

# Flood Risk Management Report for 28- 32 Evan Street, Penrith, NSW 2750

For Morson Group Pty Ltd

Reference: 180276.R1

02/05/2019

## DOCUMENT HISTORY

REVISION	DATE	DESCRIPTION	PREPARED BY	AUTHORISED BY
1	02/05/19	Review	Tasnim Mostafiz	Kamyar Eivazzadeh

## DISCLAIMER

1. Content of this report have been based on available information as noted in the report and its appendices, thus this report should be read in conjunction with the referenced reports.
2. The limitations present in any of the referenced reports will be inherent in this report.
3. This report and associated documents have been prepared for the proposed development at 28-32 Evan Street, Penrith, NSW. No responsibility will be accepted for the use of any part of this report in any other context or for any other purposes.
4. This report shall not be construed as relieving any other party of their responsibilities, liabilities or contractual obligations.
5. The results are subject to the scope, assumptions and limitations as set out in this report and the information that has been disclosed by the client.
6. The authors best professional opinion is represented in the conclusions drawn and is based on his experience and on previous results from other investigations on similar materials. The conclusions and any recommendations made are based on the condition of the item(s) in question as portrayed in the data provided by the client.

## Table of Contents

DOCUMENT HISTORY .....	0
DISCLAIMER.....	0
1. INTRODUCTION .....	2
1.1 Scope of Works .....	2
1.2 Locality Plan .....	2
2. INVESTIGATION RESULTS .....	3
2.1 Flood Hazard Levels and Risk Assessment.....	3
2.3 Freeboard Level Requirements .....	4
3. FLOOD RISK MANAGEMENT METHODS AND STRATEGIES .....	4
3.1 Building Materials and Methods.....	4
3.2 Structural Integrity.....	5
3.3 Flood Evacuation Strategy.....	5
4. FLOOD RISK MANAGEMENT PLAN .....	5
5. CONCLUSION.....	6
6. REFERENCES .....	7
7. APPENDIX .....	8

# 1. INTRODUCTION

## 1.1 Scope of Works

LAM consulting has been engaged by the Morson Group in order to conduct a flood risk management plan for the proposed residential property at 28-32 Evan Street, Penrith, NSW 2750. The following shall be covered in this report:

- Define the flood risk for the proposed development
- Discuss risk management in accordance with Penrith DCP
- Provide flood risk management strategies and procedures

## 1.2 Locality Plan

The proposed development is a residential flat building situated on a 1632.5m<sup>2</sup> block (Lot 1, DP510281). The property faces 28 Evan Street on the North, a cemetery on the East, 34 Evan Street on the South and Evan Street on the West. The site area is situated within an R4 high density residential zone.



Figure 1: Map view of site

The proposed development consists of two levels of basement carparking, five levels of residential flats and a roof (see architectural plans by Morson Group appendix 7.1 for full set). The ground floor of the development is shown below in figure 2.

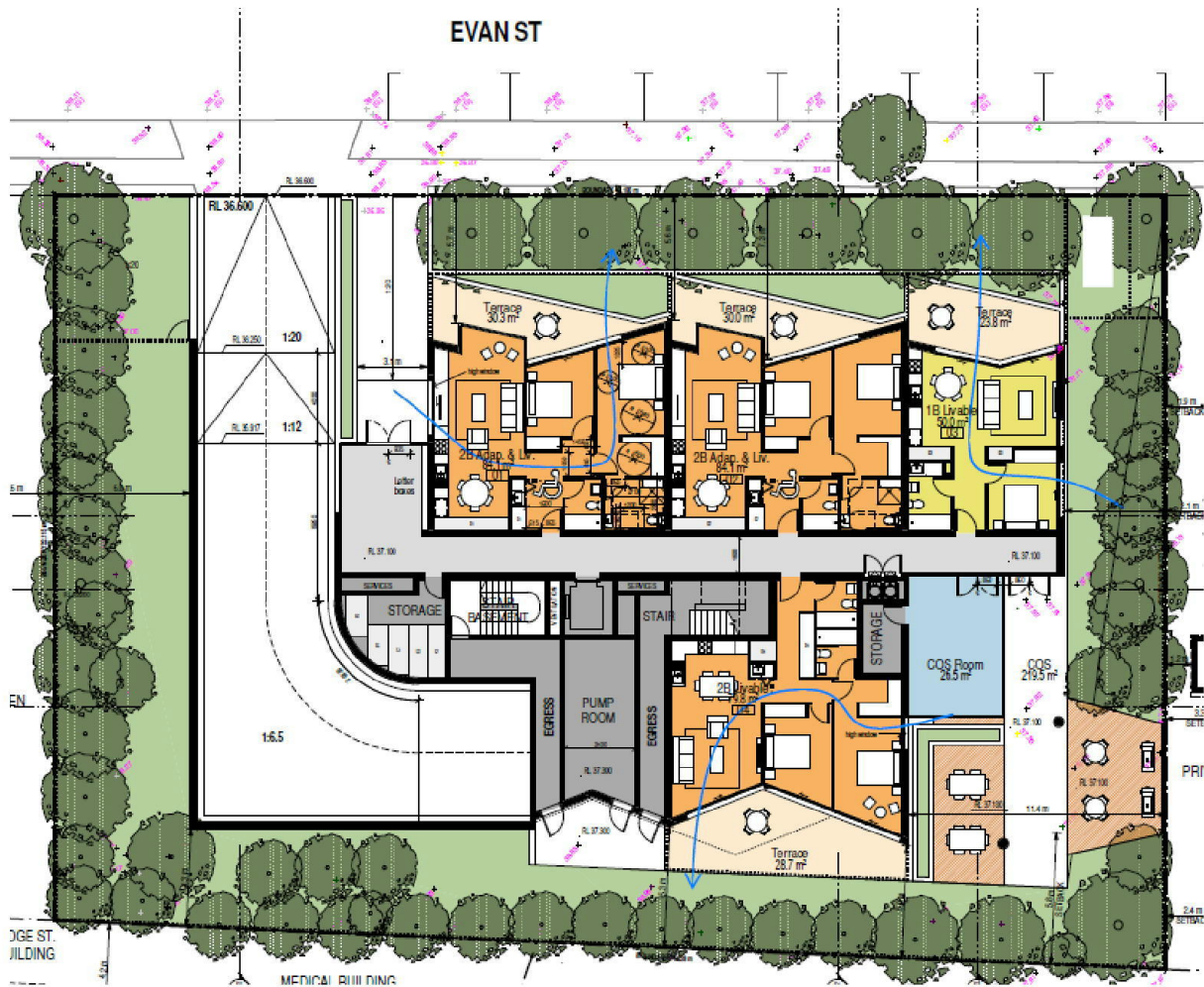


Figure 2: Ground floor plan

The 1% AEP overland flow flood level within the vicinity of the development has been estimated to be RL 35.9m AHD based on flood information provided by council (appendix 7.2). As a part of the property is less than 0.5m above the 1% AEP flood level (see survey plans by Higgins Surveyors (ref: 30307, dated: 02-03-17) appendix 7.4), it is subject to the Penrith Development Control Plan (DCP) 2014, section C3.5 Flood Planning.

