER 1 METRE DEEP

RL 9.10

FEATURE BLADE WALLS

AA

4840

STORAGE UNIT 2
MEZZANINE OVER GARAGE
RL 9.50

RL 9.50

10735 REAR SETBACK

RL10.10 T.O.W

REINFORCED CONCRETE SLAB
TO GARAGE BELOW

2700

BOUNDARY

LEECH HARMON ARCHITECTS

NOMINATED ARCHITECT: DENIS LEECH REG NO. 3980
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No.	Description	Date
-	ISSUE	23.1.18

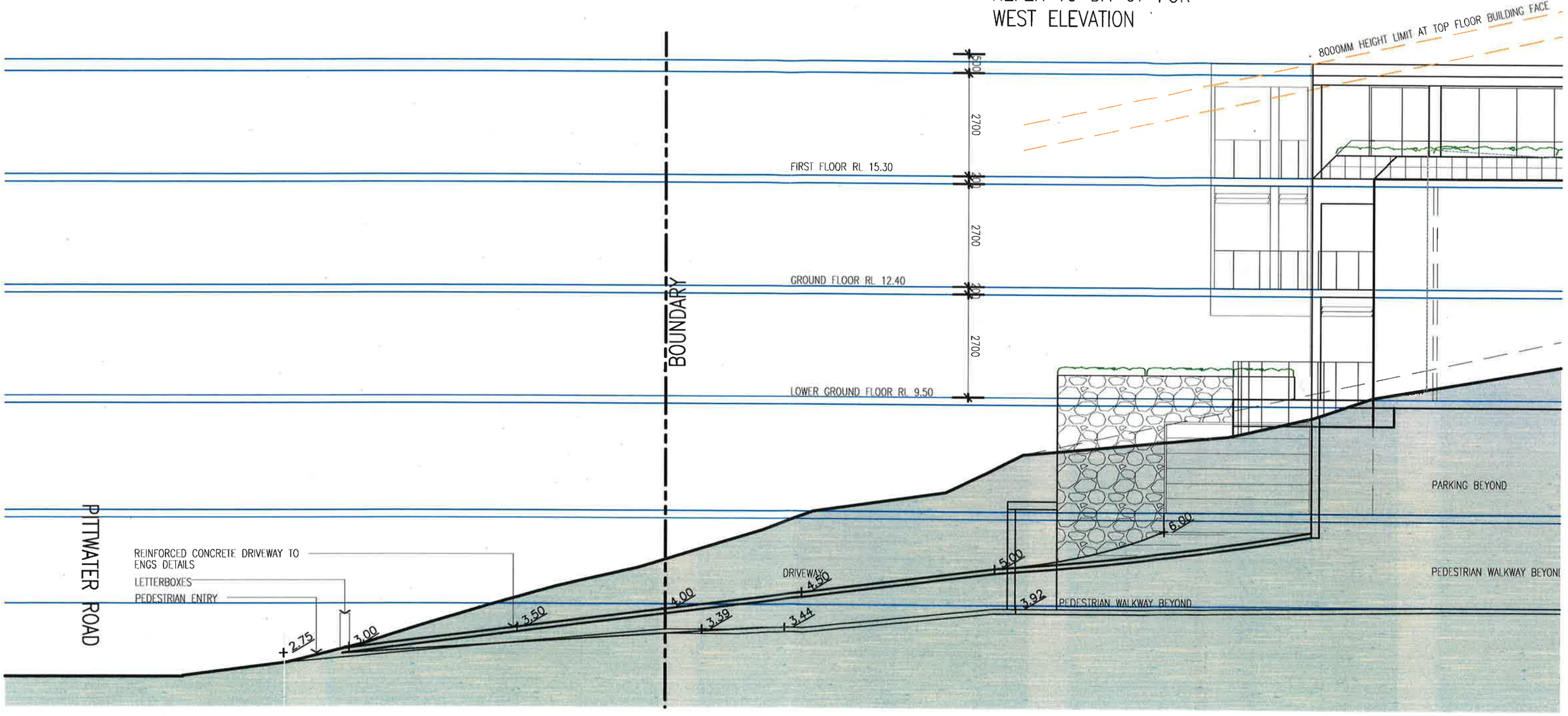
Project Details
RSESIDENTIAL DEVELOPMENT SENIORS LIVING-1955 Pittwater Road BAVIEW LOT 1 DP 373531

Client
MR WESTAWAY

LOWER GROUND FLOOR PLAN

Project No.	Drawing Number	Rev No.
_	DA-03	-
Current Issue Date: FEBRUARY 14, 2018	Scale: 1:100 @ A3	

