

27-57 Falcon Street, Crows Nest

Planning Proposal for Mixed Use Development

Assessment of Traffic and Parking Implications

Ref: 19056
Date: March 2020
Issue: F

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1.0 Introduction

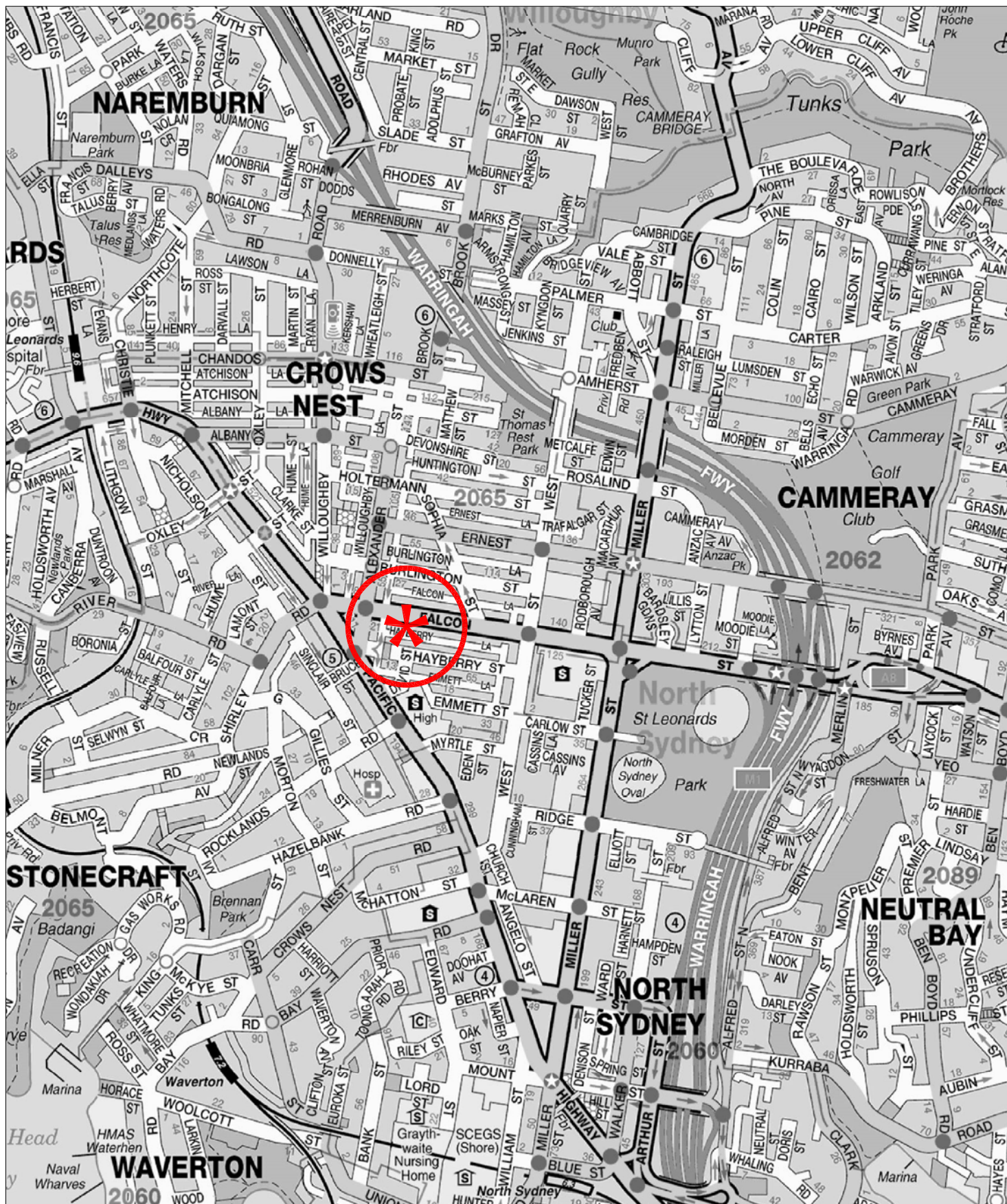
This report has been prepared to accompany a Planning Proposal to North Sydney Council for rezoning to permit an envisaged mixed used development on the large consolidated site of 27-57 Falcon Street, Crows Nest (Figure 1).

The popular Lower North Shore area is continuing to experience urban consolidation and this process has been heightened as a result of the new Metro Rail Service which will provide improved public transport accessibility. Due to its convenient location in the Crows Nest Centre close to the proposed new railway station, the site presents as an ideal opportunity to develop a contemporary residential apartment based mixed use complex.

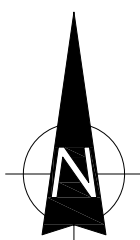
The envisaged development scheme comprises some 85 residential apartments with a ground floor retail tenancy and basement parking.

The purpose of this report is to:

- ❖ describe the site and the envisaged development
- ❖ describe the road network servicing the site and conditions on that network
- ❖ assess the potential traffic implications with comparison to that of development under the current planning provisions
- ❖ assess the adequacy of the envisaged on-site parking provision
- ❖ assess the envisaged vehicle access, internal circulation and servicing arrangements



LEGEND



LOCATION

FIG 1

2.0 Envisaged Development Scheme

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is a consolidation of 7 lots occupying a rectangular shaped total area of some 4,342m². The site, with frontages to Falcon Street, Alexander Lane and Hayberry Lane, is located just to the west of Pacific Highway and to the south of the proposed new Metro Station while the small Crows Nest Centre extends to the north along Willoughby Road and Pacific Highway.

The surrounding uses comprise:

- ❖ the adjoining residential dwellings on the Falcon Street and Hayberry Lane frontages
- ❖ the residential dwellings along Hayberry Street with garages/vehicle access on Hayberry Lane
- ❖ the commercial uses including a Woolworths Supermarket extending along Falcon Street to the west
- ❖ the commercial/retail uses extending along Alexander Street, Willoughby Road and Pacific Highway

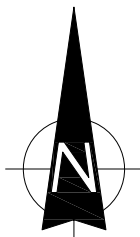
The western part of the site is cleared and vacant while there are a number of older style commercial buildings on the eastern part.