## 2. INVESTIGATION RESULTS

### 2.1 Flood Hazard Levels and Risk Assessment

The NSW government Floodplain Development Manual defines flood hazard levels as the following:

- High hazard: possible danger to personal safety, evacuation by trucks difficult, able-bodied adults would have difficulty swimming to safety, potential for significant damage to buildings
- Low hazard: should it be necessary, a truck could evacuate people and their possessions, able bodied adults would have little difficulty wading to safety

Figure 8.3 (Appendix 7.3) of Penrith CBD Detailed Overland Flow Flood Study – Final report by Cardno (Reference: W4735 Dated: 07/07/15) shows the 1% AEP storm event flood extent. The plans show that the flood waters do not inundate the site. This site falls under the low hazard category as the hazard presented in the case evacuation is required is minimal.

## 2.3 Freeboard Level Requirements

Freeboard levels have been set out in order to ensure the safety of the property and occupants. The required freeboard for habitable areas is 0.5m above the flood plan level. Non-habitable areas (e.g. entry to basement), require 0.3m above flood planning level.

Table 1: Freeboards required and achieved

Building Element	Design Requirement	100 Year ARI level	Min. Elevation	Elevation Achieved
<b>Units 1, 2, 3 &amp; 4</b>	0.5m above 1% AEP	35.90m	36.40m	37.10m
<b>Foyer area</b>	0.3m above 1% AEP	35.90m	36.40m	37.10m
<b>Terraces</b>	0.3m above 1% AEP	35.90m	36.40m	37.10m
<b>Driveway Entry</b>	0.3m above 1% AEP	35.90m	36.20m	36.6m

## 3. FLOOD RISK MANAGEMENT METHODS AND STRATEGIES

### 3.1 Building Materials and Methods

Any part of the development beneath the FPL (RL 35.90m) must be flood compatible:

Component	Flood compatible material	Notes
<b>Flooring/flooring finishes</b>	Mass concrete, masonry, highly durable or durable timber, tiles, timber floor boarding	<ul style="list-style-type: none"> <li>- Low shrinkage timbers are recommended</li> <li>- Timber requires good ventilation in order to dry</li> <li>- Insulation under the floor may need to be removed in order to dry</li> </ul>
<b>Walls/linings</b>	Highly durable, durable and treated timbers, steel frames, fibre cement boards, brick, concrete, stone (water proof grout), clay tiles (water proof mortar), glass, plastic sheeting (water proof adhesive), exterior grade plywood, sealed timber products	<ul style="list-style-type: none"> <li>- Steel frames should be made of open sections</li> <li>- Steel frames should have holes drilled at the bottom to allow for water to escape</li> <li>- Sheet wall linings should be installed horizontally</li> <li>- 20-30mm gap between the bottom of lining and base of wall should be allowed for ventilation and cleaning</li> </ul>
<b>Insulation</b>	Insulation should be closed cell type foam with fittings, nails, bolts and hinges made from brass, stainless steel or hot dipped galvanised steel. Hinges should be of the removable pin variety	<ul style="list-style-type: none"> <li>- NA</li> </ul>
<b>Doors/windows</b>	Solid panel doors with water proof adhesives, flush doors with marine play, closed cell foam, aluminium/galvanised steel frame doors, aluminium windows with corrosion resistant rollers, fully epoxy sealed timber frame windows with stainless steel fittings	<ul style="list-style-type: none"> <li>- Refer to Flooring and Walls notes</li> </ul>
<b>Ancillary Structures</b>	Masonry, sealed hardwood, corrosion resistant metals	<ul style="list-style-type: none"> <li>- Refer to Flooring and Walls notes</li> </ul>

The connection to the main power should be located above the FPL (35.90m). In addition, all new wiring, switches, conduits and outlets should be located above the FPL and all electrical components should be water proof. New conduits must be self-draining.

Heating, ventilation and air conditioning (HVAC) systems and the associated components should be installed above RL 35.90m where ever possible. For any HVAC components that cannot be installed above the FPL, they must be installed in such a way to minimise water damage in the case that they should become inundated during a flood.

### 3.2 Structural Integrity

A structural engineer must assess the structural soundness of the building to ensure that the existing structure will be adequate when subject to the 100-year ARI and PMF floods. The structure must be assessed against hydrostatic and hydrodynamic forces, buoyancy and debris impact.

### 3.3 Flood Evacuation Strategy

In NSW the State Emergency Service (SES) is the responsible body for the provision of flood updates and issuing flood evacuation warnings and flood evacuation orders. The SES uses a wide variety of methods and platforms in order to relay flooding information including, local news, radio, tv broadcasting, SMS messaging, door knocking as well as social media platforms such as Facebook and Twitter. The evacuation schedule must be established from consultation with the SES.

In order to prepare the occupants and home owners for a flood event, they should compose Flood Emergency Plans. The SES can assist in the development of these plans through the use of their FloodSafe kits (Information regarding these kits is available from <http://www.floodsafe.com.au/>). Home owners and occupants should regularly review and update these plans and leave a copy in a high traffic area where it is easily accessible, such as the kitchen or entry way. If there should ever be a situation where the 100-year ARI flood could be exceeded, then the NSW Government operation guidelines and SES Emergency operational guidelines should be consulted.

The habitable floor level sits well above the 1% AEP flood level. As water is not expected to breach the property boundary, evacuation is not recommended.

## 4. FLOOD RISK MANAGEMENT PLAN

1. Storms leading to major flooding are typically up to 2 hours long, however shorter storms can produce overland flows. Flood waters may take up to 36 hours to recede.
2. During floods many major and minor Streets and Roads may be inundated by floodwaters. Traveling through floodwaters by foot or by vehicle can be dangerous due to rapid currents, pollution or hidden obstructions. Council recommends remaining in-doors as much as practical. In the event of a flood on Evan Street, residents will be safe within the residence and vehicles will be safe within the on-site car parking area. It is not recommended to leave the property by foot or vehicle in the event of a flood

