

Traffic Impact Assessment

Proposed Residential Development Avon Road, Pymble

traffix traffic & transport planners

po box 1061 potts point nsw 1335 w: www.traffix.com.au abn: 66065132961

Reference: 14.243r01v3 TRAFFIX Avon Rd, TIA Report, Issue III

19 September 2014



Document Verification

Job Number:	14.243			
Project:	Proposed Residential Development, Avon Road, Pymble			
Client: JW Neale Pty Ltd (Receivers and Managers Appointed)				

Revision		Initials	Date	Signature			
14.243r01v1 TRAFFIX Avon Rd, TIA Report, Draft	Prepared by:	PT	12/09/2014	Leas Felhenry			
	Approved by:	PT	12/09/2014	June Garang			
14.243r01v2 TRAFFIX Avon	Prepared by:	PT	18/09/2014	Lias Jelhenry			
Rd, TIA Report, Issue II	Approved by:	PT	18/09/2014	June June			
14.243r01v3 TRAFFIX Avon Rd, TIA Report, Issue III	Prepared by:	PT	19/09/2014	Reas Lethenry			
	Approved by:	PT	19/09/2014	mas getheny			



Contents

1. Intro	. Introduction	
2. Loc	ation and Site	3
3. Exis	sting Traffic Conditions	6
3.1	Road Network	6
3.2	Public Transport	8
3.3	Existing Site Generation	8
4. Des	cription of Proposed Development	10
5. Parl	king Requirements	11
5.1	Off-Street Car Parking	11
5.2	Adaptable and Disabled Parking	12
5.3	Bicycle Parking	13
5.4	Servicing	13
5.5	Parking Summary	14
6. Traf	fic Impacts	15
6.1	Background 2012 Traffic Study	15
6.2	Project Traffic Generation	16
6.3	Traffic Impact Assessment	17
7. Acc	ess & Internal Design Aspects	18
7.1	Detached Dwellings	18
7.2	Vehicular Access	18
7.3	Internal Design	19
8. Con	clusions	22

Appendices

Appendix A: Reduced Plans

Appendix B: Swept Path Analysis



1. Introduction

TRAFFIX has been commissioned by JW Neale Pty Ltd (Receivers and Managers Appointed) to provide expert witness traffic consultancy services for a proposed residential development at a consolidated site consisting of 1, 1A, 3, 5 Avon Road and 4, 8 Beechworth Road, Pymble, located within the Sydney LGA of Ku-ring-gai Council.

On 22 August 2013, the Applicant (Brett Stephen Lord and Marcus William Ayres as Joint and Several receivers and Managers of the Site) commenced Land and Environment Court Proceedings Nos. 10648 and 10834 of 2013. The Proceedings relate to the refusal by the Planning Assessment Commission (PAC) – as delegate of the Minister for Planning and Infrastructure – of the Concept Plan Application (MP08_0207) and Stage 1 Project Application (MP10_0219) for a multi-unit residential development.

As a result of discussions between the Applicant's, Council's and PAC's experts, the Applicant has amended the concept plan proposal for the site (referred to in this report as the Revised Concept Plan Proposal). During recent discussions between the parties' experts, the traffic consultants were in agreement that the following points needed to be addressed and – where necessary – incorporated in any revision of the concept plans.

Table 1: Traffic Related Concept Plan Actions

ACTION	ADDRESSED AT:		
Plans need to demonstrate that the basement area has adequately considered all the demands for space that would be placed upon it – in addition to car parking – particularly garbage storage, general storage and bicycle storage	Section 5.0 & 7.0		
A brief garbage management plan should be prepared to support and advise of the garbage management strategy	Section 5.4		
Accessible parking and bicycle parking must be provided in accordance with Council's Local Centres DCP	Sections 5.2 & 5.3		
A plan must be provided that shows the vertical profile of the loading area, including the driveway to/from the loading area and any required manoeuvring areas	Section 7.3 & Appendix A		



Table 1 Cont'd: Traffic Related Concept Plan Actions

ACTION	ADDRESSED AT:		
Plans need to demonstrate that car park security has been considered and – if required for visitor and/or resident parking – any intercom provisions	Section 7.3 & Appendices A & B		
The access driveway width at the property boundary would need to be a minimum of 6.0 metres in accordance with AS2890.1 for a Category 2 driveway. In addition, the width of the access driveway should be sufficient to permit a left turn exiting vehicle to manoeuvre such that it does not have to cross the centreline of Avon Road	Section 7.2 & Appendix B		
Any traffic related proposals for the 1 Avon Road stub at the northern end of the site would need to be shown on the plans	Appendix A		

This Traffic Impact Assessment (TIA) report has been prepared as part of the Second Further Revised Preferred Project Report (PPR) supporting the Revised Concept Plan Proposal for residential development of the subject site. It is noteworthy that the amended design is the result of an extensive, detailed and collaborative process that has been heavily influenced and guided by Council and PAC. A key component of the modifications of the scheme has been a significant reduction in the scale of residential development, with the original scheme proposing about 270 units across four apartment buildings, and the current scheme proposing about 198 units across three buildings plus four detached dwellings.

This TIA report documents the findings of our investigations and should be read in the context of the PPR prepared separately. The remainder of this report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions.



2. Location and Site

The subject site is situated between Avon Road and Beechworth Street, Pymble. The consolidated subject site includes the lots of 1, 1A, 3 & 5 Avon Road, and 4 & 8 Beechworth Street. The site is located within the Ku-ring-gai Council LGA, approximately 600 metres west of Pymble Railway Station and 15 kilometres northwest of the Sydney CBD.

In a more local context, the site has two western frontages – one adjoining Beechworth Street, the other adjoining neighbouring residential properties – and generally two eastern frontages, one adjoining Avon Road and the other adjoining neighbouring residential properties. The subject site shares a northern 150 metre boundary with the T1 North Shore Railway Line and its southern boundaries, which adjoin neighbouring properties, have a combined length of approximately 275 metres. The site is generally L-shaped in configuration with a site area of about 24,643m².

The subject site currently accommodates four dwelling houses, each with separate domestic driveways that access either Avon Road or Beechworth Road. The property at 1 Avon Road is heritage listed and is to be retained as part of the Revised Concept Plan Proposal for the subject site.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.



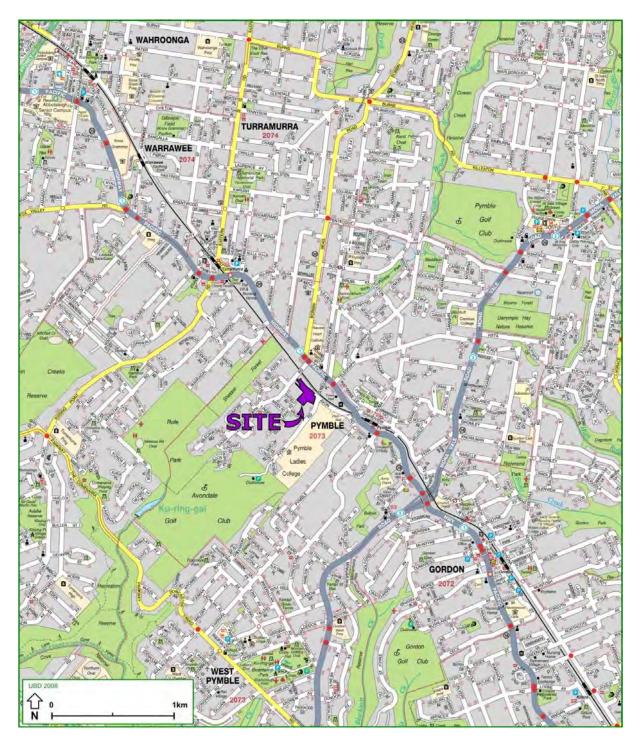


Figure 1: Location Plan





Figure 2: Site Plan



3. Existing Traffic Conditions

3.1 Road Network

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

- Avon Road: a local road that has an 'L-shaped' alignment and provides direct vehicular access to the subject site. Avon Road is a collector route which provides access from the surrounding area to the classified RMS arterial road network.
- Beechworth Road: a local road that runs in a north-south direction. It provides direct vehicular access to the subject site. Beechworth Road is a non-delineated road (i.e. is not lane marked); however, nominally provides a single lane of traffic and unrestricted kerbside parking in both directions and has a posted speed limit of 50km/h. There is an existing footpath on the eastern side and a partial footpath on the western side.
- Pacific Highway: an RMS State Highway (SH10) that generally runs in a north-south direction and connects Hornsby in the north and North Sydney in the south. In the vicinity of the site, the Pacific Highway generally consists of three traffic lanes in either direction and carries about 64 000 vehicles per day (2005 AADT). It is subject to a 60 km/h speed zoning.
- an RMS Main Road (MR162) generally runs in an east-west direction continuing from Lady Game Drive in the east to the Pacific Highway in the west. It continues as Mona Vale Road to the north and Lane Cove Road to the south. In the vicinity of the site, Ryde Road generally consists of three traffic lanes in either direction and carries about 62 000 vehicles per day (2005 AADT). It is subject to a 70 km/h speed zoning. Ryde Road allows for U-turns at the junction with the Pacific Highway.

It can be seen from Figure 3 that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.