2.2 Envisaged Development

The existing buildings would be demolished and the site excavated for basement carparking. The envisaged new building complex comprises 4 buildings of 3 to 6 levels incorporating:



LEGEND

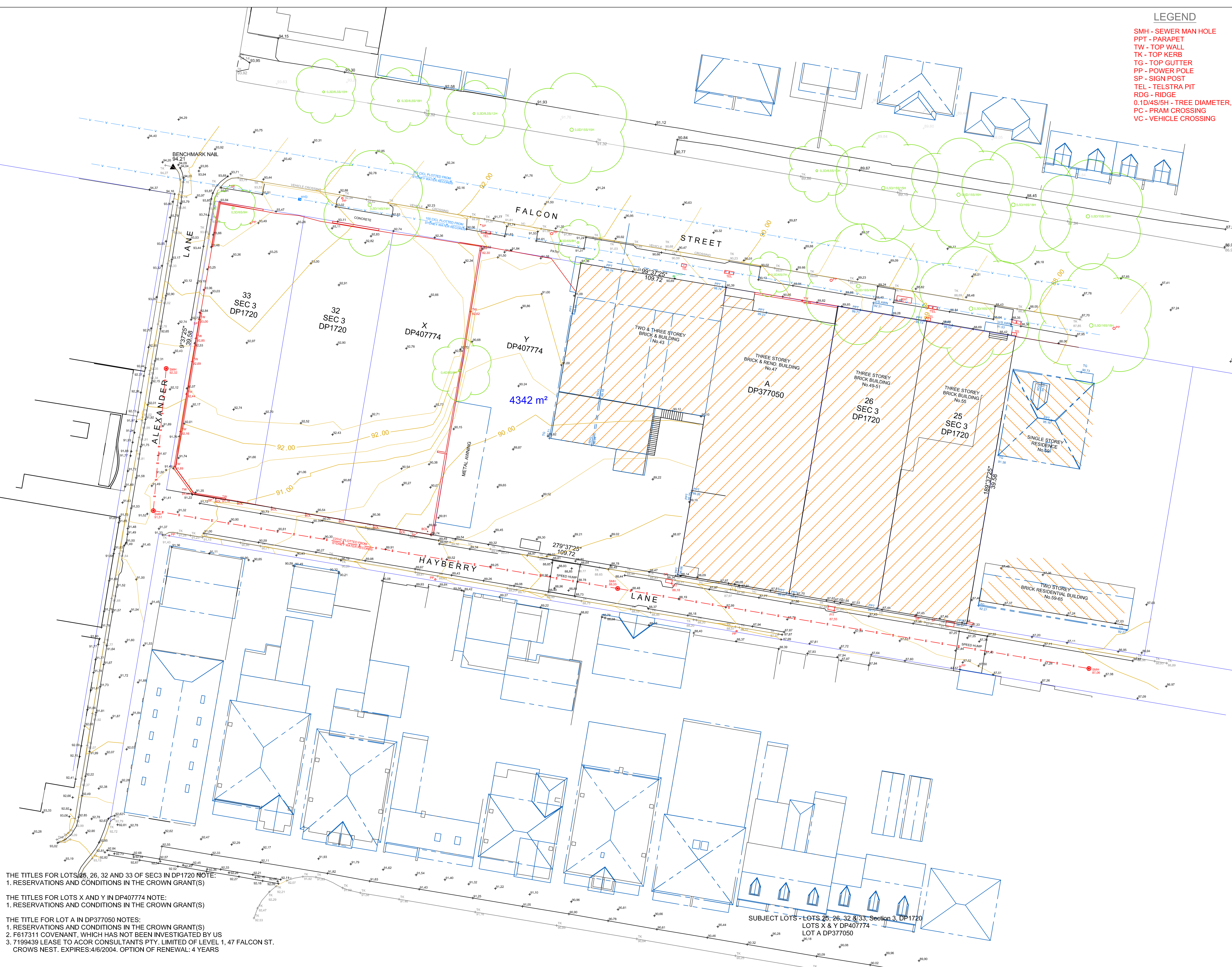
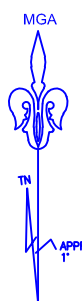


SITE

FIG 2

LEGEND

SMH - SEWER MAN HOLE
PPT - PARAPET
TW - TOP WALL
TK - TOP KERB
TG - TOP GUTTER
PP - POWER POLE
SP - SIGN POST
TEL - TELSTRA PIT
RDG - RIDGE
0.1D/4S/5H - TREE DIAMETER, SPREAD, HEIGHT
PC - PRAM CROSSING
VC - VEHICLE CROSSING



THE TITLES FOR LOTS 25, 26, 32 AND 33 OF SEC3 IN DP1720 NOTE:
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

THE TITLES FOR LOTS X AND Y IN DP407774 NOTE:
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

THE TITLE FOR LOT A IN DP377050 NOTES:
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. F617311 COVENANT, WHICH HAS NOT BEEN INVESTIGATED BY US
3. 7199439 LEASE TO ACOR CONSULTANTS PTY. LIMITED OF LEVEL 1, 47 FALCON ST. CROWS NEST. EXPIRES:4/6/2004. OPTION OF RENEWAL: 4 YEARS

A1

NOTES :

- * BOUNDARIES HAVE NOT BEEN DEFINED BY SURVEY AND ARE DIAGRAMMATIC ONLY.
- * LAND DIMENSIONS AND AREAS HAVE BEEN COMPILED FROM PLANS OBTAINED FROM LPMA.
- * BEARINGS RELATE TO MGA NORTH ORIGINATING FROM DP1052258.
- * LEVEL DATUM IS AHD ORIGINATING FROM BENCHMARK PLACED BY LOCKLEY LTS RL 94.21 LOCATED AT FALCON STREET.
- * VISIBLE, ACCESSIBLE SERVICES ONLY HAVE BEEN LOCATED. THIS PLAN DOES NOT PURPORT TO SHOW UNDERGROUND SERVICES.
- * THE EXISTENCE OF UNDERGROUND SERVICES HAS NOT BEEN ESTABLISHED.
- * EXISTENCE OF SERVICES MUST BE VERIFIED BY CONTACTING DIAL BEFORE YOU DIG (DBYD) 1100.COM.AU
- * CRITICAL SERVICES MUST BE EXPOSED AND LOCATED
- * NEIGHBOURING HOUSES, WINDOWS AND ROOF POSITIONS ARE APPROXIMATE ONLY.
- * FLOOR LEVELS GENERALLY SURVEYED AT DOOR THRESHOLDS. INTERNAL ROOMS NOT SURVEYED.
- * CONTOURS SHOWN ARE INDICATIVE OF LAND FORM. SPOT LEVELS SHOULD TAKE PRECEDENCE.
- * REFER TO FACE OF PLAN FOR SUBJECT TITLE NOTATIONS.
- * THIS TITLEBLOCK IS AN INTEGRAL PART OF THIS DRAWING AND SHOULD NOT BE REMOVED.



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Legislation



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C	North Falcon Street Added	29/03/19
REV	AMENDMENTS	DATE

CLIENT: TOGA CONSTRUCTIONS
PLAN OF: 27-57 FALCON STREET
CROWS NEST
BEING: SEE NOTE
SHOWING: GENERAL DETAIL AND
SITE LEVELS
PURPOSE: ARCHITECTURAL DESIGN
COUNCIL SUBMISSION
SHEET 2 OF 2

SCALE 1:250	
0	5 10 15 20
SURVEYOR :	SCOTT D
DATUM :	AUSTRALIAN HEIGHT DATUM
ORIGIN :	SEE NOTE
JOB REF. :	B03802
DRAWING NO. :	B03802-2
CHECKED :	NATHAN M
DATE OF SURVEY :	27 APRIL 2017
REDUCTION RATIO :	1:250

BELLA VISTA
PO Box 7419
BAULKHAM HILLS NSW 2153
SUITE 405, LEVEL 4
14 LEXINGTON DRIVE
BELLA VISTA NSW 2153
PHONE : 9056 1900
email: office@projectsurveyors.com.au
www.projectsurveyors.com.au
ABN 20 068 433 974



Professional Innovative... Results.