3. Develop your own family flood plan and be prepared if flooding should occur whilst any residents are commuting to and from work or school. Contact Council for information about safer travel routes that are less likely to be cut by floodwaters.
4. In the event flood waters breach the boundary, gather medical supplies, special needs of any residents, mobile phones, important documents, any valuables and evacuate to the higher level via the internal stairs.
5. For above ground garages/parking facilities, if it is safe to do so, retrieve any items that may be damaged by water.
6. As the flood level approaches the habitable floor level:
  - Gather medical supplies, special needs of any residents, mobile phones, important documents and any valuables to one location.
  - Try to wear the appropriate clothing for the conditions, move any items within the residence that can be damaged by water to higher positions and place electrical items at the very top. For larger items that cannot be moved, turn them off and disconnect them from the power points.
  - Place wet towels across the bottom sides of external doors to slow down the ingress of water.
7. In the event that flood waters enter the residence, collect all items of value and move to a higher level if possible, or in a single level dwelling provide a chair in the kitchen to enable access to the kitchen bench preferably adjacent to the window. Ensure windows that may be used to exit the site in an emergency are not locked or have a key readily available. Do not evacuate the residence unless instructed to do so by the SES or the police. Keep in mind that floodwater may be deeper and flow faster than what is apparent.
8. In case of a medical emergency, call 000 and explain the situation with regards to the flooding.
9. A laminated copy of this flood plan should be permanently attached to an area where all residents frequently access such as in the kitchen or laundry and to the inside of the electrical meter box.
10. This overland flow management plan should be reviewed every 5 years, particularly if there have been any major changes to climate conditions or weather patterns.
11. Flood education programs should be undertaken by residents to assist the community in commencing and maintaining flood preparations, as well as how to respond in the event that flooding occurs.

## 5. CONCLUSION

This flood risk management report has been composed for the proposed residential flat building development located at 28-32 Evan Street, Penrith. The development complies with Penrith council's DCP section C3.5 flood planning.



The 1% AEP flood levels are expected to reach RL35.9m in the vicinity of the site. The required freeboards (0.5m above FPL for habitable and 0.3m above FPL from non-habitable) have been achieved. As the flood waters are not expected to inundate the site, it is not recommended to evacuate the site during a flood event. The development is not expected to have any adverse impact on overland flow paths or inhibit flood waters in any way.

All residents should be aware of and have easy access to the flood risk management plan and contact details for the appropriate authorities in the case of an emergency.

## 6. REFERENCES

1. Penrith CBD Detailed Overland Flow Flood Study – Final report by Cardno (Reference: W4735 Dated: 07/07/15)
2. Penrith Development Control Plan 2014 C3.5
3. NSW government Floodplain Development Manual – the development of flood liable land (Dated: 04/05)

## 7. APPENDIX

## 7.1 Architectural Plans by Morson Group

---

A: Suite 2.04, 35-41 Waterloo Road, Macquarie Park NSW 2113  
E: [info@smartstructs.com.au](mailto:info@smartstructs.com.au)

# PROPOSED RESIDENTIAL FLAT BUILDING

28-32 Evans Street, Penrith, NSW, 2750



UNITS TYPES	
Type	Count
1B	7
1B + studio	1
1B Livable	1
2B	21
2B Adap. & Liv.	4
2B Livable	4
3B	2
	40

DEVELOPMENT DETAILS		
Site Area	1633m <sup>2</sup>	
Gross Floor Area (GFA)	3581m <sup>2</sup>	
Zoning	R4 High Density Residential	
	Allowable	Proposed
Floor Space Ratio (FSR)*	n/a	2.19:1
Total Storeys	6	6

Communal Open Space	25%	410.7m <sup>2</sup>	25%
Deep Soil Zones	7%	626.9m <sup>2</sup>	38%

\*LEP REQUIREMENT  
 ^SEPP 65 REQUIREMENT  
 REFER SHEET DA02 FOR DETAILS

GROSS FLOOR AREA	
Level	Area
GROUND LEVEL	398.8 m <sup>2</sup>
LEVEL 1	706.5 m <sup>2</sup>
LEVEL 2	706.5 m <sup>2</sup>
LEVEL 3	706.5 m <sup>2</sup>
LEVEL 4	596.0 m <sup>2</sup>
LEVEL 5	492.9 m <sup>2</sup>
Grand total: 6	3607.4 m <sup>2</sup>

COMMON OPEN SPACE	
Area	% of Site
246.3 m <sup>2</sup>	15.08

LANDSCAPE AREA	
Area	% of Site
472.4 m <sup>2</sup>	28.93
95.5 m <sup>2</sup>	5.85
568.0 m <sup>2</sup>	34.78

DEEP SOIL AREA		
Name	Area	% the Site
DEEP SOIL	487.0 m <sup>2</sup>	29.82
DEEP SOIL (1.4-4m deep)	109.7 m <sup>2</sup>	6.72
	596.7 m <sup>2</sup>	36.54

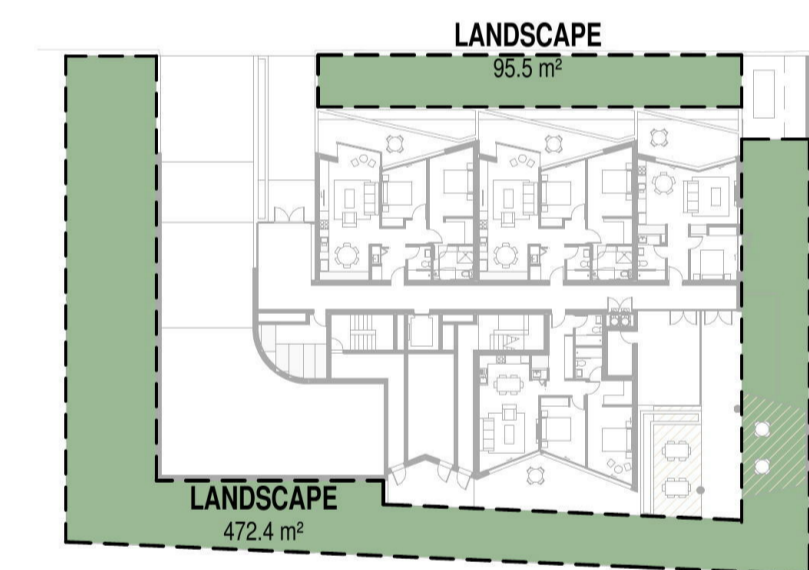
CAR SPACES REQUIRED	
3 Bed units: 2	4
2 Bed units: 25	25
2 Bed units Adaptable: 4	4
1 Bed units: 9	9
Visitors (1/5)	8
Service vehicles (1/40)	1
Washing bay (1/50)	
Grand total	51

CAR SPACES - TYPES	
Type	Number
Class 3 - 2500w x 5400d	38
Class 3 - 2500w x 5400d (Visitor)	6
Class 3 - 2500w x 5400d (Washing+Service)	1
Class 4 - 2500w x 5400d (Disabled)	4
Grand total: 49	49