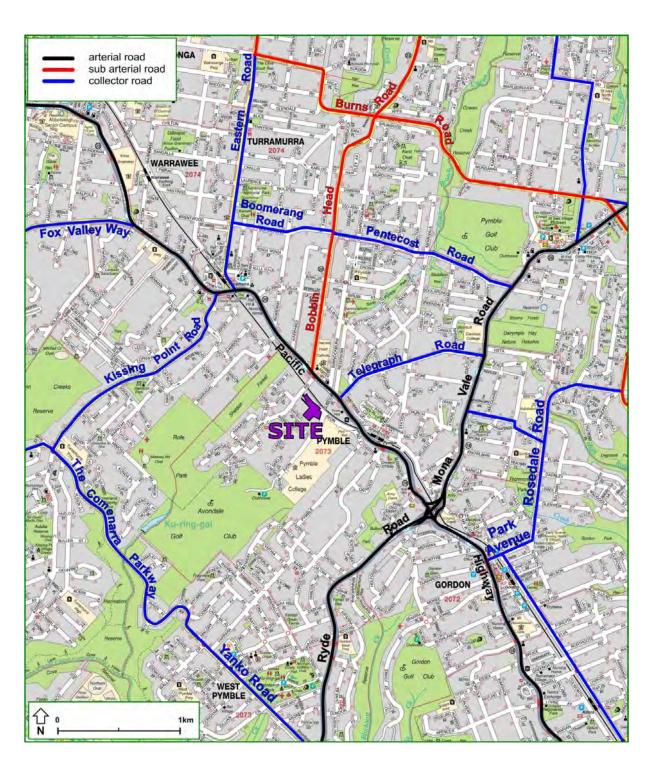


Figure 3: Road Hierarchy



3.2 Public Transport

The site is well located to take advantage of the numerous public transport services that serve the surrounding area, due largely to the proximity of the Pymble train station. The existing train and bus services that operate in the locality are shown in **Figure 4**.

Standard transport planning guidelines state that a development is advantageously located to benefit from rail if it is within 800 metres walking distance of a train station. In this regard, the site is just 600 metres walking distance to Pymble train station to the east of the subject site via the footpath that runs from the southern end of Avon Road to the train station via the pedestrian tunnel which passes under the Pacific Highway.

With regard to buses, standard transport planning guidelines state that a development is advantageously located to benefit from bus services if it is within 400 metres walking distance of a bus stop. As Figure 4 shows there are numerous bus stops within 400 metres walk of the site, providing access to Hornsby in the northeast, Macquarie University in the south and East Turramurra in the north.

In summary, the site is ideally situated with regard to public transport facilities to encourage future tenants / visitors of the residential development to use alternative transport means to access the site.

3.3 Existing Site Generation

As previously mentioned, the subject site is currently occupied by four dwelling houses. Current RMS guidance for low density residential dwellings indicates that the houses would each generate 0.95 and 0.99 peak hour trips for the morning and evening peak hours respectively. By applying these trip rates to the four existing dwelling houses, it is anticipated that the site currently generates a peak hour traffic generation of about four (4) vehicle trips during the morning peak hour and the evening peak hour.



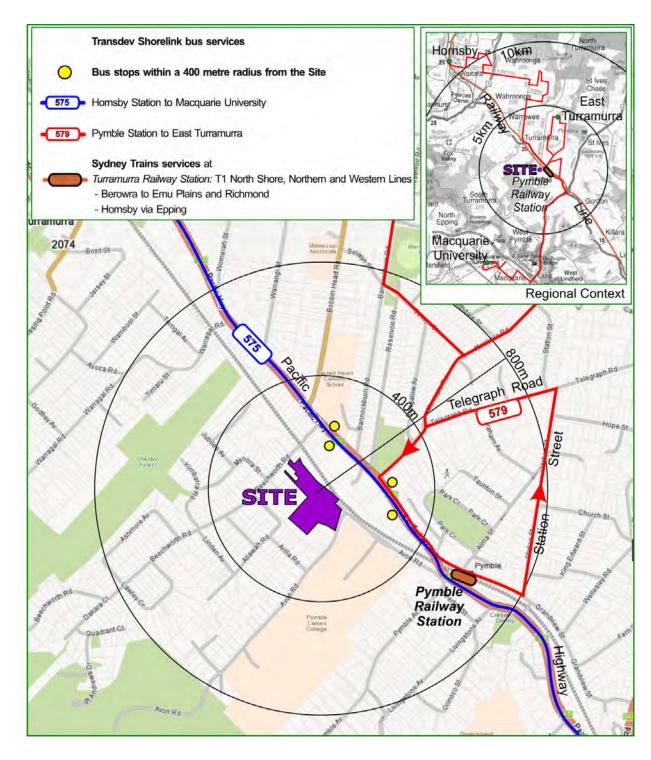


Figure 4: Public Transport Services



4. Description of Proposed Development

A detailed description of the development is provided in the PPR prepared separately. In summary, the Revised Concept Plan Proposal is a residential development with the following characteristics:

- Demolition of all existing structures, except for the heritage building at 1 Avon Road;
- Onstruction of four (4) detached residential dwellings with:
 - · House 1, House 2 & House 3 with a shared access driveway to Beechworth Street;
 - House 4 with a separate access driveway to Beechworth Street;
 - · each dwelling provided with two parking spaces;
- Construction of three residential apartment buildings with access to Avon Road comprising a total of 198 residential apartments (including 20 adaptable units) with the following attributes:
 - 99 x one bedroom apartments;
 - 82 x two bedroom apartments;
 - 17 x three bedroom apartments;
- The provision of four basement levels of car parking with a total of 257 parking spaces, 60 spaces for bicycles and 1 loading bay, consisting of:
 - 207 spaces for residents (including 20 accessible/adaptable spaces);
 - 50 spaces for visitors (including 2 accessible space);
 - · 40 bicycle spaces for residents;
 - · 20 bicycles spaces for visitors; and
 - 1 loading bay at Basement 1 for furniture removal trucks and Council's waste collection truck.

The parking and traffic impacts arising from the development are discussed in Sections 5 and 6, respectively. Reference should be made to the plans submitted separately to Council which are presented at reduced scale at **Appendix A**.



5. Parking Requirements

5.1 Off-Street Car Parking

The Ku-ring-gai Local Centres Development Control Plan (DCP) 2012 – Part 2R.2 (Car Parking Rates) sets out the car parking requirements for the proposed development. The rates provided in the DCP are minimum parking rates.

With regard to the four detached dwellings, the DCP requires the following parking provision:

8 parking spaces @ 2 spaces per single occupancy dwellings.

In response, the development provides eight (8) parking spaces for the four detached dwellings on Beechworth Road.

With regard to the apartments, the DCP requires car parking for residential flat building developments to be provided at the rates shown in **Table 1**.

Table 1: Council Parking Rates and Provision

Туре	Number	Council Parking Rates	Spaces Required	Spaces Provided	
1 Bedroom	99	1 space per unit	99.0		
2 Bedroom	82	1 space per unit	82.0	207	
3 Bedroom	17	1.5 space per unit	25.5		
Visitor	198	1 space per 4 unit	49.5	50	
		256	257		

It can be seen from Table 1 that the proposed residential apartment development requires a minimum of 256 parking spaces consisting of 206.5 spaces for resident parking and 49.5 spaces for visitor parking. In response, the proposed four-level basement provides a total of 257 parking spaces – 207



spaces for residents and 50 spaces – thereby satisfying Council's DCP parking requirements. Details relating to the design of the car parking layout are provided at Section 7.

5.2 Adaptable and Disabled Parking

With regard to adaptable parking for the 20 adaptable units, Council's DCP – Part 2.5 (Parking for People with a Disability) requires the following adaptable parking provision:

20 parking spaces @ 1 space per adaptable unit.

In response, the development provides 20 parking spaces, thereby satisfying Council's DCP resident adaptable parking requirement.

With regard to accessible visitor parking, Council's DCP at Part 2.4 (Visitor Parking) states:

At least one visitor parking space it to be accessible, designed in accordance with AS2890.6.

In response, the development provides two (2) accessible visitor parking spaces designed in accordance with the requirements of AS2890.6 (2009) *Part 6: Off-street parking for people with disabilities*, thereby satisfying Council's DCP accessible visitor parking requirement. It is noteworthy that this equates to about 4% of the total visitor parking provision of 50 spaces. This is considered an acceptable volume of parking as the proportion exceeds the amount of accessible parking that Council requires for non-residential uses – such as retail, commercial, recreational – which is generally 1-3% of total parking provision.



5.3 Bicycle Parking

Council's DCP – Part 7B.2 (Bicycle Parking Provision) requires the following bicycle parking provision for residents:

40 bicycle spaces @ 1 space per 5 units (or part thereof).

In response, the development provides 40 bicycle spaces for residents on Basement 1 Level, thereby satisfying Council's DCP resident bicycle parking requirement.

With regard to visitor bicycle parking, Council's DCP at Part 7B.2 requires the following bicycle parking provision for visitors to be provided in the form of bicycle rails in the visitor car park area:

20 bicycle spaces @ 1 space per 10 units (or part thereof).

In response, the development provides 20 bicycle spaces for visitors also on Basement 1 Level within the visitor car park, thereby satisfying Council's DCP visitor parking requirement.

5.4 Servicing

5.4.1 Garbage Management Plan

Firstly, garbage collection for the four detached dwellings would occur from on-street adjacent to their driveways on Beechworth Road.