Residential

12 x Studio apartments
15 x One Bed apartments
47 x Two Bed apartments
11 x Three Bed apartments
Total 85 apartments

Retail 300m²

Basement carparking (90 spaces) and a lower ground floor loading dock will be accessed on Alexander Lane which would be widened in conjunction with the development scheme to provide two-way traffic movement and for trucks to turn from Falcon Street. It is envisaged (subject to Council approval) that the section of Hayberry at the site frontage would be upgraded to provide a shared pedestrian environment.

Concept details are provided on the plans prepared by AJ+C Architects which accompany the Planning Proposal and are reproduced in part in Appendix A.

3.0 Road Network and Traffic Conditions

3.1 Road Network

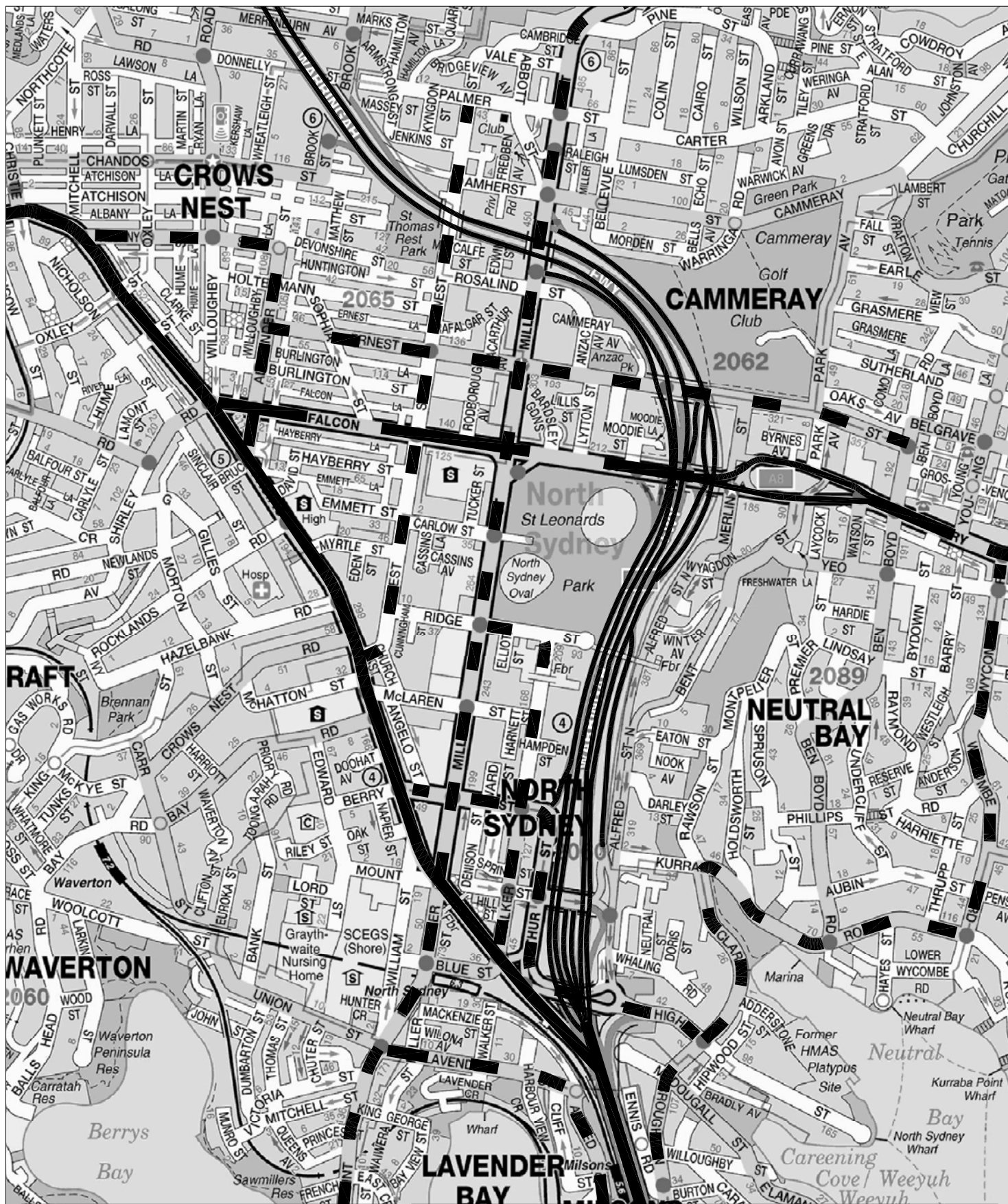
The existing road network serving the site (Figure 3) comprises:

- ❖ *Gore Hill / Warringah Freeway* – a State Road and arterial route connecting between the Sydney Harbour Crossing and the M2/M7
- ❖ *Pacific Highway* – a State Highway and arterial route linking between Sydney and Hornsby
- ❖ *Falcon Street* – a State Road and sub-arterial route being part of an east-west link between Manly, Mosman and Neutral Bay and the Pacific Highway at Crows Nest.
- ❖ *Alexander Street and Willoughby Road* – north-south collector roads connecting to Falcon Street
- ❖ *Hayberry Street* – a local access road
- ❖ *Alexander Lane and Hayberry Lane* – minor service laneways

3.2 Traffic Controls

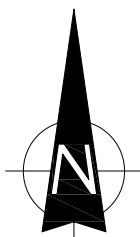
The existing traffic controls in the vicinity of the site (Figure 4) comprise:

- ❖ the traffic signal-controlled intersections along the Pacific Highway including the Falcon Street, Alexander Street and Rocklands Road intersections
- ❖ the traffic signals at the Falcon Street and Alexander Street intersection
- ❖ the numerous NO RIGHT TURN restrictions
- ❖ the one-way north restriction on Alexander Lane south of Falcon Street and one-way south north of Falcon Street



LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR



ROAD NETWORK

FIG 3

- ❖ the CLEARWAY and NO STOPPING restrictions along Falcon Street at the site frontage
- ❖ the NO STOPPING/NO PARKING restrictions along Alexander Lane and Hayberry Lane

3.3 Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by the data published by the Roads and Maritime Services (RMS) which is expressed in terms of Annual Average Daily Traffic (AADT). The most recently published data is as follows:

	AADT
Falcon Street	27,417
Pacific Highway	13,911

The traffic flows along Falcon Street reduced significantly with the construction of the Warringah Freeway ON/OFF Ramps at Military Road and the current volumes in the AM and PM peak periods is some 2,000 vph (2-way). The traffic flows along Alexander Lane and Hayberry Lane are negligible while traffic conditions in the area are dominated by the arterial movements at the Pacific Highway, Falcon Street and Shirley Street intersection.