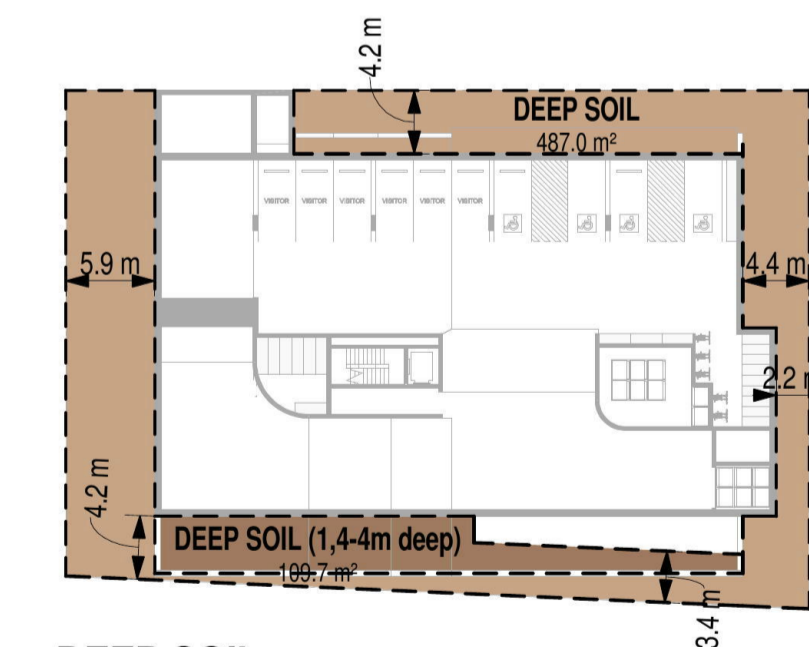
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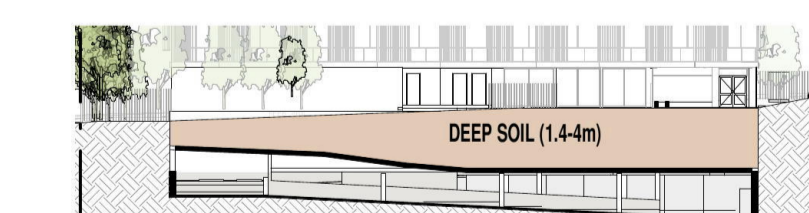
GROUND LEVEL COS



GROUND LEVEL LANDSCAPE

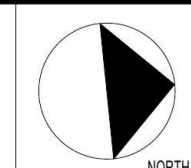


DEEP SOIL



SECTION DEEP SOIL

ISSUE	DATE	AMENDMENT
P1	07-11-2018	Pre-DA + Urban meeting
P2	05-02-2019	FOR CONSULTANTS
P3	12-03-2019	Urban meeting 2
P4	02-04-2019	FOR CONSULTANTS



PROJECT  
**PROPOSED RESIDENTIAL FLAT BUILDING**  
 ADDRESS  
 28-32 Evans Street, Penrith, NSW, 2750

CLIENT



NOMINATED ARCHITECT - P F MORSON  
 REGISTRATION NUMBER 8100  
 A/CN 159 480 056 ABN 41 159 480 056  
 www.monsongroup.com.au  
 223 WOOD STREET  
 PO BOX 170, PENRITH, NSW 1505

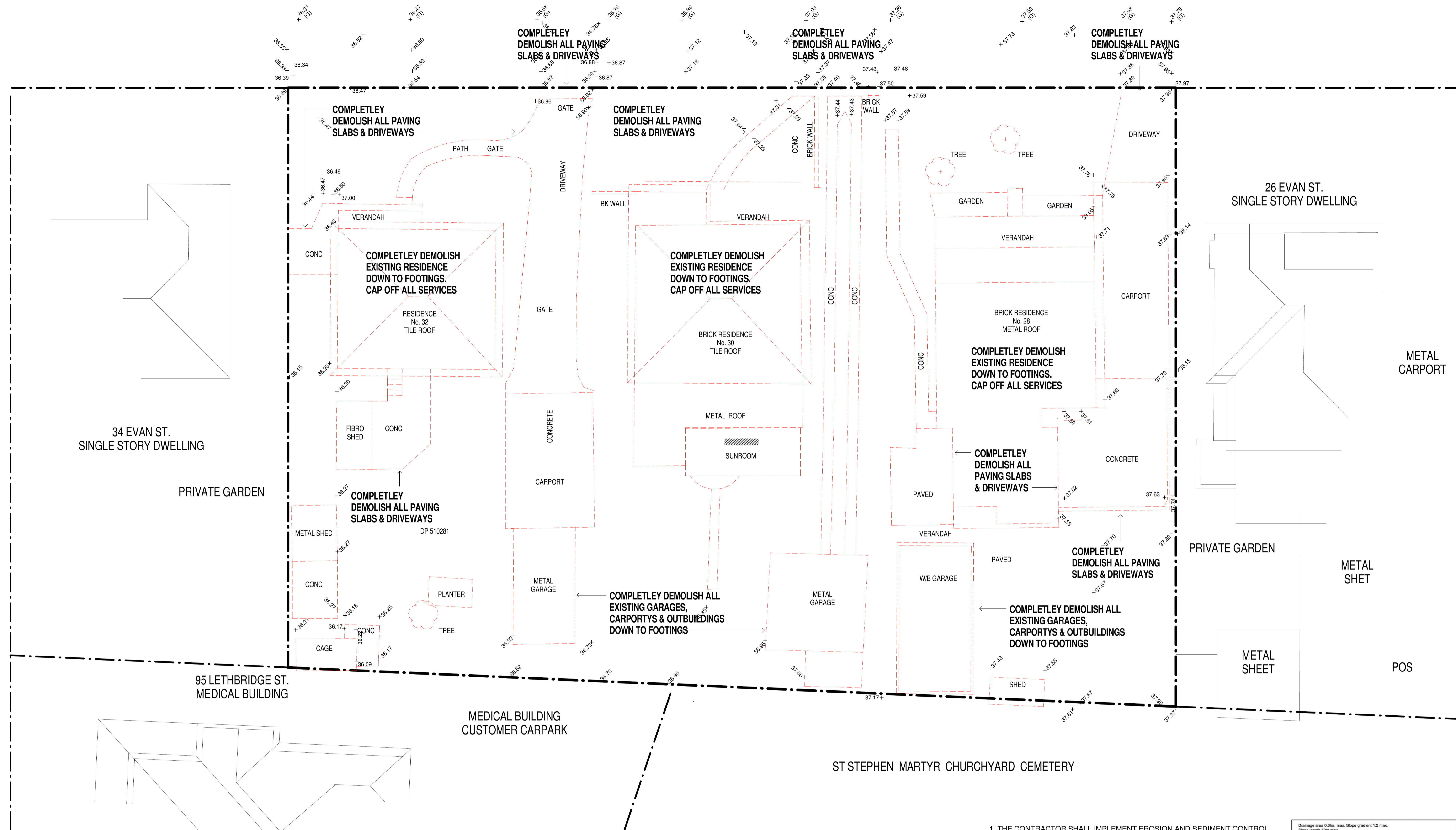
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 As Indicated

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DRAWING NUMBER  
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 ISSUE NO.  
**P4**