With regard to the apartment buildings, the PPR includes a Waste Management Plan (WMP) that has been prepared by Elephants Foot Waste Compactors Pty Ltd. Elephants Foot has assessed the Revised Concept Plan Proposal and calculated the volume of waste that would be generated by the residential development, and provided advice to the architects, Marchese Partners, with regard to the bin and bin storage room requirements.



The Revised Concept Plan Proposal provides three separate garbage storage rooms – one for each apartment building – at Basement 1 Level adjacent to the lift lobby for each building. In addition, Basement 1 Level includes a garbage bin collection area in the south-east corner of the basement adjacent to the basement's access point and the proposed loading bay. In accordance with the WMP, Building Management will ensure that full garbage and recycling bins are ready for collection according to Council's collection schedule.

The proposed loading bay at Basement 1 Level has been designed in accordance with Part 2.3 (Basement Car Parking) of Council's DCP. Of note, the loading bay – and the required manoeuvring areas and the access to/from it – has been designed with a headroom clearance of 2.6 metres. Details relating to the design of the loading bay layout are provided at Section 7.

5.4.2 Furniture Removal Trucks

The loading bay would also be for the use of furniture removal trucks and vans. At Basement 1 Level furniture movers would have good, level access to the lift lobbies of all three apartment buildings. Building Management would manage access to the loading dock to ensure that it is always available for Council's garbage truck at collection times.

5.5 Parking Summary

In summary, the proposed development has been designed to accommodate Council's DCP requirements for off-street car parking (including visitor and adaptable/accessible requirements), bicycle and loading provisions, ensuring that all reasonably anticipated parking demands are accommodated on-site and therefore do not impact upon the availability of on-street parking in the area. Reference should be made to Section 7 of this report for further details of the design of the parking and loading areas.



6. Traffic Impacts

6.1 Background 2012 Traffic Study

The following information has been extracted from the Traffic and Parking Assessment Report prepared by Varga Traffic Planning (dated 10 December 2012) that supported the original Part 3A Concept Plan application:

- Assessed development yield of 273 units consisting of:
 - 210 units with access to Avon Road;
 - 63 units with access to Beechworth Road;
- Adopted trip generation rate of 0.4 trips per unit:
- Anticipated traffic generation 109 peak hour trips (morning and evening) consisting of:
 - 84 trips to/from Avon Road;
 - 25 trips to/from Beechworth Road;

The impacts of the additional traffic were assessed on the surrounding network using SIDRA intersection. The analysis demonstrated the following:

- The intersection of the Pacific Highway with Livingstone Access (which provides the main connection to the wider road network for Avon Road development traffic) would continue to operate at a *Level of Service of "B"* Good with acceptable delays & spare capacity under the project additional traffic flows, with increases in total average vehicle delays of less than 2 seconds per vehicle;
- The intersection of the Pacific Highway with Beechworth Road would continue to operate at a Level of Service of "B", with increases in total average vehicle delays in the order of 3-4 seconds per vehicle;



- The intersection of Avon Road with Arilla Road (to the south of the subject site) would continue to operate at a *Level of Service of "A"* Good operation under the project additional traffic flows, with no appreciable change in average vehicle delays; and
- All proposed vehicle access driveways would operate at a Level of Service of "A" Good operation.

Based on the traffic impact findings above, the Varga 2012 report concluded the following:

In summary, of the results of the capacity analysis indicate that the proposed residential development will not have any unacceptable traffic implications in terms of the road network capacity, and that there will not be any road improvements or intersection upgrade required to accommodate the projected additional traffic flows.

On the basis that the traffic impact analysis and findings presented in the Varga 2012 report were generally accepted – and have not been questioned during the experts' discussions – the 2012 analysis forms a baseline against which the current proposal has been assessed. This is presented in the following sections.

6.2 Project Traffic Generation

Latest RMS guidance recommends that trip generation analysis for detached dwellings (in Sydney) adopt a morning peak hour trip rate of 0.95 trips per dwelling and an evening peak hour trip rate of 0.99 trips per dwelling. Adoption of these rates indicate that the four detached dwellings – with access to Beechworth Road – would generate about four trips during the morning and evening peak hours.

With regard to the 198 apartment development, adoption of the peak hour trip rate of 0.4 trips per unit – adopted by the 2012 Varga study – indicates that this component of the Revised Concept Plan Proposal would generate 79 trips via Avon Road during the morning and evening peak hours.

In summary, the Revised Concept Plan Proposal is projected to generate a total of 83 peak hour trips, 4 via Beechworth Road and 79 via Avon Road.



6.3 Traffic Impact Assessment

The analysis above demonstrates that the latest development scheme is anticipated to generate 26 fewer peak hour trips – during both the morning and evening peak hours – compared with the original Part 3A Concept Plan proposal assessed by the Varga 2012 report. Having consideration for the separate accesses, the current scheme is anticipated to generate 5 fewer peak hour trips to/from Avon Road and 21 fewer trips to/from Beechworth Road.

Accordingly, the network performance findings of the Varga 2012 report are – as a minimum – representative of the likely traffic impacts of the current scheme. Therefore, it is still concluded that the Revised Concept Plan Proposal will not have any unacceptable traffic implications in terms of the road network capacity, and that there will not be any road improvements or intersection upgrade required to accommodate the projected additional traffic flows.



7. Access & Internal Design Aspects

7.1 Detached Dwellings

The four detached dwellings will be provided with domestic driveway accesses to Beechworth Road. As is permissible under AS2890.1 (2004) *Part 1: Off-street car parking* for a domestic property – defined as three or fewer domestic units – the three dwellings (referred to as House 1, House 2 and House 3 on the attached plans) will have a 'shared' domestic driveway. House 4 will have its own separate domestic driveway access to Beechworth Road. All accesses have been designed in accordance with the requirements of AS2890.1, noting that garbage collection will occur from onstreet on Beechworth Road.

The following sections refer to the access and internal design aspects of the apartment building development that would be accessed via Avon Road.

7.2 Vehicular Access

The access to Avon Road (a local road) serves 257 parking spaces and therefore requires a Category 2 driveway under AS2890.1, being a combined entry-exit driveway of 6.0-9.0 metres width. In response, the development proposes a 10.7 metre wide access driveway which exceeds the requirements of AS2890.1. Furthermore, the additional width assists with accommodating Council's garbage truck which would also use the driveway to access the loading bay at Basement 1 Level.

Access and egress swept path simulations have been undertaken for key manoeuvres on the access driveway. These are presented on plans attached at **Appendix B** and – importantly – demonstrate that the access driveway is of sufficient width to permit a left-turn exiting car to perform the manoeuvre without crossing the centreline into oncoming traffic.

It is noted that the driveway width is generous and – to the extent Council or the PAC consider it of merit – the driveway width could be reduced to 9 metres or less and still comply with AS2890.1, permit left-turn movements that do not cross the centreline and provide acceptable access for Council's garbage truck.



7.3 Internal Design

7.3.1 Design Standards

The internal car park design complies with the requirements of AS2890.1 (2004) *Part 1: Off-street car parking*, AS2890.2 (2004) *Part 2: Off-street commercial vehicle facilities* and AS2890.6 (2009) *Part 6: Off-street parking for people with disabilities*, with the following characteristics considered noteworthy:

7.3.2 Parking Modules

- Car parking spaces for residents and visitors have been designed to User Class 1A standards with parking bays 2.4 metres in width, 5.4 metres in length and provide a minimum of 5.8 metre aisle width;
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm;
- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1;
- All disabled and adaptable parking spaces on site would be designed in accordance with the requirements AS2890.6. Disabled and adaptable spaces will be provided with a minimum width of 2.4 metres with a minimum shared space width of 2.4 metres;

7.3.3 Ramps

- The initial ramp from Avon Road to Basement 1 Level has been designed in accordance with AS2890.2 for a 6.4 metre SRV with a maximum gradient of 15.4% (1 in 6.5) with 4.0m transitions of 8.3% (1 in 12);
- The remaining ramps associated with the residential basement car park have a maximum gradient of 25% (1 in 4) with 2.0m transitions of 12.5% (1 in 8). These provisions satisfy the requirements of AS 2890.1;

7.3.4 Clear Head heights

A minimum clear head height of 2.2m is provided for all areas within the basement car park as required by AS2890.1. A clear head height of 2.5m is provided above all disabled spaces as



required by AS2890.6 and a clear head height of 2.6m is provided above the loading bay as required by Council's DCP;

7.3.5 Service Area Design

- The garbage truck nominated by Council's experts and which is referred to in Council's Waste Management Info Pack (August 2010) is 6.30 metres in length, 2.04 metres in width, has an overall height of 2.25 metres and a turning circle of 13.8 metres. It is noteworthy that these dimensions indicate that Council's truck is smaller and more manoeuvrable than a standard 6.4 metre Small Rigid Vehicle (SRV) truck. Accordingly and as agreed with Council's experts a 6.4m SRV has been adopted as the design service vehicle;
- The internal design of the service area has been undertaken in accordance with the requirements of AS2890.2 for the maximum length vehicle permissible on-site being a 6.4m SRV;
- As required by Council's DCP, a minimum clear head height of 2.6m is provided above the loading bay at Basement 1 Level and above the ramp and manoeuvring areas used to access the loading bay. A vertical profile plan demonstrating compliance with the 2.6m head height clearance requirement is attached at Appendix B;
- Swept path analysis has been undertaken as is permissible under AS2890.2 and confirms the internal design of the loading bay. The swept path assessment is included in Appendix D;

7.3.6 Security Access & Intercom

- An intercom is provided, as required by Council's DCP for residential developments that provide visitor parking beyond a security gate/roller shutter;
- The cross-sectional width of the access at the intercom is 7.6m in width, providing a 600mm wide median island for the intercom and two 3.5m wide entry and exit lanes as required by AS2890.2 for access by a 6.4m SRV;
- Queueing analysis of the proposed roller shutter door indicates that the 98th-percentile queue would be up to 2 vehicles in length. Accordingly, a minimum of 12 metres (2 car lengths) is provided between the property boundary and the roller shutter;



Swept path analysis has been undertaken as is permissible under AS2890.2 and confirms the design of the access in proximity of the intercom. The swept path assessment is included in Appendix D;

7.3.7 Other Considerations

- All columns are required to be located outside of the parking space design envelope shown in Figure 5.2 of AS 2890.1;
- Appropriate visual splays are to be provided in accordance with the requirements of Figure 3.3 of AS2890.1 at all accesses;
- A swept path analysis of all critical movements has been undertaken to confirm geometry and compliance with the relevant standards. The swept path assessment is included in Appendix B.