3.4 Transport Services

Access to the Metropolitan Transport Network for the site is currently provided by the bus services which run along the Pacific Highway and Falcon Street which link to the existing rail network. The future opening of the Metro Rail service with its Crows Nest Railway Station will greatly improve the accessibility of public transport services.

4.0 Parking

North Sydney DCP specifies a maximum parking provision in relation to the envisaged development scheme as follows:

Studio and One Bed apartments	0.5 space
Two and Three Bed apartments	1.0 space
Retail (GFA)	1 space per 60m ²

The TfNSW Development Guidelines in relation to residential apartments species a provision for visitors of between 1 space per 5 apartments and 1 space per 7 apartments.

Application of these criteria to the envisaged development would indicate the following maximum provision:

12 x Studio apartments	6 spaces
15 x One-bedroom apartments	7.5 spaces (8)
47 x Two-bedroom apartments	47 spaces
11 x Three-bedroom apartments	11 spaces
Total:	72 spaces
Visitors (85) @ 1 space per 5	22 spaces
Retail (300m ²)	5 spaces
Grand Total:	94 spaces

Council have indicated that they would prefer to minimise the number of parking spaces and accordingly it would be proposed to provide a total of 90 spaces as follows:

72 resident spaces
 14 visitor spaces (@ 1 per 6 apartments)
 4 retail spaces

Transport and Traffic Planning Associates

The DCP also specifies motorcycle and bicycle parking provision in relation to the envisaged development scheme as follows:

Motorcycles	1 per 10 car spaces
Resident Bicycles	1 per unit
Visitor Bicycles	1 per 10 units
Retail Tenants	1 per 125m ²
Retail Customers	2 + 1 per 100m ² over 100m ²

Accordingly, it is also proposed to make sufficient provision in the basement levels in compliance with the DCP criteria including 9 motorcycle spaces.

5.0 Traffic

The existing vehicle access provisions for the site are constrained due to:

- the narrow width of Alexander Lane and Hayberry Lane
- the ONE-WAY restrictions
- the NO RIGHT TURN restrictions (particularly the right turn from Alexander Street into Hayberry Street)
- the closure of Hayberry Street just to the east of Alexander Lane

It would be proposed to relieve this constraint and avoid undue traffic circulation and use of the narrow Hayberry Lane (i.e. to access the envisaged development) by:

- widening Alexander Lane between Falcon Street and Hayberry Lane with provision for trucks to turn left from Falcon Street
- provide 2-way traffic in Alexander Lane between Falcon Street and Hayberry Lane
- prohibit the right turn movement from Falcon Street to Alexander Lane (currently restricted by virtue of the existing one-way restriction)

An indication of the potential peak traffic generation of the envisaged development is provided by the RMS Development Guidelines which specify generation rates for high density residential development within close proximity to transport services of 0.19 vth per apartment in the AM peak and 0.15 vth in the PM peak. The traffic generation of the small retail tenancy would reflect the number of parking spaces provided for that use.

Application of these factors would indicate the following:

	AM	PM
apartments	16 vtph	13 vtph
300m ² retail (4 spaces)	4 vtph	6 vtph
Total:	20 vtph	19 vtph

The projected IN/OUT traffic distribution during the afternoon peak will be as follow:

	AM		PM	
	IN	OUT	IN	OUT
Residential	2	14	11	2
Retail	2	2	3	3
Total:	4	16	14	5

Traffic activity of this minor scale represents an average of some 1 vt every 2 to 3 minutes during peak periods and will be somewhat more than that of the existing commercial use on part of the site, however it will be distributed in a number of directions. On that basis it is apparent that the projected traffic movements will not have unacceptable traffic/safety implications on the surrounding road network.

Comparison can be made with the potential traffic generation of an alternative development scheme which complies with the current planning provision. The compliant scheme which is depicted on the plans provided in Appendix B comprises:

5,705m ²	Commercial office
25	Residential apartments

The appropriate traffic generation rate for commercial office (RMS Circular TDT2014-4a) is:

AM Peak	1.6 vtpH per 100m ²
PM Peak	1.2 vtpH per 100m ²

The resultant projected traffic generation is as follows:

		AM		PM
5,705m ²	@1.6/100	91 vtpH	@1.2/100	68 vtpH
25 apts	@0.19	5 vtpH	@0.15	4 vtpH
Total:		96 vtpH		72 vtpH

It is apparent that development under the Planning Proposal would generate significantly less traffic than a potential development which is compliant with the current planning provisions.

6.0 Access, Internal Circulation and Servicing

6.1 Access

Although the site has existing driveways on the Falcon Street frontage, TfNSW would not permit access for the envisaged development on Falcon Street due to its State Road status.

It is envisaged that the vehicle access for the carpark and delivery/service vehicles will be located on the Alexander Lane frontage as far as possible from the Falcon Street intersection. This envisaged driveway would be located on a relatively straight and level section of roadway with good sight distances and suitably separated from the Falcon Street intersection.

It would be proposed that Alexander Lane be widened by 2.5m with splayed further widening at Falcon Street to provide for the introduction of 2-way traffic and for trucks to turn left from Falcon Street (from the Kerbside lane). Concurrence has been sort from TfNSW in relation to this proposal and it is understood that TfNSW will respond directly to Council. It is also envisaged that the section of Hayberry Lane at the site frontage will be upgraded (subject to Council approval) to create a shared pedestrian environment.

6.2 Internal Circulation

The envisaged design of the access driveway and basement carpark would comply with the AS2890.1 and AS2890.6 design requirements particularly in relation to ramp width/grade, aisle widths, bay dimensions and headroom provision. Adequate provisions for internal circulation, queuing, forwards ingress/egress movements would be afforded in the basement.

6.3 Servicing

It is envisaged that refuse would be collected from the loading dock by Council's and/or a contract collection service and this dock would also be used for retail deliveries and resident needs etc. Small service vehicles (tradesmen, couriers, furniture vans etc.) would also be able to use the retail and residential visitor spaces.

Turning paths assessments for trucks accessing the basement loading dock (2 concurrently) and turning from Falcon Street into Alexander Street are provided in Appendix C.