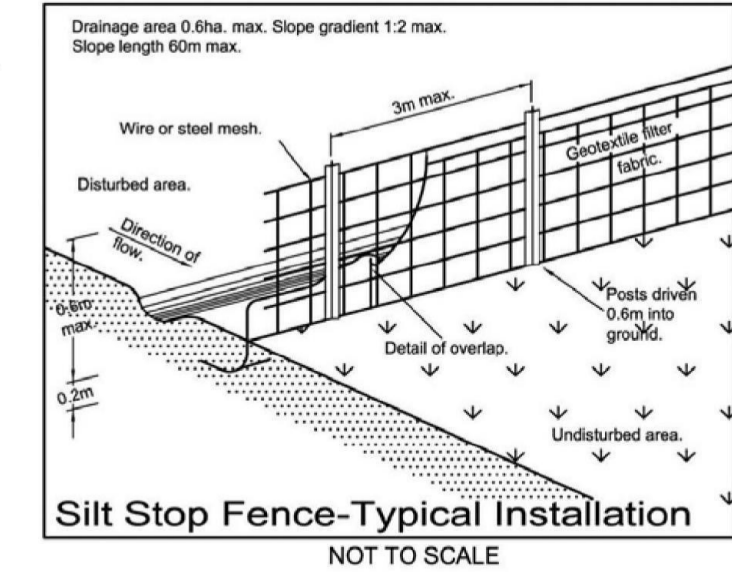




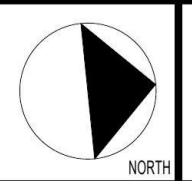
**NOTE:**

1. ALL DEMOLITION WORK TO BE CARRIED OUT IN ACCORDANCE WITH AS 2601-2001 (THE DEMOLITION OF STRUCTURES)
2. THIS DEMOLITION DRAWING GIVES AN INDICATION OF THE SCOPE REQUIRED TO CARRY OUT THE ALTERATIONS & ADDITIONS AS PROPOSED. THE BUILDER IS ASSUMED TO HAVE INSPECTED THE SITE DURING TENDERING & ALLOWED FOR ALL DEMOLITION INCLUDING SUNDRY WORKS NOT INDICATED ON THIS DRAWING THAT ARE REQUIRED IN ORDER TO CONSTRUCT THE WORKS.

1. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO THE COUNCIL'S SPECIFICATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND DURING CONSTRUCTION.
2. ALL EROSION & SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER DURING THE CONSTRUCTION PERIOD. INSPECTIONS OF THESE DEVICES SHALL BE CARRIED OUT AFTER EACH STORM. REPAIRS AND/OR DE-CLOGGING SHALL BE CARRIED OUT TO ENSURE PROPER OPERATION OF THE DEVICE.
3. STORAGE OF MATERIALS AND EQUIPMENT SHALL BE WITHIN SEDIMENT CONTROLLED AREAS.
4. REMOVE SILT STOP FENCING AND DRAINAGE STRUCTURE SEDIMENT CONTROL TRAPS AFTER VEGETATION IS ESTABLISHED.



ISSUE	DATE	AMENDMENT
P1	07-11-2018	Pre-Design Urban meeting
P2	05-02-2019	FOR CONSULTANTS