In summary, the internal configuration of the basement car park has been designed in accordance with AS2890.1, AS2890.2 and AS2890.6 and any design requirements of Council's DCP. It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.



8. Conclusions

In summary:

- The Revised Concept Plan proposes a residential development consisting of four (4) detached dwellings and 198 units at 1, 1A, 3, 5 Avon Road and 4, 8 Beechworth Road, Pymble. The development is located within the Ku-ring-gai LGA and has been assessed under that Council's controls;
- The site is conveniently located with respect to the arterial and local road systems serving the region and therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts;
- The site is well located to take advantage of the numerous public transport services that serve the surrounding area, due largely to the proximity of the Pymble train station. It is therefore ideally located to encourage future tenants / visitors of the residential development to use alternative transport means to access the site;
- The proposed development has been designed to accommodate Council's DCP requirements for off-street parking and loading provisions, ensuring that all reasonably anticipated parking demands are accommodated on-site and therefore not impact upon the availability of on-street parking in the area;
- Bicycle parking, adaptable parking and accessible parking have all been provided in accordance with Council's DCP:
- Traffic impact analysis demonstrates that the latest development scheme is anticipated to generate 26 fewer peak hour trips compared with the original concept plan proposal assessed by the Varga 2012 report. Accordingly, the network performance findings of the Varga 2012 report are representative of the likely traffic impacts of the current scheme, and it is still concluded that the proposed residential development will not have any unacceptable traffic implications in terms of the road network capacity, and that there will not be any road improvements or intersection upgrade required to accommodate the projected additional traffic flows;
- The proposed access, internal design principles, car parking and servicing have all been designed in accordance with Australian Standards and Council's DCP and are considered acceptable and will operate safely and efficiently; and

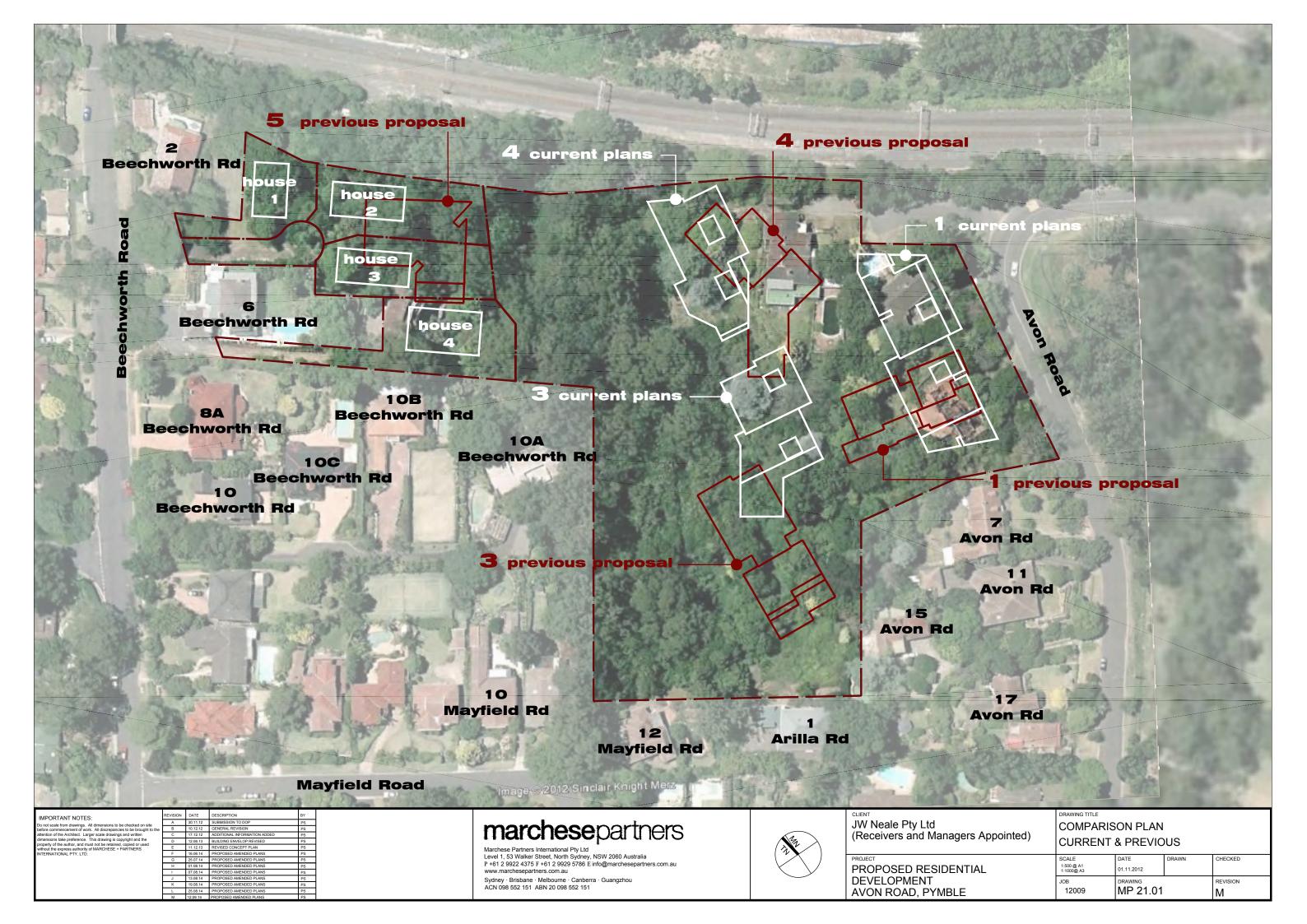


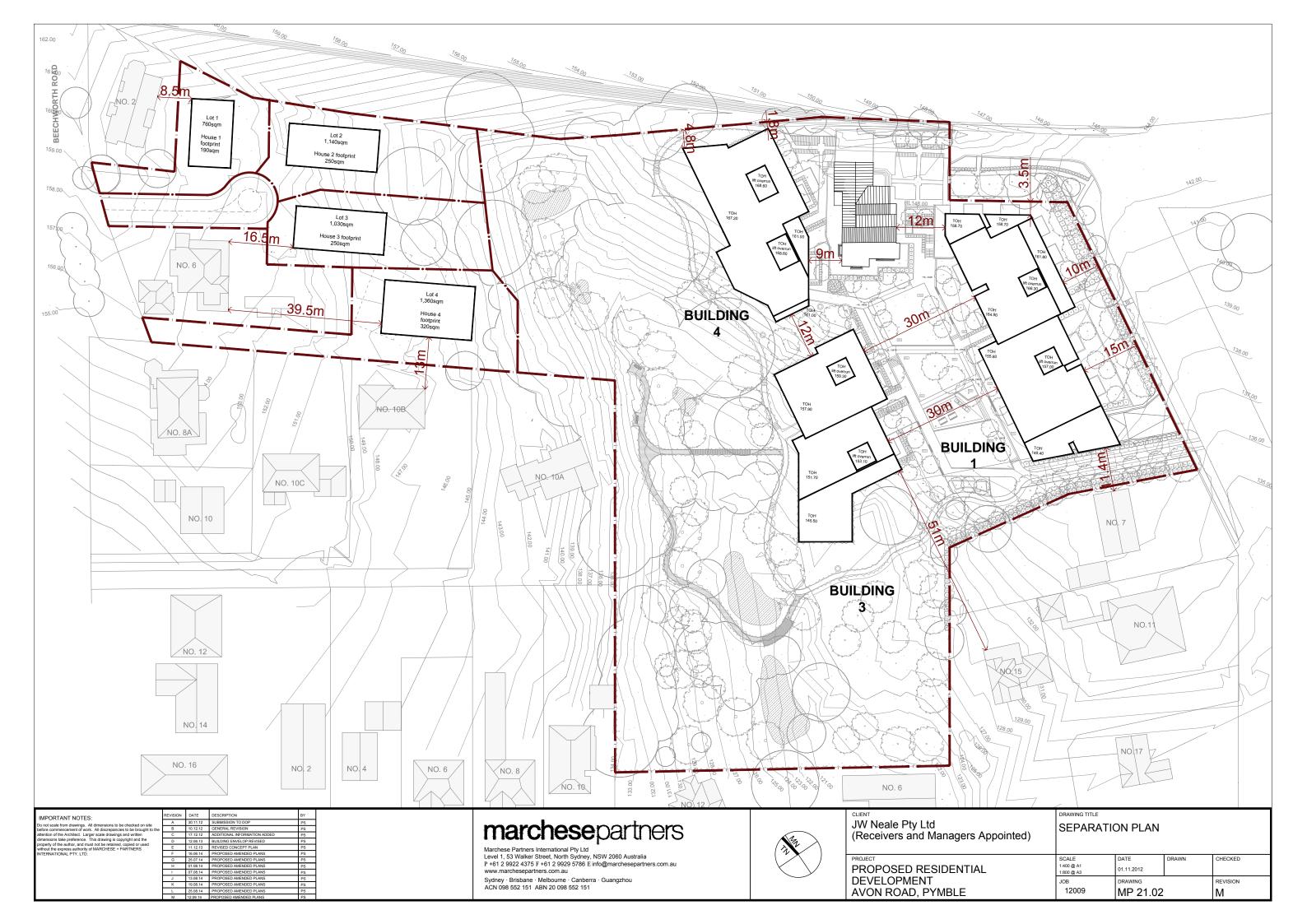
The Revised Concept Plan Proposal is the result of an extensive, detailed and collaborative process that has been heavily influenced and guided by Council and PAC and responds to all the comments raised by the traffic parties' experts during previous discussions / consultation.