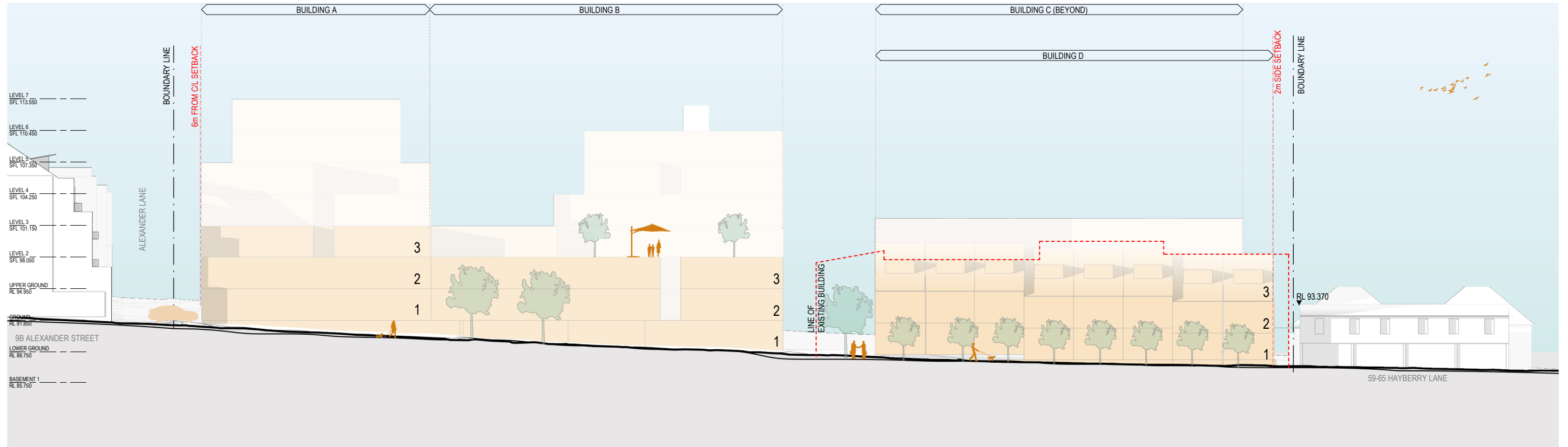
7.0 Conclusion

The envisaged residential apartment based mixed use scheme represents a suitable and appropriate development outcome for the site and this assessment has concluded that:

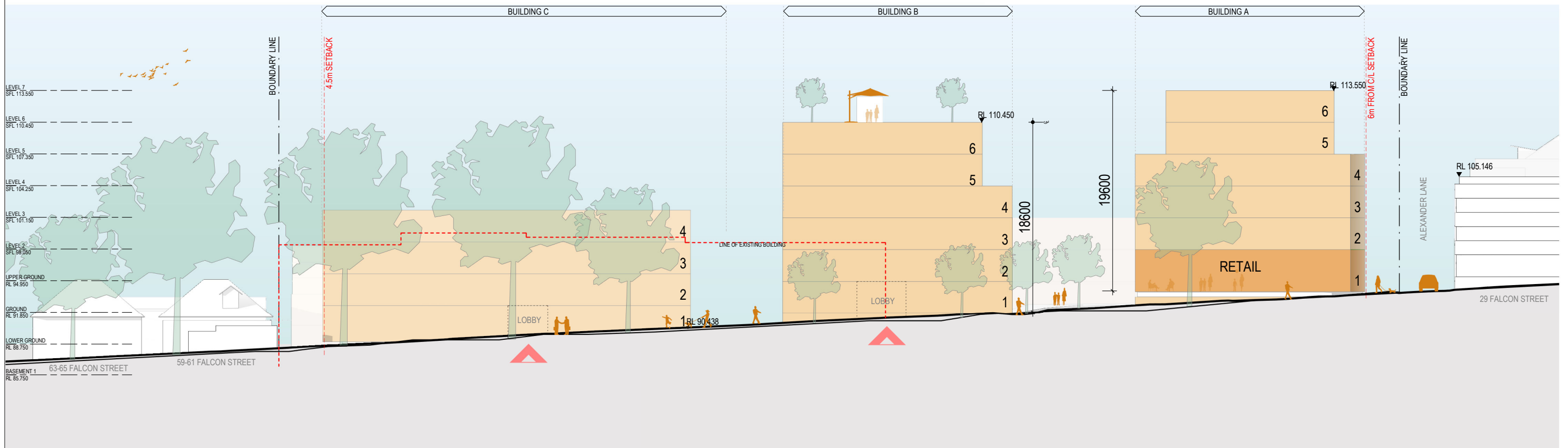
- ❖ the site will have ready access to bus/rail services and within close proximity to retail, entertainment and employment facilities
- ❖ there will not be any adverse traffic/safety implications and the traffic generation will be significantly less than that of potential development which is compliant with the current planning provisions
- ❖ an appropriate parking provision can be made which will be compatible with Council's transport strategy to minimise reliance on private car travel
- ❖ the envisaged vehicle access, internal circulation and servicing arrangements will be suitable and appropriate subject to the proposed widening of section of Alexander Lane
- ❖ a shared pedestrian environment could be created on section of Hayberry Lane