REFER TO DA-07 FOR
WEST ELEVATION



3 DRIVEWAY SECTION
Scale: 1:100

REFER TO DA-07 FOR
WEST ELEVATION

LEECH HARMON ARCHITECTS
NOMINATED ARCHITECT: DENIS LEECH REG NO. 3980
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No.	Description	Date
-		

Project Details
RESIDENTIAL DEVELOPMENT
SENIORS LIVING-LOT 1 DP 373531
1955 Pittwater Road BAVIEW
Client
MR WESTAWAY

DRIVEWAY SECTION

Project No.	Drawing Number	Rev No.
_	DA-11	-
Current Issue Date: FEBRUARY 14, 2019	Scale: 1:100 @ A3	

ATTACHMENT 3

Queuing Analysis

18.672 - 1955 Pittwater Road, Bayview - Queuing Analysis at the Site Access

ARRIVALS

Travel Distance		
Level	No Cars/ Motorcycles	Horiz Distance from G (m)
G	0	0
LG	7	45
-		
-		
Average Travel Distance		45
The Longest Travel Distance		45

Vehicle Arrivals (veh/hr)	1
Travel Speed (m/sec)	2.8
Average Travel Time (sec)	17
Longest Travel Time (sec)	17
Clearance (sec)	2
Average Total Service time	19
Longest Total Service Time	19

DEPARTURES

Average Travel Distance		
Level	No Cars/ Motorcycles	Avg. Horiz Distance from G (m)
G	0	0
LG	7	45
-		
-		
Average Travel Distance		45
The Longest Travel Distance		45

Vehicle Arrivals (veh/hr)	2
Travel Speed (m/sec)	2.8
Average Travel Time (sec)	17
Longest Travel Time (sec)	17
Clearance (sec)	2
Average Total Service time	19
Longest Total Service Time	19

PRODUCT

Probability of 1 Arrival	0.5%
Probability of 1 Departure	1.1%

Probability of 'n' Vehicles Queuing at Access	n	%
	1	0.00557%
	2	0.00003%
	3	0.00000%
	4	0.00000%
	5	0.00000%

Probability of 1 Arrival	0.5%
Probability of 1 Departure	1.1%

Probability of 'n' Vehicles Queuing at Access	n	%
	1	0.00557%
	2	0.00003%
	3	0.00000%
	4	0.00000%
	5	0.00000%

Based on the Average Travel Distance

Queuing Theory Factors		
average arrival rate (r)	1.00	*r=(veh/hr)
average service rate (s)	189.47	*s=3600/(Average Total Service Time)
utilisation factor (p)	0.00528	*p=r/s
mean queue (E(m))	0.00003	*E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicles in System (n)	Probability (%)	Prob of More than n (%)
0	99.5%	0.5%
1	0.5%	0.0%
2	0.0%	0.0%
3	0.0%	0.0%
4	0.0%	0.0%

Queuing Theory Factors		
average arrival rate (r)	2.00	*r=(veh/hr)
average service rate (s)	189.47	*s=3600/(Average Total Service Time)
utilisation factor (p)	0.01056	*p=r/s
mean queue (E(m))	0.00003	*E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicles in System (n)	Probability (%)	Prob of More than n (%)
0	98.9%	1.1%
1	1.0%	0.0%
2	0.0%	0.0%
3	0.0%	0.0%
4	0.0%	0.0%

Based on the Longest Travel Distance

Queuing Theory Factors		
average arrival rate (r)	1.00	*r=(veh/hr)
average service rate (s)	189.47	*s=3600/(Longest Total Service Time)
utilisation factor (p)	0.00528	*p=r/s
mean queue (E(m))	0.00003	*E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicles in System (n)	Probability (%)	Prob of More than n (%)
0	99.5%	0.5%
1	0.5%	0.0%
2	0.0%	0.0%
3	0.0%	0.0%
4	0.0%	0.0%

Queuing Theory Factors		
average arrival rate (r)	2.00	*r=(veh/hr)
average service rate (s)	189.47	*s=3600/(Longest Total Service Time)
utilisation factor (p)	0.01056	*p=r/s
mean queue (E(m))	0.00003	*E(m)=(p/(1-p))-p