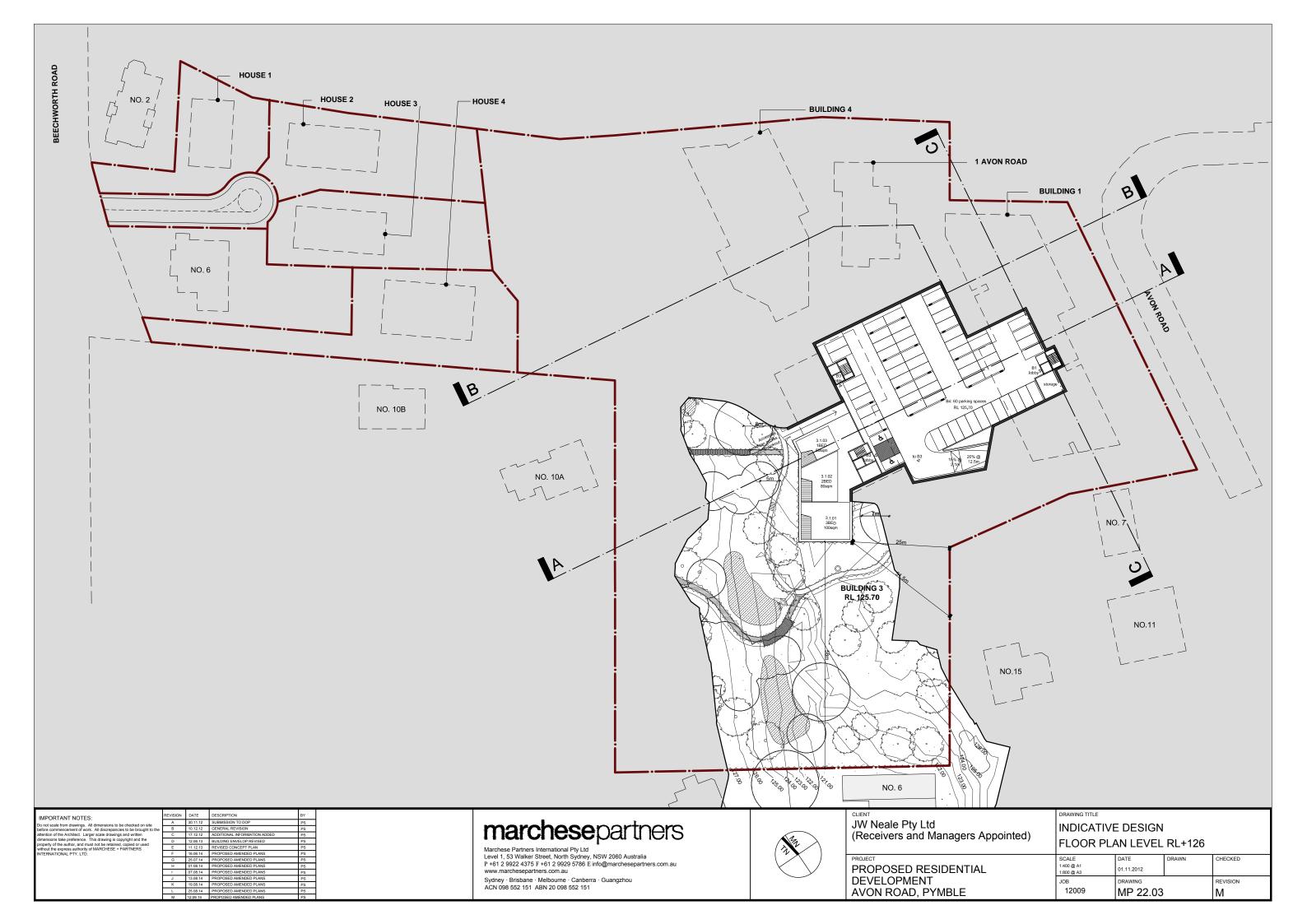
It is therefore concluded that the proposed residential development at 1, 1A, 3, 5 Avon Road and 4, 8 Beechworth Road is supportable on traffic planning grounds and would operate satisfactorily.