Appendix A

Concept Plans

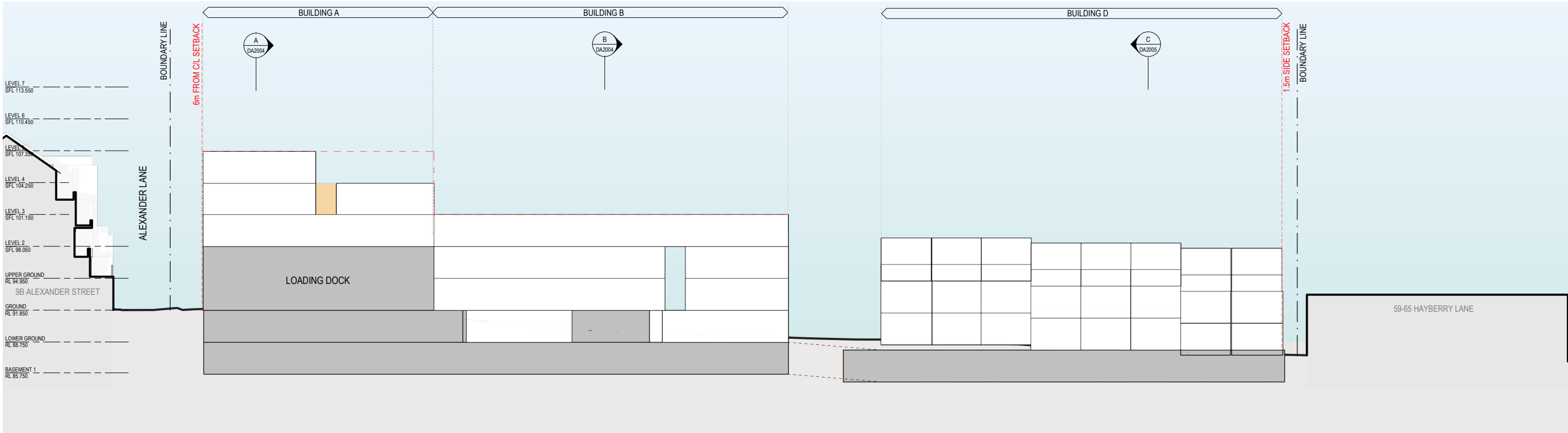


2 HAYBERRY LANE ELEVATION - PP 02

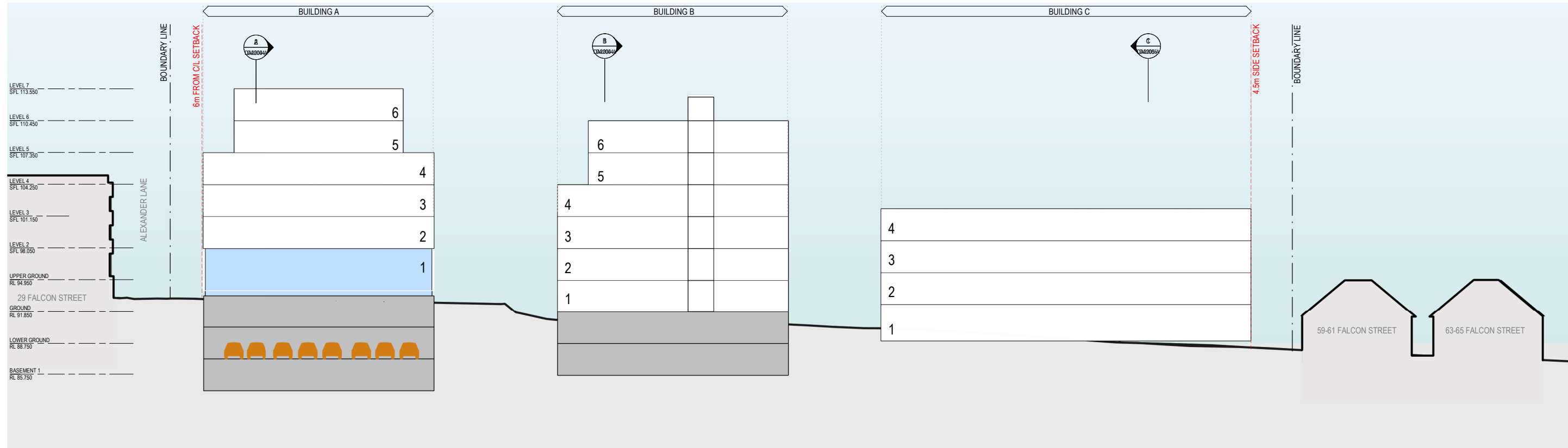


1 FALCON ST ELEVATION - PP 02

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NOT FOR CONSTRUCTION										0 2 4 8 16 m	



2 PP OP2 - LONG SECTION 2



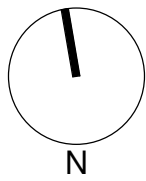
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0 2 4 8 16 m											



- KEY
- Apartment Achieving ADG 2hr Solar Access
 - Apartment Achieving ADG Cross Ventilation
 - Apartment with no ADG Direct Sunlight

Revisions
No. Date Description Verified Approved



Key

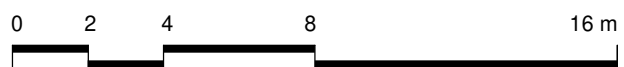
Client
Lindsay Bennelong Developments Pty Ltd

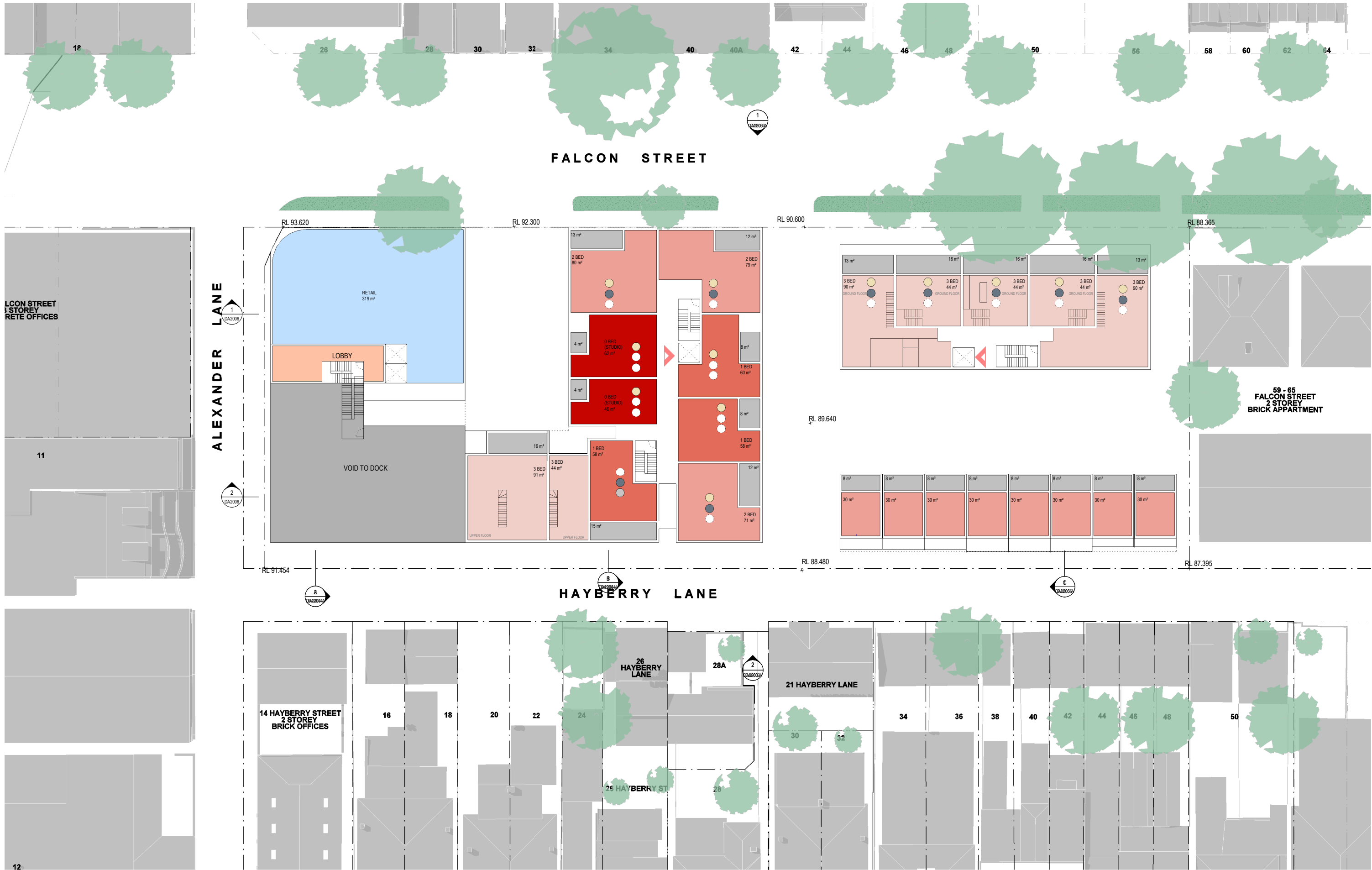
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ABN 53 003 782 250

Project
27 - 57 FALCON STREET
CROWS NEST
Proj. No. 19014

Drawing Title
**LOWER GROUND
PLAN**
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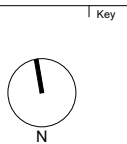
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Issue





- KEY
- Apartment Achieving ADG 2hr Solar Access
 - Apartment Achieving ADG Cross Ventilation
 - Apartment with no ADG Direct Sunlight

Revisions
No. Date Description Verified Approved



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Project
27 - 57 FALCON STREET
CROWS NEST