PROJECT  
**PROPOSED RESIDENTIAL FLAT BUILDING**

ADDRESS  
28-32 Evans Street, Penrith, NSW, 2750

CLIENT

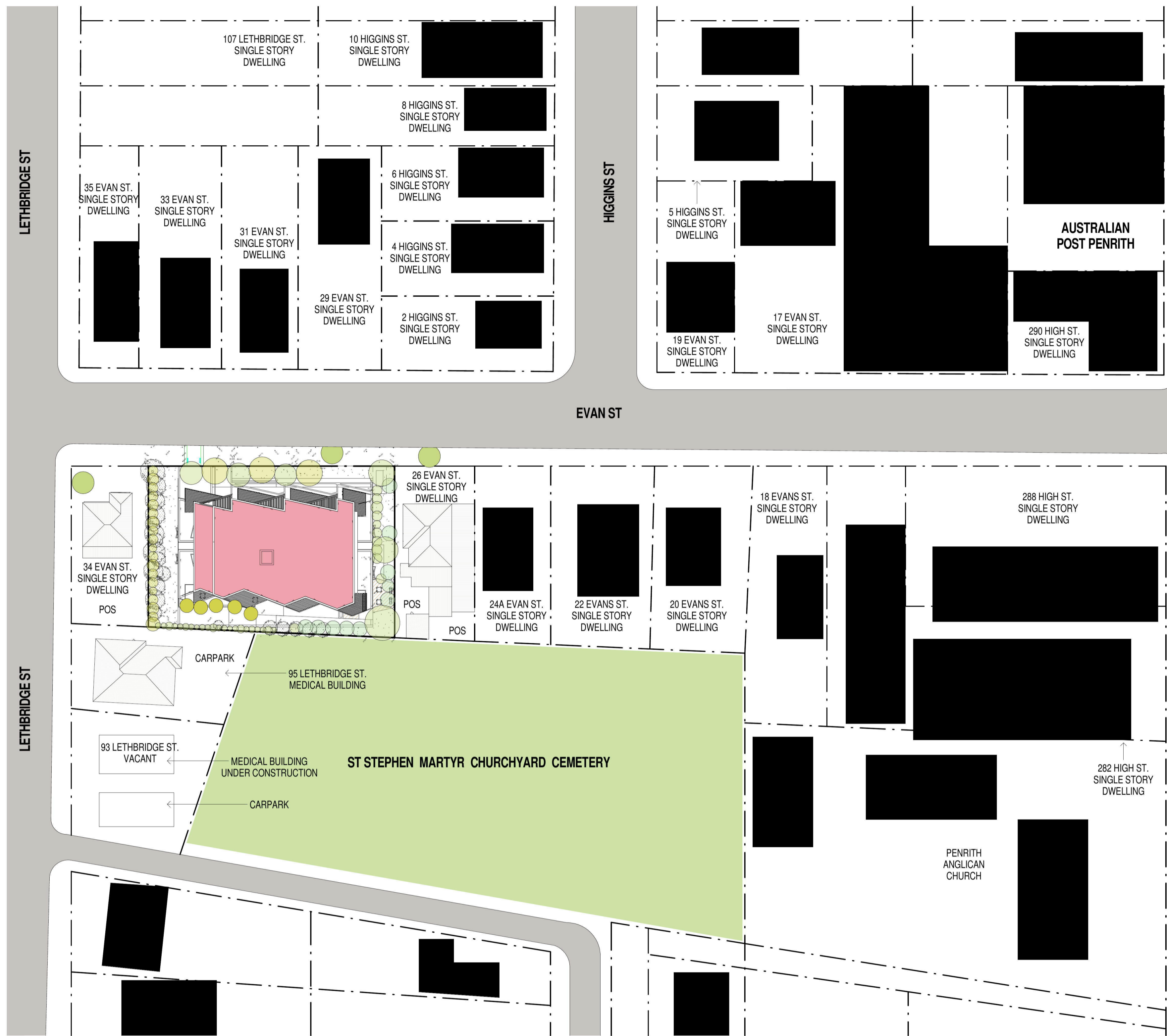


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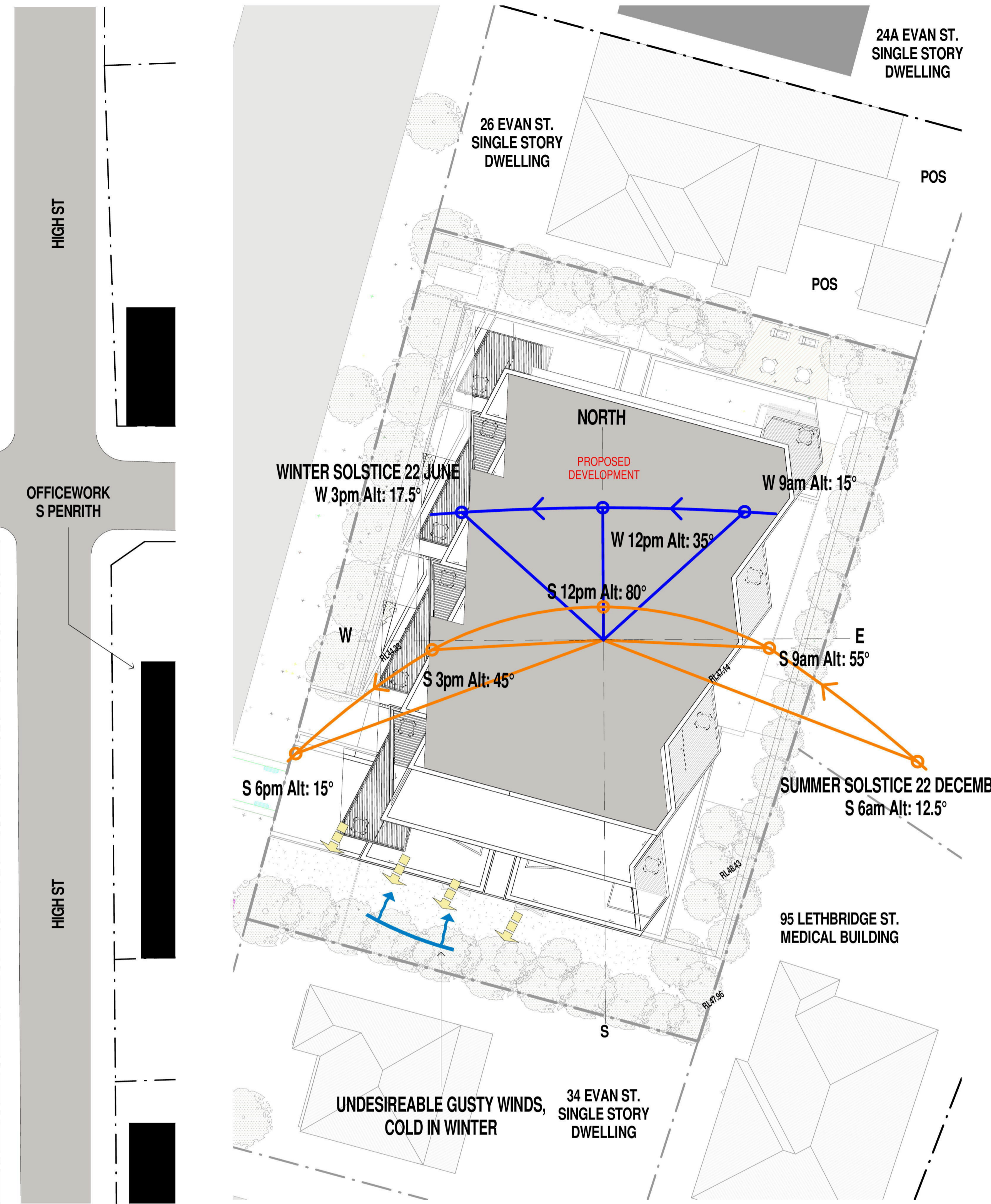
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**DEMO PLAN**

DRAWING NUMBER  
**DA03**

ISSUE NO.  
**P2**



SITE PLAN



SITE ANALYSIS



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CORNER OF EVAN ST & LETHBRIDGE ST



26 EVAN ST - EXISTING SINGLE DWELLING

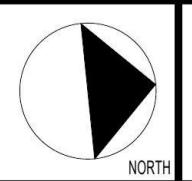


28 / 30 EVAN ST - EXISTING SINGLE DWELLINGS TO BE DEMOLISHED



32 EVAN ST - EXISTING SINGLE DWELLING TO BE DEMOLISHED

ISSUE	DATE	AMENDMENT
P1	07-11-2018	Pre-DA + Urban meeting
P2	05-02-2019	FOR CONSULTANTS



PROJECT  
**PROPOSED RESIDENTIAL FLAT BUILDING**

ADDRESS  
28-32 Evans Street, Penrith, NSW, 2750

CLIENT



REGISTERED ARCHITECTS - P14 MORSON  
REGISTRATION NUMBER 9103  
ACD/138/480/026/489/41/138/480/026  
www.morsongroup.com.au  
PO Box 176, Penrith, NSW 1505

SHEET NAME **SITE PLAN**

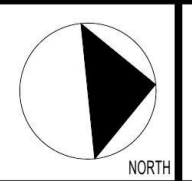
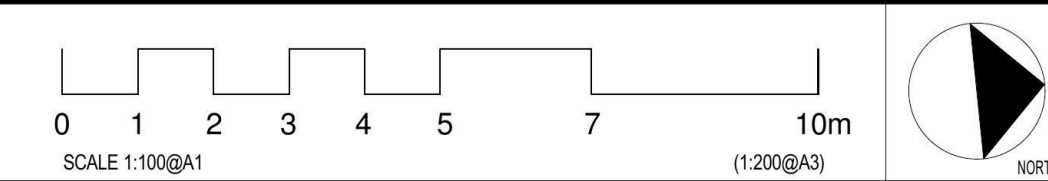
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DATE

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ISSUE NO. **P2**





ISSUE	DATE	AMENDMENT
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P2	05-02-2019	FOR CONSULTANTS
P3	12-03-2019	Urban meeting 2
P4	02-04-2019	FOR CONSULTANTS



PROJECT  
**PROPOSED RESIDENTIAL FLAT BUILDING**

ADDRESS  
 28-32 Evans Street, Penrith, NSW, 2750

CLIENT



NOMINATED ARCHITECT - P F MORSON  
 REGISTRATION NUMBER 8103  
 A/CN 188 460 004, ABA 41 188 460 004  
 www.morsongroup.com.au  
 02 9000 4944  
 PO Box 176, Parkes NSW 1330