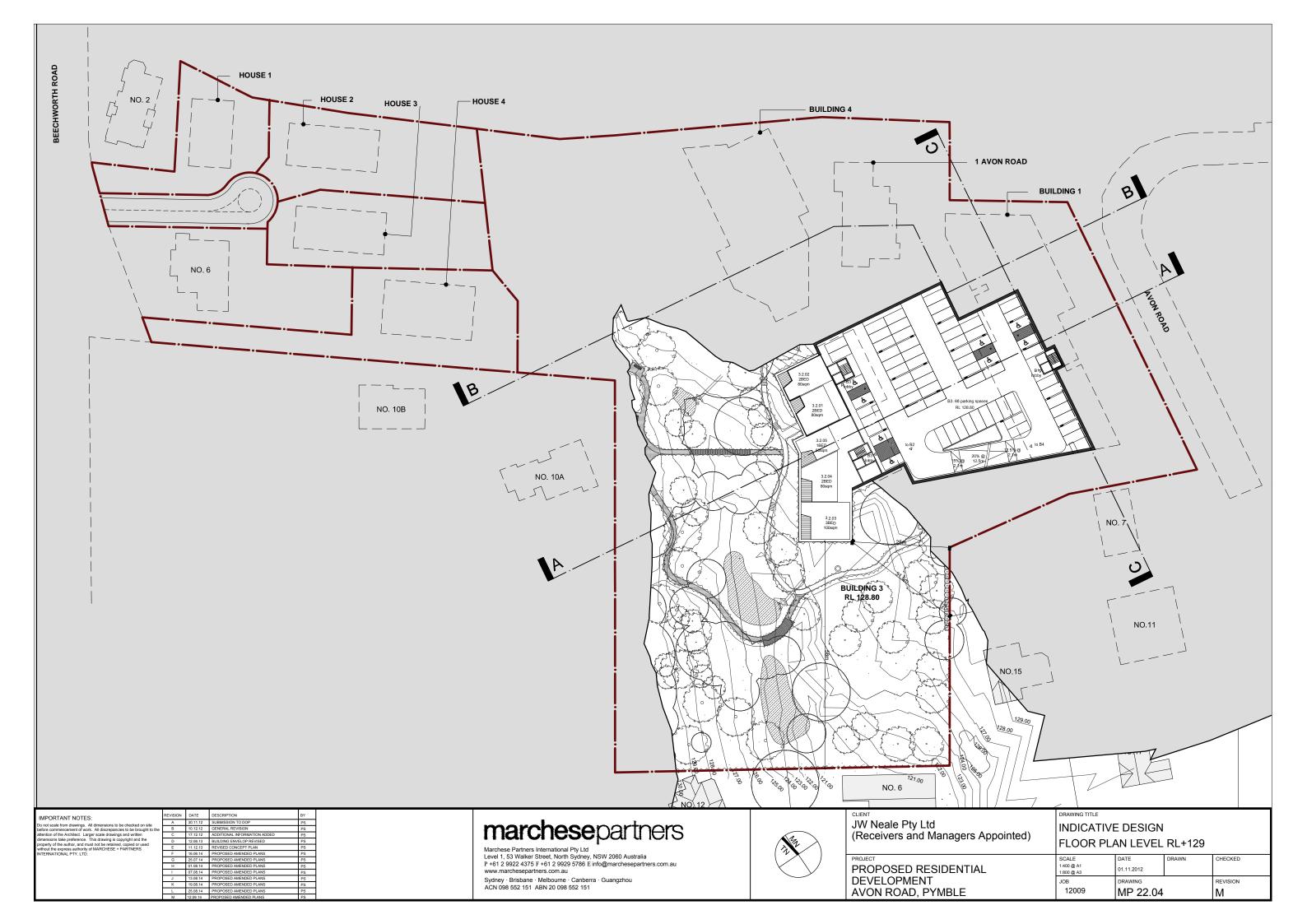
Ar	ope	ndi	X	Α
, ,l		IIGI		<i>,</i> ,

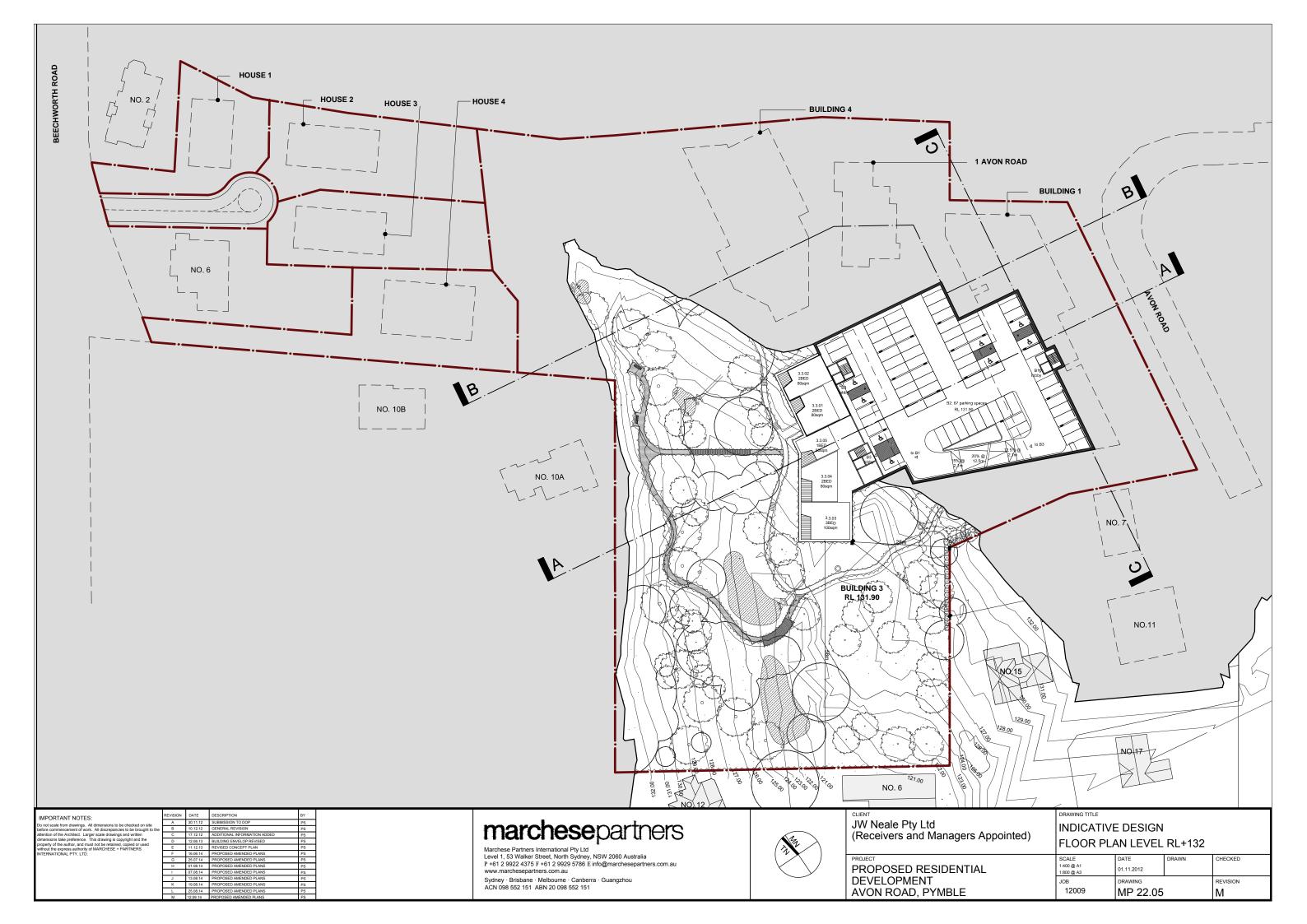
Reduced Plans

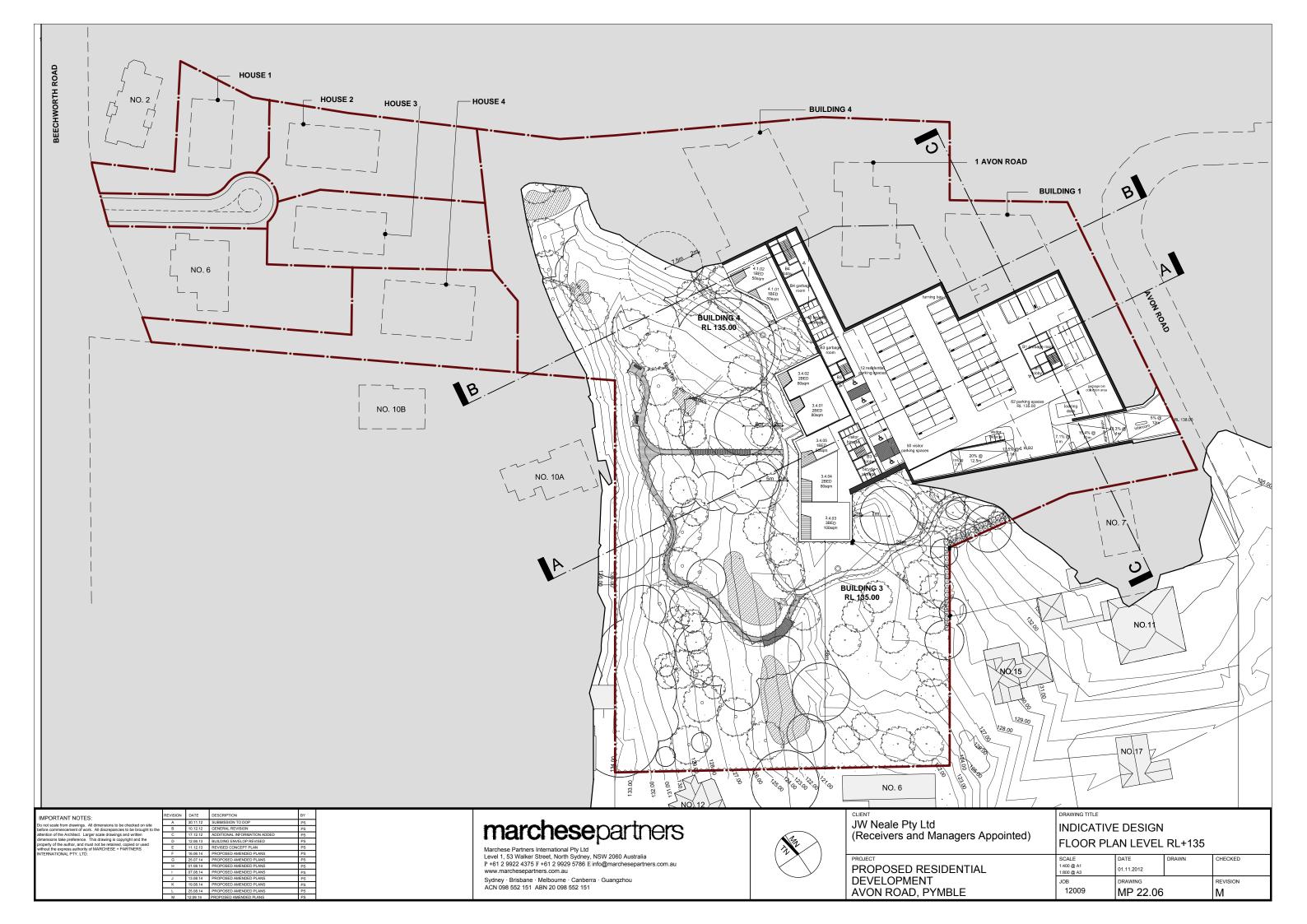


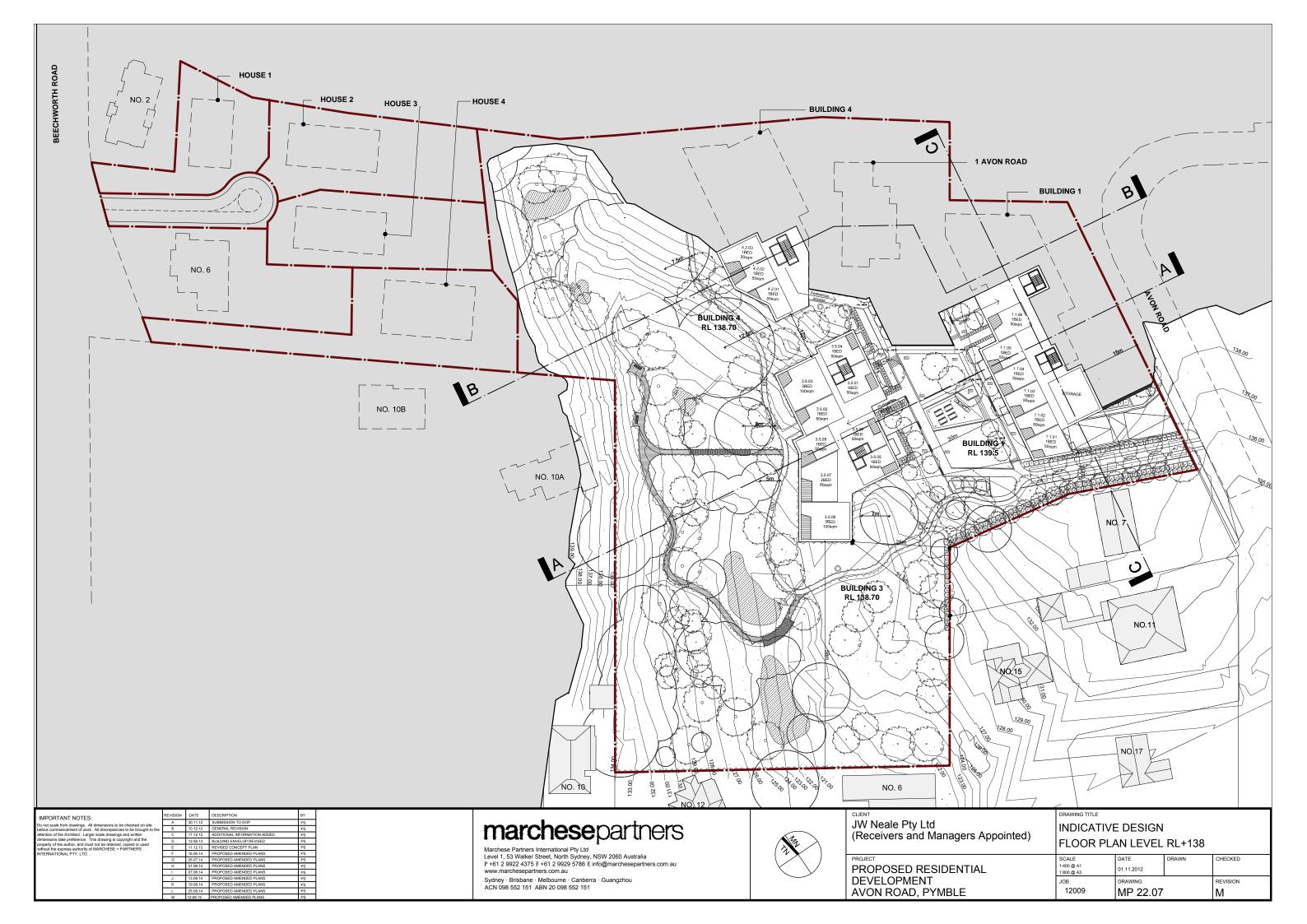


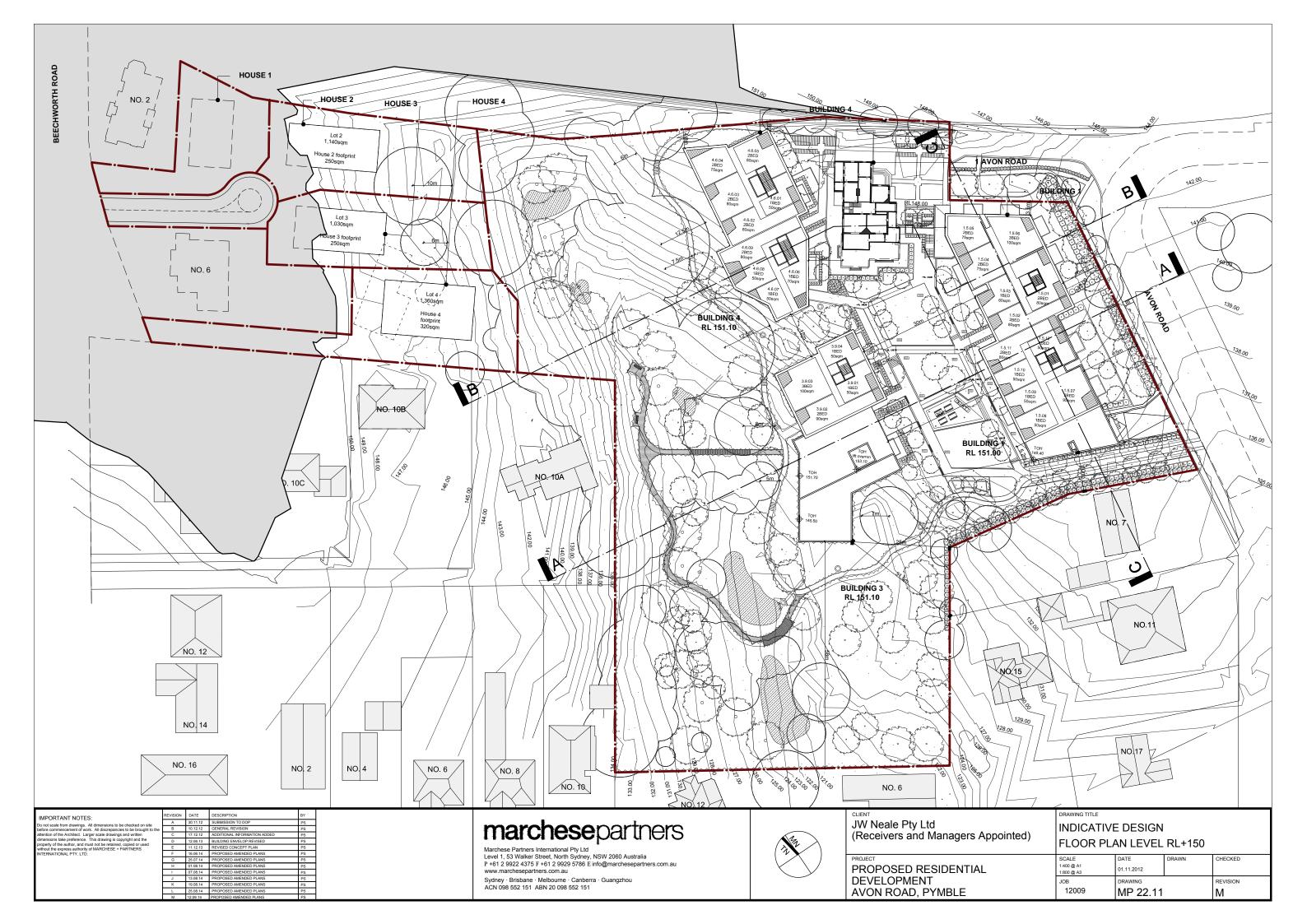


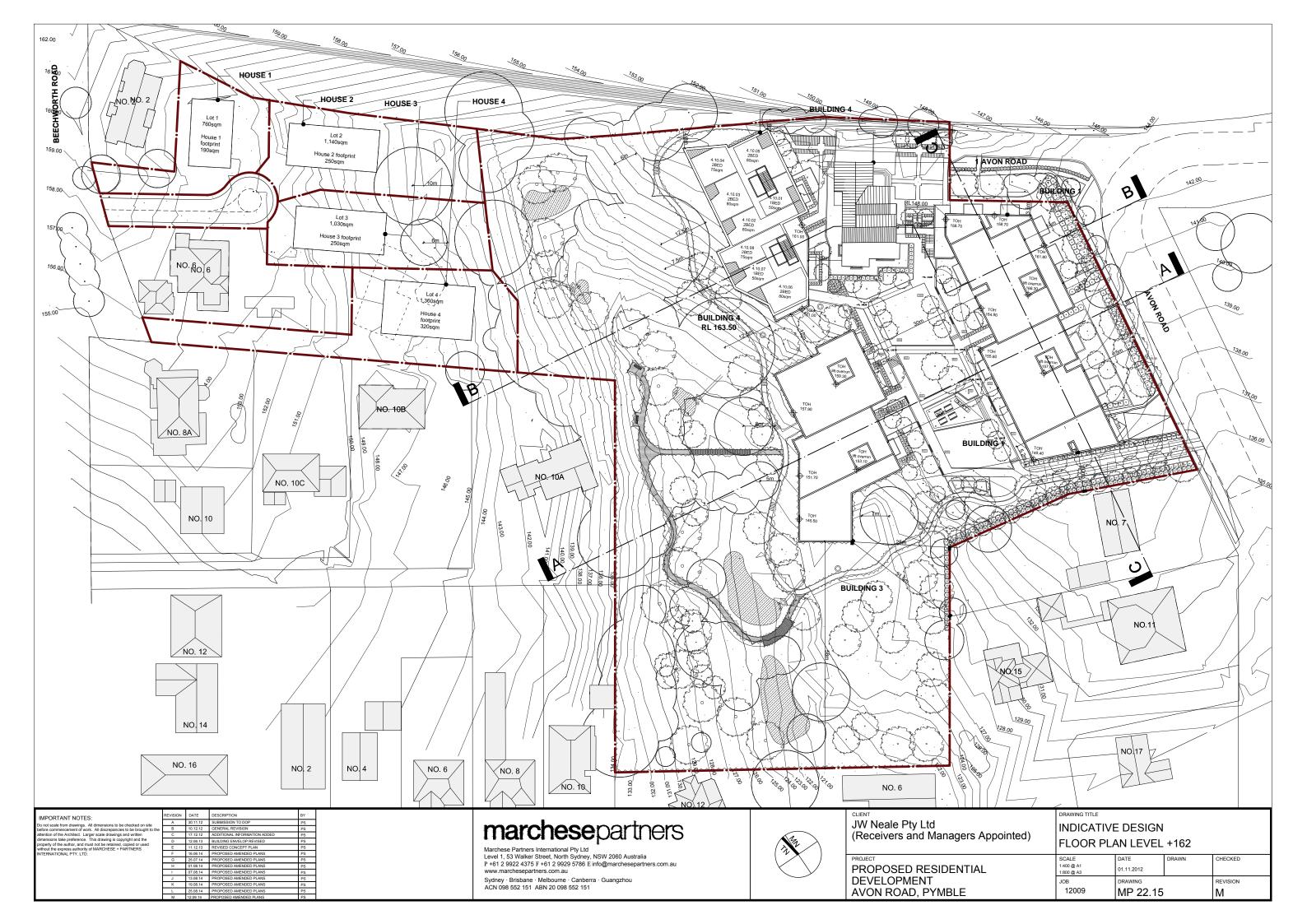


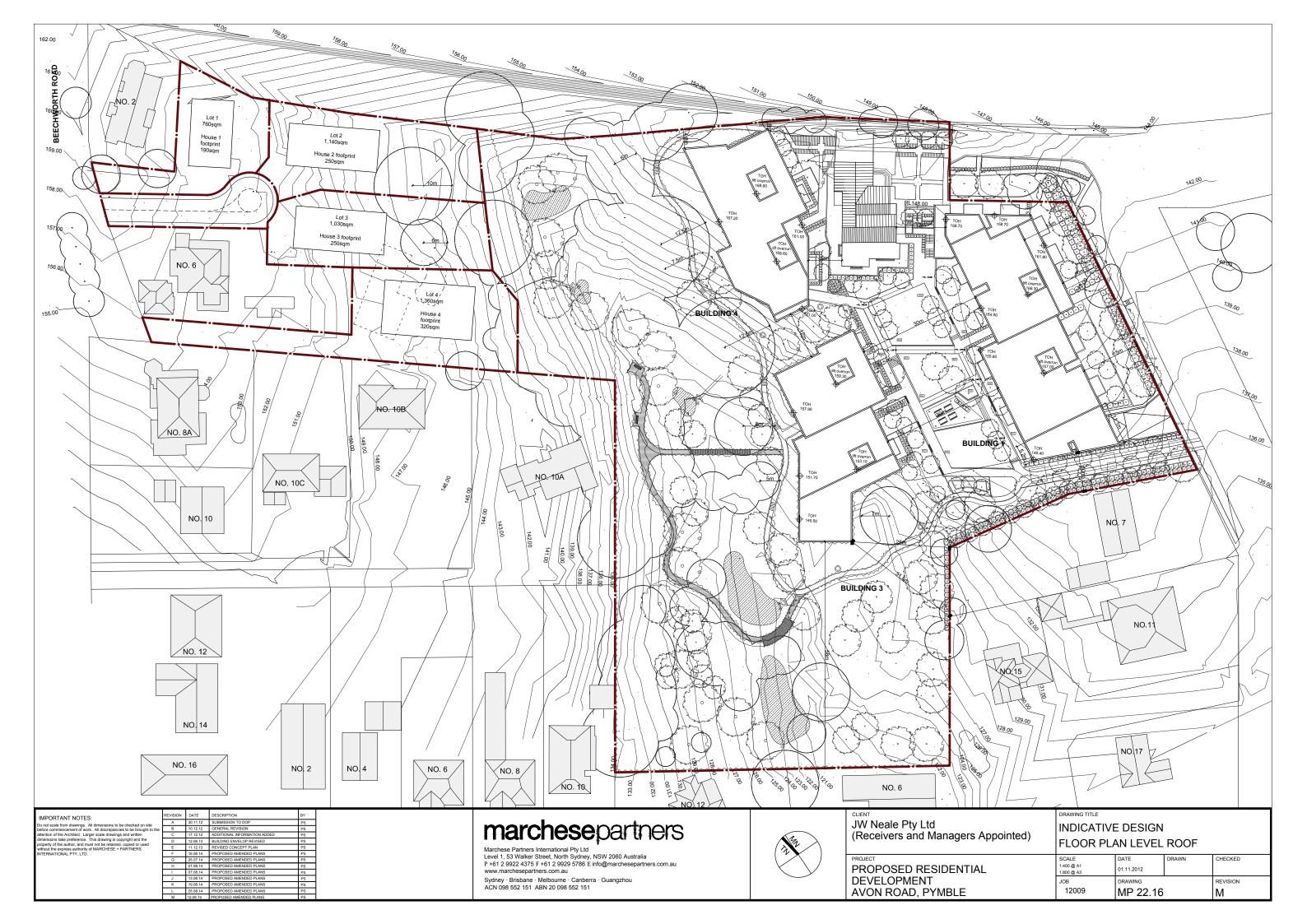


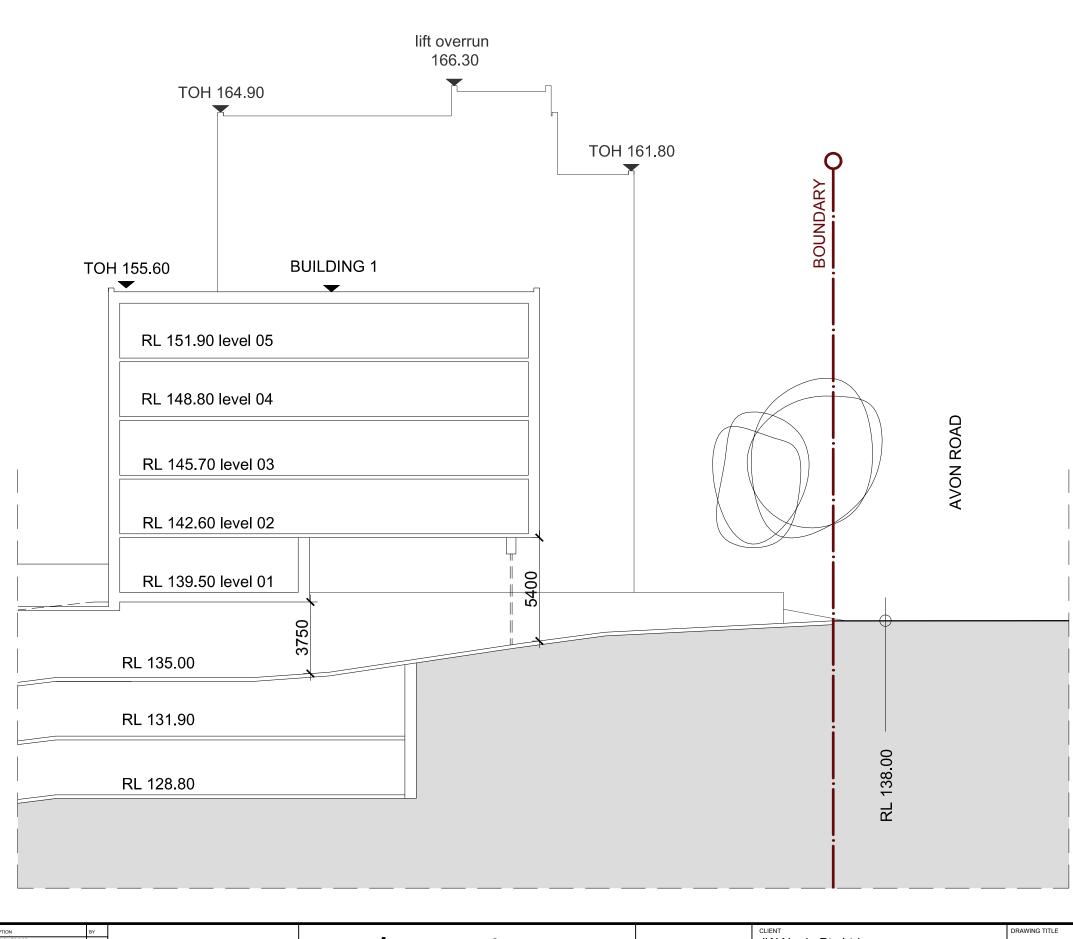












MPORTANT NOTES:	REVISION	DATE	DESCRIPTION	BY			CLIENT	DRAWING TITLE			
A 30 11 12 SUBMISSION TO DOP PS	marchaan	me a way a contractor	JW Neale Ptv Ltd	INDICATIVE DESIGN							