Proj. No. 19014

Drawing Title
UPPER GROUND PLAN

Sheet Status
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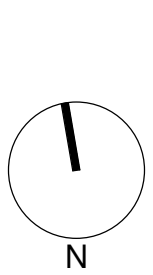
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Issue





- KEY
- Apartment Achieving ADG 2hr Solar Access
 - Apartment Achieving ADG Cross Ventilation
 - Apartment with no ADG Direct Sunlight

Revisions
No. Date Description Verified Approved



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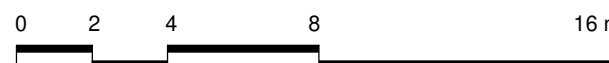
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27 - 57 FALCON STREET
CROWS NEST

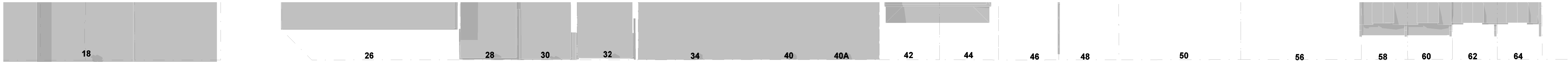
Proj. No. 19014

Drawing Title
**MIDDLE GROUND
PLAN**

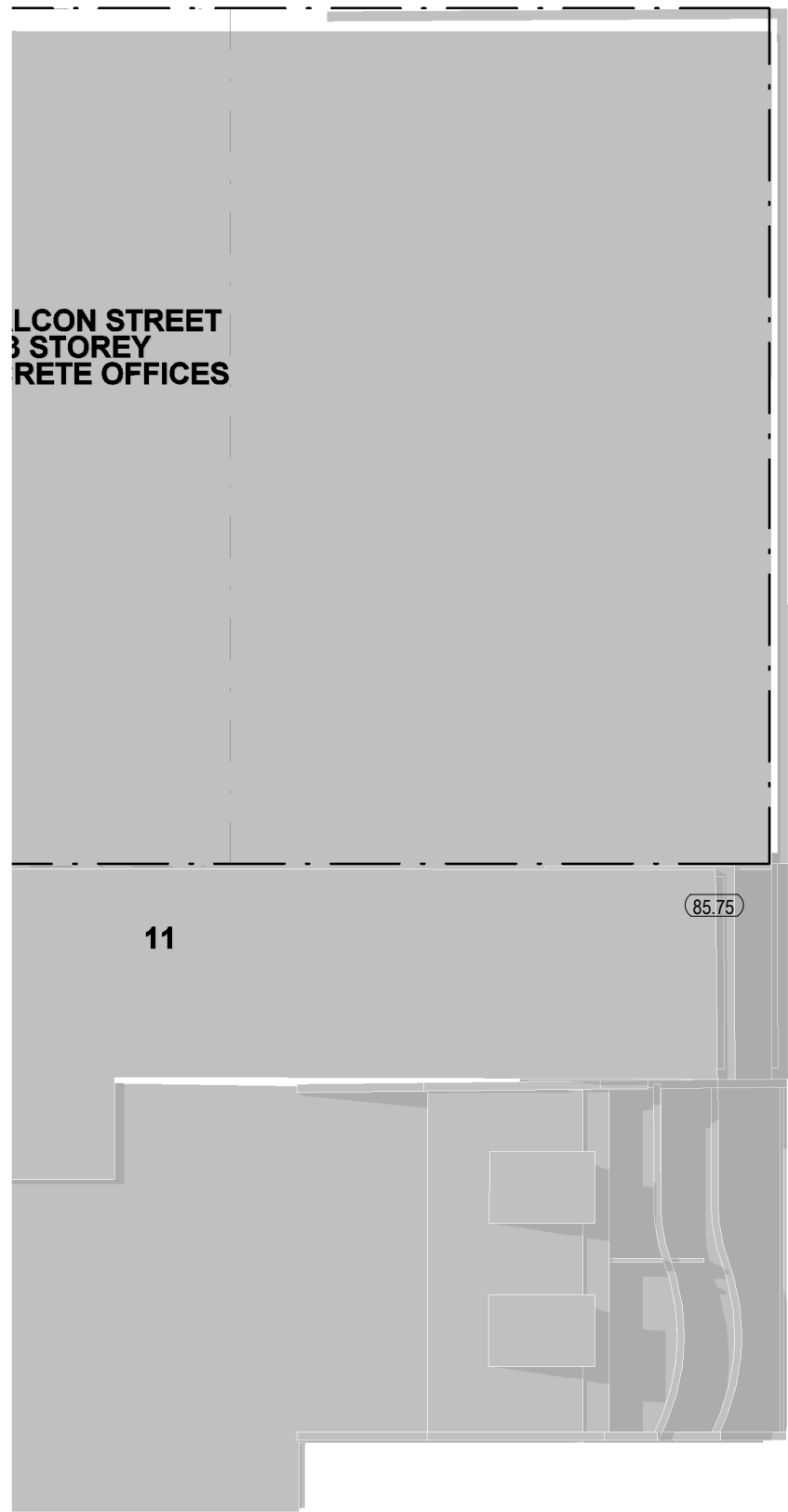
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Issue