SHEET NAME  
**GROUND LEVEL**

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# EVAN ST

26 EVAN ST.  
SINGLE STORY DWELLING

34 EVAN ST.  
SINGLE STORY DWELLING

PRIVATE GARDEN

95 LETHBRIDGE ST.  
MEDICAL BUILDING

MEDICAL BUILDING  
CUSTOMER CARPARK

ST STEPHEN MARTYR CHURCHYARD CEMETERY

METAL  
CARPORT

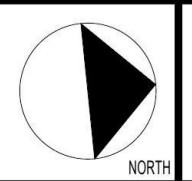
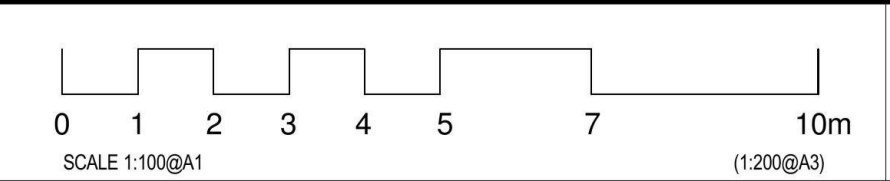
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ISSUE	DATE	AMENDMENT
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PROJECT  
**PROPOSED RESIDENTIAL FLAT BUILDING**

ADDRESS  
28-32 Evans Street, Penrith, NSW, 2750

CLIENT



NOMINATED ARCHITECT - P F MORSON  
REGISTRATION NUMBER 8103  
ACQ 18/06/2016, AHA 41/18/485/034  
www.morsongroup.com.au  
020 900 0044  
PO Box 176, Parkes, NSW 1330

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**LEVEL 1**

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**DA06**

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## 7.2 Council Flood Information

---

A: Suite 2.04, 35-41 Waterloo Road, Macquarie Park NSW 2113  
E: [info@smartstructs.com.au](mailto:info@smartstructs.com.au)

## Flood Information Lot 1 DP 510281 No. 32 Evan Street Penrith

**Date of issue: 18 January 2017**

The 1% AEP local overland flow flood level in the vicinity of the above property is estimated to be RL35.9m AHD

Property less than 0.5m above the 1% AEP flood level is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. The Penrith Development Control Plan 2014 is available from Council's website [www.penrithcity.nsw.gov.au](http://www.penrithcity.nsw.gov.au).



#### Definitions

**AEP** – Annual Exceedance Probability – the chance of a flood of this size occurring in any one year.

**AHD** – Australian Height Datum – A standard level datum used throughout Australia, approximately equivalent to mean sea level.

#### Legend

	Extent of 1% AEP local catchment overland flow path. Generally depths less than 150mm is not shown.
--	---

#### Notes:

1. The contours shown above in yellow numbering are at 0.5m intervals and are based on Aerial Laser Scanning (ALS) Survey undertaken in 2002. The contour levels are approximate and for general information only. Accurate ground levels should be obtained by a Registered Surveyor.
2. The flood level is based on current information available to Council at the date of issue. The flood level may change in the future if new information becomes available. The 1% AEP flood is the flood adopted by Council for planning controls. Rarer and more extreme flood events will have a greater effect on the property.
3. Council's studies are reflected in flood mapping for the City which show properties potentially affected by overland flows in excess of 150mm.
4. This property is shown on Council's flood mapping as potentially so affected.
5. Council imposes flood related development controls where, in its opinion, such controls are justified. Such controls may or may not be imposed with respect to this property in the event of an application for development consent.
6. If a development proposal is submitted with respect to this property, Council will consider the possibility of flood or overland flow in the context of the application. Council may impose a requirement that the applicant for development consent carry out a detailed assessment of the possible overland water flows affecting the property (a flood study) and/or may impose other controls on any development designed to ameliorate flood risk.
7. You are strongly advised if you propose to carry out development upon the property, that you retain the assistance of an experienced flooding engineer and have carried out a detailed investigation.
8. Council accepts no liability for the accuracy of the flood levels (or any other data) contained in this certificate, having regard to the information disclosed in Notes "1" to "4". As such you should carry out and rely upon your own investigations.

Penrith City Council  
PO Box 60, Penrith  
NSW 2751 Australia  
T 4732 7777  
F 4732 7958  
[penrithcity.nsw.gov.au](http://penrithcity.nsw.gov.au)