efore commencement of work. All discrepancies to be brought to the ttention of the Architect. Larger scale drawings and written	В	10.12.12	GENERAL REVISION ADDITIONAL INFORMATION ADDED	PS	marchecen	marchese partners		INDICATIVE DESIGN			
Tentrol or the Architect Larger scale crawings and written C	D	12.06.13		PS PS			(Receivers and Managers Appointed)	CECTION DDIVENAY			
	E	11.12.13	REVISED CONCEPT PLAN	PS	Marchese Partners International Ptv Ltd			SECTION DRIVEWAY			
	F	16.06.14	PROPOSED AMENDED PLANS	PS	Level 1, 53 Walker Street, North Sydney, NSW 20	60 Australia					
	PROPOSED AMENDED PLANS	PS			PROJECT	SCALE	DATE	DRAWN	CHECKED		
	P +61 2 9922 4375 F +61 2 9929 5786 E info@ma	rcnesepartners.com.au	PROPOSED RESIDENTIAL	1:100 @ A1	01.11.2012						
	- 1			PS	www.marchesepartners.com.au		DEVELOPMENT AVON ROAD, PYMBLE	1:200 @ A3	01.11.2012		
				PS	Sydney · Brisbane · Melbourne · Canberra · Guar	gzhou		JOB	DRAWING		REVISION
	K			PS	ACN 098 552 151 ABN 20 098 552 151						1421101011
	L	25.08.14	PROPOSED AMENDED PLANS	PS	76.7 353 352 161 7.8.7 23 352 352 161			12009	MP 23.04		M
	M	12.09.14	PROPOSED AMENDED PLANS	PS			7.0 0111107.15,1 1111.152.2		0.0 .		141

Appendix B

Swept Path Analysis