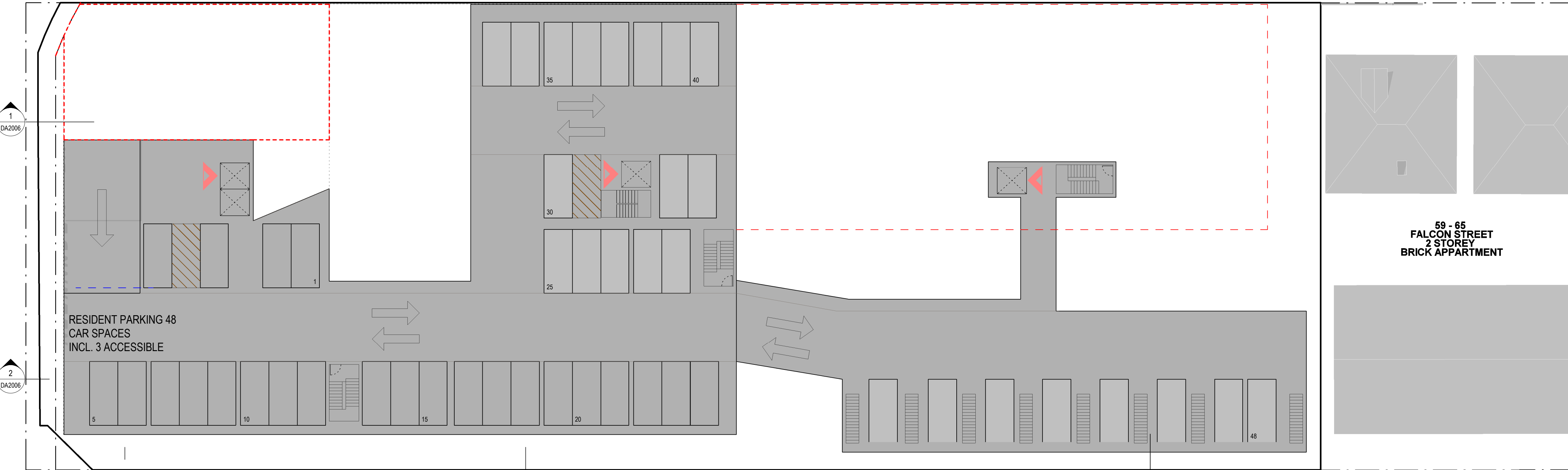




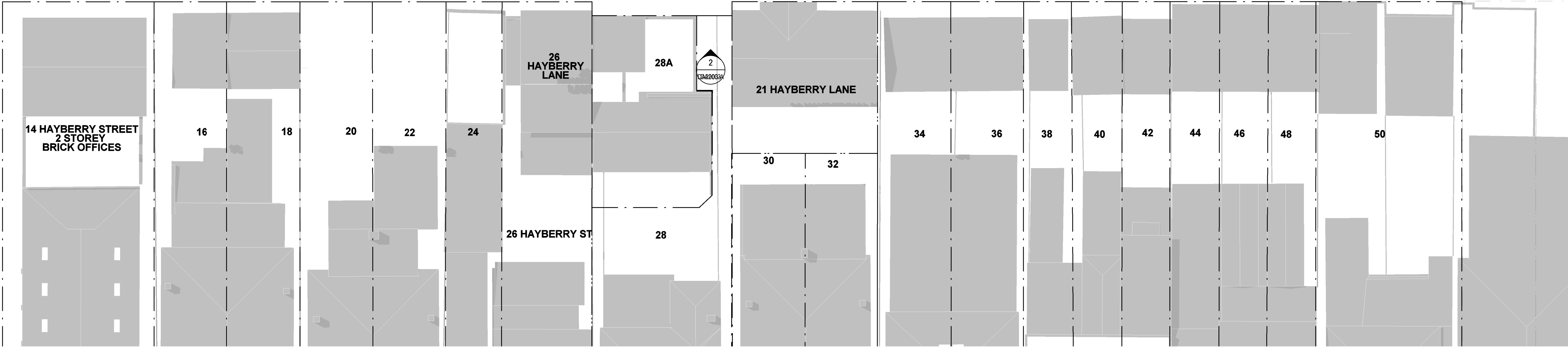
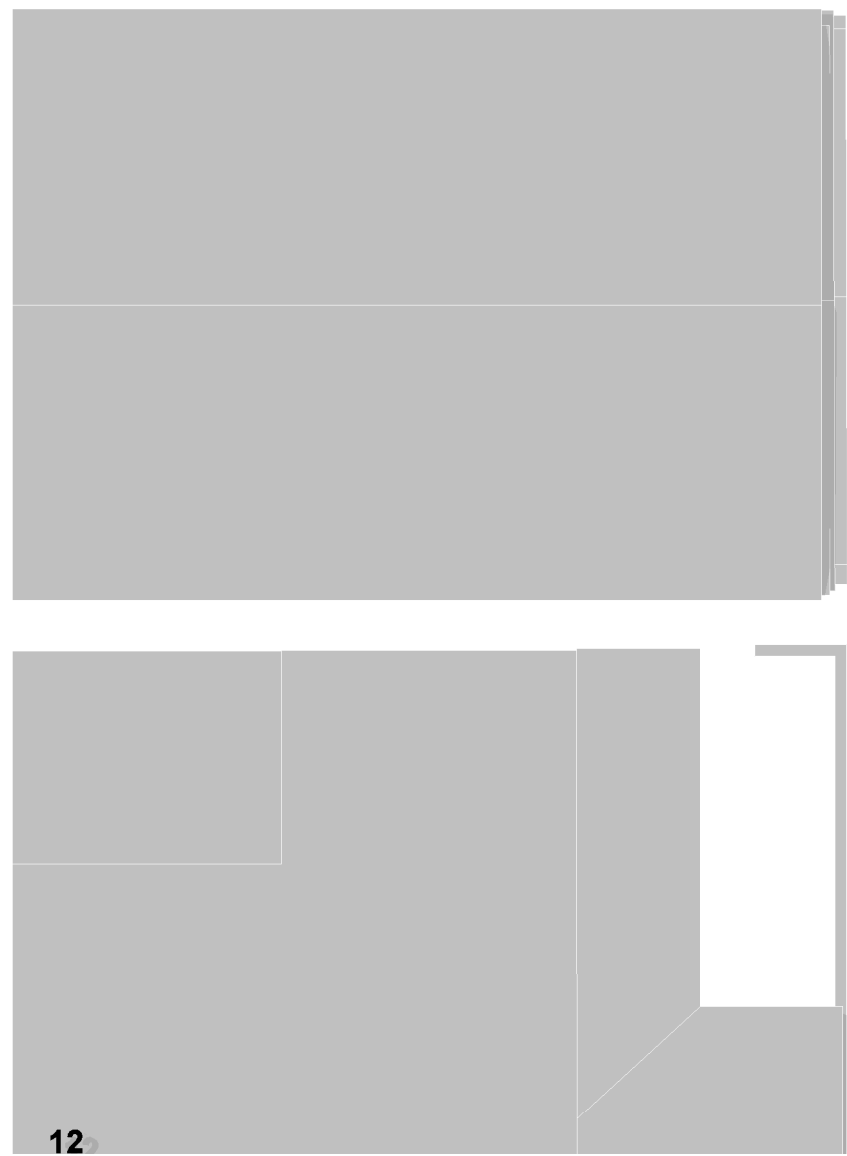
FALCON STREET



ALEXANDER LANE

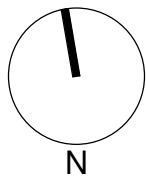


HAYBERRY LANE



1 PP OP2 - BASEMENT 1

Revisions
No. Date Description Verified Approved



Key

Client
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ABN 53 003 782 250

Project
27 - 57 FALCON STREET
CROWS NEST

Proj. No. 19014

Drawing Title
**TYPICAL BASEMENT
PLAN**

Sheet Status
NOT FOR CONSTRUCTION

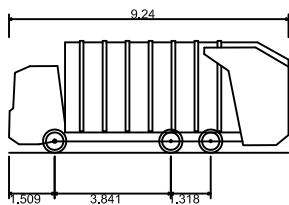
Scale
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Drawing No.
DA2100



Appendix B

Turning Path Assessment

ALEXANDER LANE



City of Sydney Council Refuse Truck
Overall Length 9.240m
Overall Width 2.230m
Overall Body Height 3.8m
Min Body Ground Clearance 0.251m
Track Width 2.200m
Lock to Lock Time 4.00s
Curb to Curb Turning Radius 8.500m

RETAIL PARKING
6 CAR SPACES
INCL. 1 ACCESSIBLE
VISITOR PARKING
3 SPACES

LOADING DOCK

RESIDENTIAL AND
COMMERCIAL CARPARK ENTRY

LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS
OF A 9.24m REFUSE
VEHICLE ENTERING THE SITE**

SP 1