  
 Ratnam Thilliyar  
 Engineering Stormwater Supervisor

### 7.3 Figure 8.3 Penrith CBD Detailed Overland Flow Flood Study – 100 Year ARI Flood Map

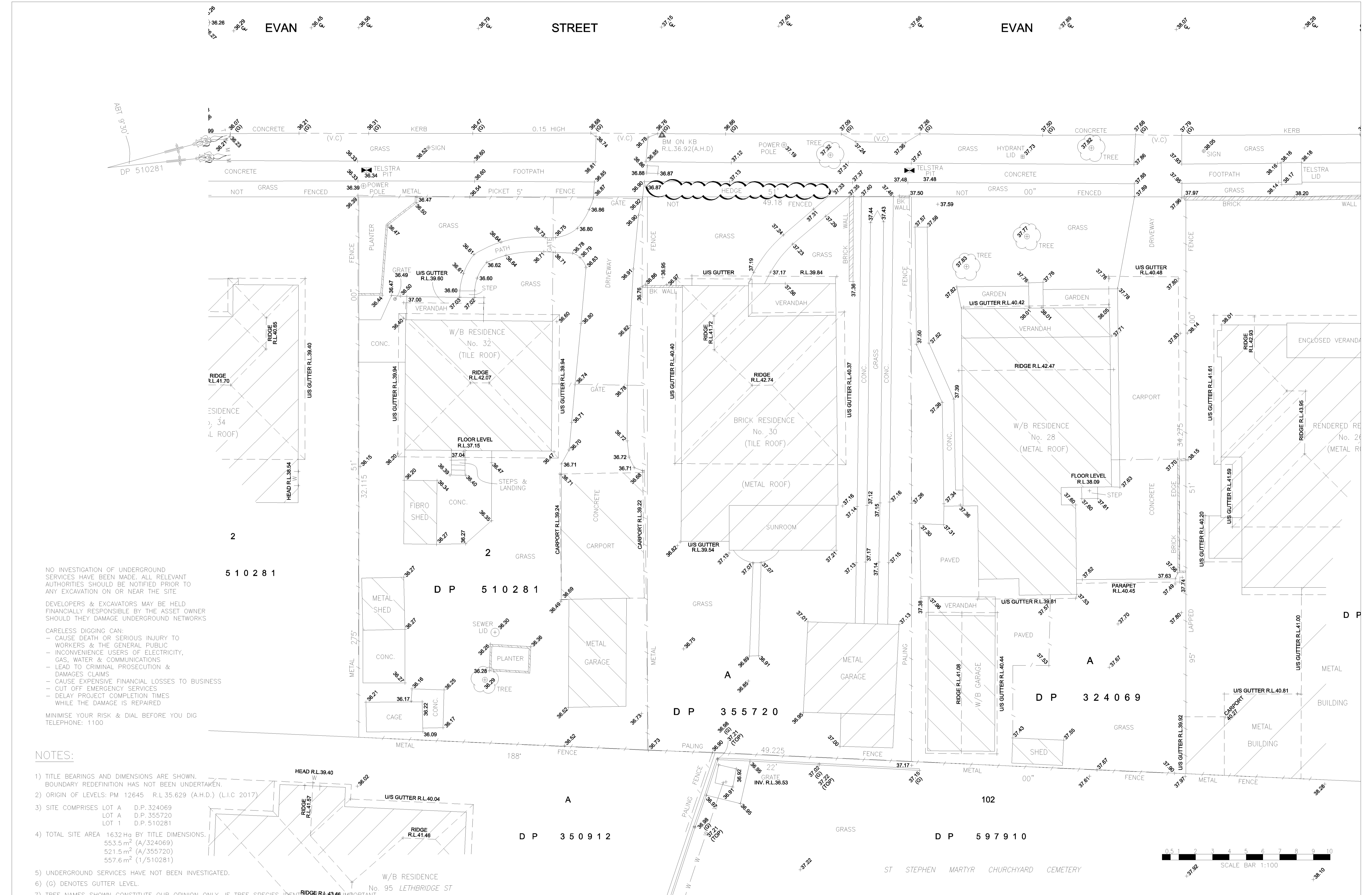


A: Suite 2.04, 35-41 Waterloo Road, Macquarie Park NSW 2113  
 E: [info@smartstructs.com.au](mailto:info@smartstructs.com.au)

## 7.4 Higgins Surveyors – No. 28-32 Evan Street, Penrith

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A: Suite 2.04, 35-41 Waterloo Road, Macquarie Park NSW 2113  
E: [info@smartstructs.com.au](mailto:info@smartstructs.com.au)



NO INVESTIGATION OF UNDERGROUND SERVICES HAVE BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

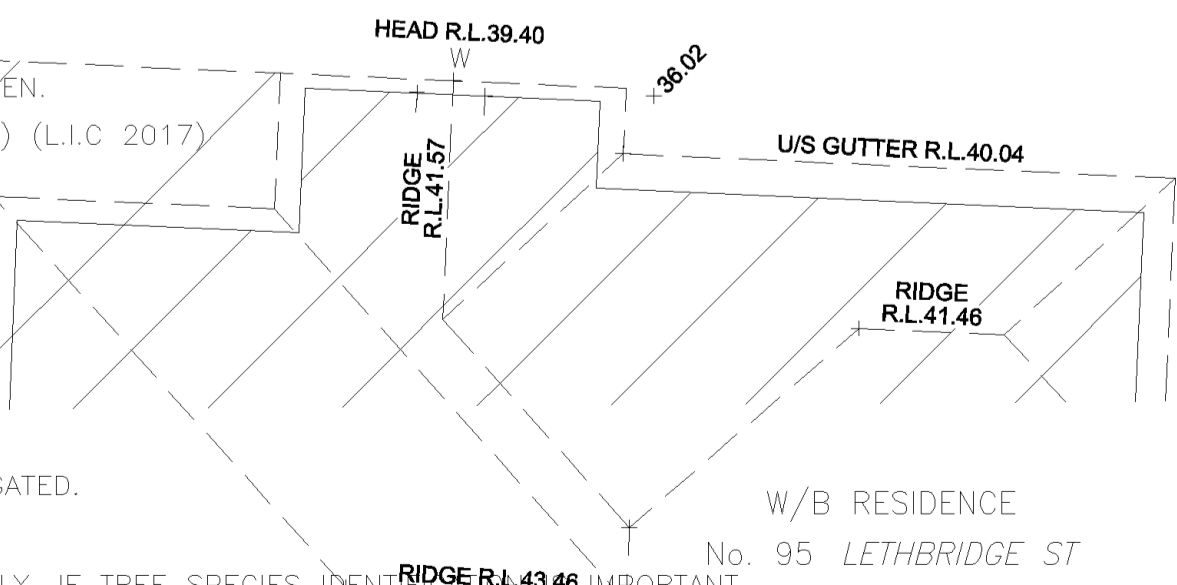
DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS & THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER & COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION & DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK & DIAL BEFORE YOU DIG  
TELEPHONE: 1100

- NOTES:**
- TITLE BEARINGS AND DIMENSIONS ARE SHOWN. BOUNDARY REDEFINITION HAS NOT BEEN UNDERTAKEN.
  - ORIGIN OF LEVELS: PM 12645 R.L.35.629 (A.H.D.) (L.I.C 2017)
  - SITE COMPRISES LOT A D.P.324069  
LOT A D.P.355720  
LOT 1 D.P.510281
  - TOTAL SITE AREA 1632 Ha BY TITLE DIMENSIONS.  
553.5 m<sup>2</sup> (A/324069)  
521.5 m<sup>2</sup> (A/355720)  
557.6 m<sup>2</sup> (1/510281)
  - UNDERGROUND SERVICES HAVE NOT BEEN INVESTIGATED.
  - (G) DENOTES GUTTER LEVEL.
  - TREE NAMES SHOWN CONSTITUTE OUR OPINION ONLY. IF TREE SPECIES IDENTIFICATION IS IMPORTANT FOR DESIGN OR HERITAGE REASONS THEY SHOULD BE DETERMINED BY A QUALIFIED ARBORIST.
  - CAUTION: SHOULD ANY DEVELOPMENT OR CONSTRUCTION BE PLANNED ON OR NEAR THE BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE
  - CONTOUR INTERVALS: MAJORS 1.0m  
MINORS 0.1m
  - W — DENOTES WATER MAINS LINE (APPROXIMATE POSITION)



ISSUE	DATE	AMENDMENT	TITLE:	PALING SHOWING SELECTED DETAIL & LEVELS OVER No.28-32 EVAN STREET, PENRITH	
			LGA:	PENRITH	REFERENCE: 30307
			CLIENT :	MARCHESE PARTNERS	DATE: 02-03-17 SHEET 3
			SCALE (AT A1) 1:200	DATUM : AHD	SURVEYOR: RH

**Higgins Surveyors**  
PROPERTY & DEVELOPMENTS CONSULTANTS

A.B.N. 39 003 853 094  
LEVEL 3, SUITE 3.05  
26 RIDGE STREET NORTH SYDNEY  
PO BOX 1269  
QVB SYDNEY 1230

PH +61 2 9264 8044  
FAX +61 2 9267 5468  
admin@higginsurveyors.com.au