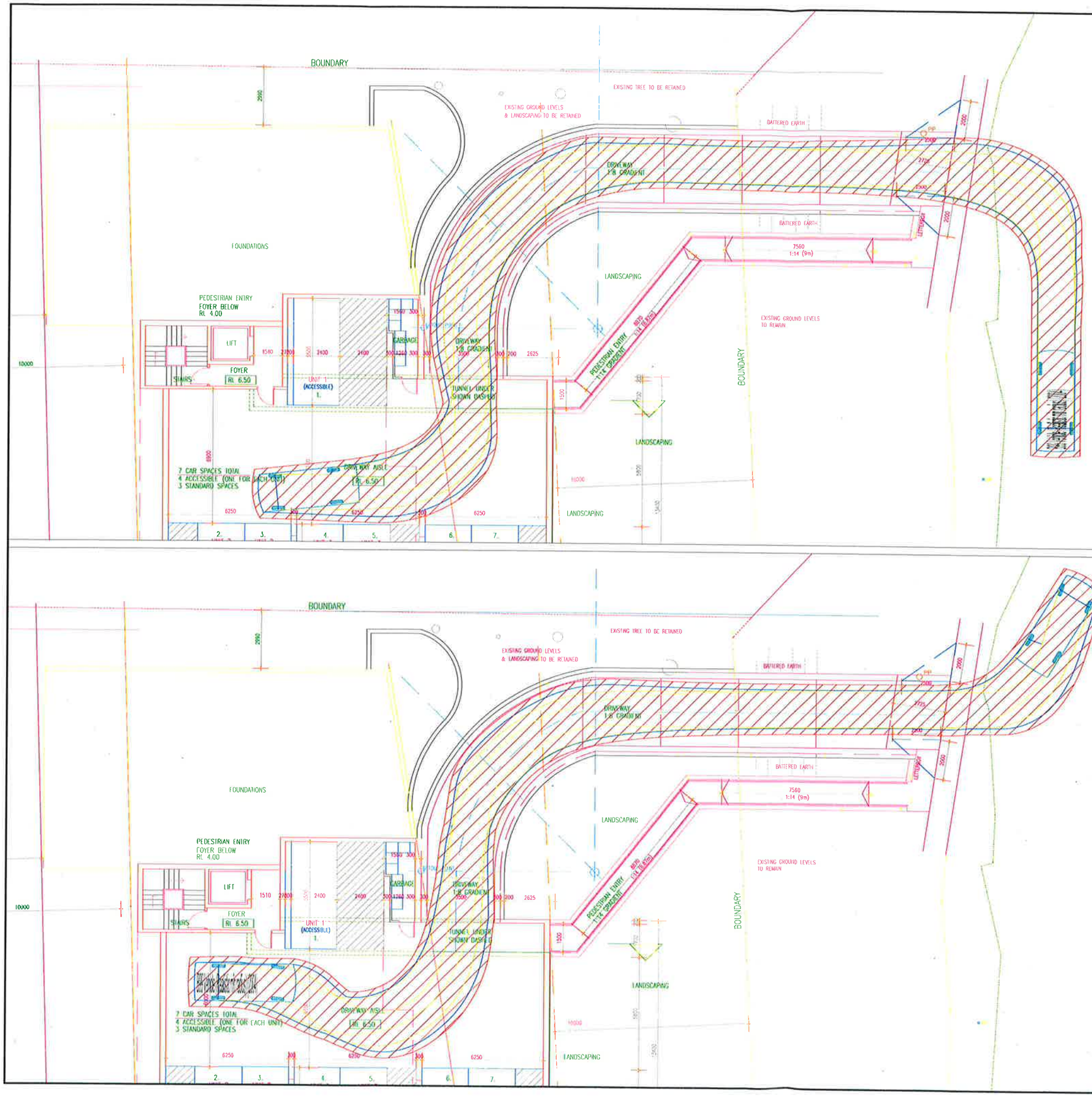
Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicles in System (n)	Probability (%)	Prob of More than n (%)
0	98.9%	1.1%
1	1.0%	0.0%
2	0.0%	0.0%
3	0.0%	0.0%
4	0.0%	0.0%

Input

Check

ATTACHMENT 4

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	15-02-19

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Leech Harmon Architects
80a Park Street
MONA VALE NSW 2103

Client
Mr Denis Leech

Scale / Plan Orientation

0 2 4 6 8m

1:200 @ A3

Project Description
1955 Pittwater Road
BAYVIEW NSW 2104

Drawing Prepared By

TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

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Drawing Title
Swept Path Analysis
B99 Design Vehicle
Lower Ground Floor Car Park
Top: Entry Movement Bottom: Exit Movement

Drawn:	Checked:	Date:
NC	KB	18-02-19

18.672d04v01 TRAFFIX [2019-02-15 Plans] - Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
18.672	DA	TX.01	A

Notes:

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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	15-02-19

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
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MONA VALE NSW 2103

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Scale / Plan Orientation

0 2 4 6 8m
1:200 @ A3

Project Description
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Drawing Title
Swept Path Analysis
B85 Design Vehicle
Lower Ground Floor Car Park - Parking Space 2
Design Vehicle Exit Movement

Drawn:	Checked:	Date:
NC	KB	18-02-19

18.672d04v01 TRAFFIX [2019-02-15 Plans] - Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
18.672	DA	TX.02	A