



FLOOD RISK MANAGEMENT REPORT
PROPOSED SINGLE DWELLING & DETACHED
GRANNY FLAT

At

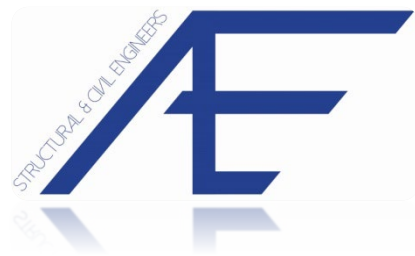
Lot 18, 91 Windsor Rd, PADSTOW, NSW 2211

Prepared For: The Owners

C/o: Fowler Homes



Report Date:	10 March, 2026
Prepared By:	Oscar Gutierrez
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Revision:	A



DOCUMENT CONTROL RECORD

Document Title: Flood Risk Management Report

Project Address: Lot 18, 91 Windsor Rd, PADSTOW, NSW

Project No: 25240

Prepared For: The Owners

C/o: Fowler Homes

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Revision History

Revision	Date	Revision Details	Author	Reviewer
A	10/03/2026	Flood Risk Management Report	Oscar Gutierrez	Dr. Ali Amin

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1.0 INTRODUCTION

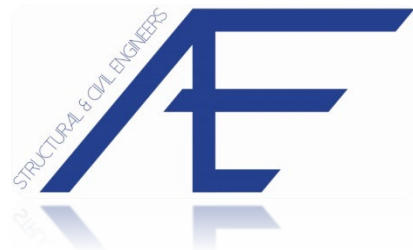
Acroyali Engineering has been engaged to prepare a Flood Risk Management Report (FRMR) for the proposed residential development at 91 Windsor Road, Padstow, in accordance with Bankstown Development Control Plan 2015 – Part B12: Flood Risk Management. This report has been prepared with reference to the flood planning controls applicable to catchments affected by stormwater flooding, with specific regard to the Planning and Development Control Matrix outlined in Schedule 5 of the DCP. This report evaluates the flood risk affecting the subject site, identifies the relevant flood mechanisms and hazard characteristics, and assesses the implications of the proposed development with respect to Council's flood planning framework. The purpose of this assessment is to demonstrate that the proposed development will not increase flood risk to people or property and will not adversely affect flood behaviour on the site or to adjoining or downstream properties.

The subject site is affected by flooding during major storm events associated with rainfall-generated overland flow within the local stormwater catchment. Flood mapping provided by Council indicates that the site is subject to inundation during the 1% Annual Exceedance Probability (AEP) event, with floodwaters generally travelling across the site as shallow overland flow associated with the surrounding drainage system. A Council stormwater drainage pipeline also traverses the site within a drainage easement, which contributes to the conveyance of stormwater flows through the catchment during extreme rainfall events. Based on the available flood information, the site is located within a Medium Flood Risk Precinct, as the land is subject to inundation below the 100-year flood level but is not identified as a high hydraulic hazard area.

The proposed development comprises construction of a new residential dwelling and secondary dwelling (granny flat). The development has been designed to respond to the mapped flood conditions, including the maintenance of the existing overland flow path across the site and the elevation of habitable floor levels above the applicable flood planning levels. The main dwelling is proposed as a suspended structure supported on piers, allowing floodwaters to pass beneath the building and preserving the existing flood conveyance path. The granny flat is also designed with habitable floor levels above the required flood planning level. Flood risk management for the site has been assessed with consideration of the existing site topography, surrounding overland flow regime, Council's adopted flood levels, and the relationship between flood depth and velocity across the site. The assessment has been undertaken in accordance with the flood planning objectives of Bankstown Development Control Plan 2015 - Part B12, which prioritise flood-compatible development and the avoidance of adverse flood impacts.

In preparing this Flood Risk Management Report, Acroyali Engineering has relied upon the following documentation and information:

- Architectural drawings prepared by Fowler Homes for the proposed development at 91 Windsor Road, Padstow, Reference 25-1048, SK-5, dated 13.02.2026
- Stormwater Engineering drawings prepared by Acroyali Engineering, Reference 25240 – ST00.01, ST01.01 to ST01.02, ST02.01 to ST02.05, Revision 1
- Council Stormwater System Report and flood information for the site, Council Reference: WP-SIAONL-1473/2025, dated 17/07/2025
- Australian Disaster Resilience Guideline 7-3: Flood Hazard, Australian Institute for Disaster Resilience (AIDR), 2017



- Floodplain Development Manual – The Management of Flood Liable Land, NSW Government
- Detailed site survey prepared by a registered surveyor

This Flood Risk Management Report identifies the site's flood exposure, reviews applicable flood hazard classifications, and confirms that the proposed development complies with the flood planning controls contained within Bankstown Development Control Plan 2015 – Part B12. The site is identified as being flood affected during the 1% AEP storm event; however, the proposed development incorporates appropriate flood-responsive design measures, including elevated habitable floor levels and the preservation of overland flow paths, ensuring that the development will not result in any adverse change to existing flood behaviour.

Architectural Design Levels

Based on the Fowler Homes Architectural drawings for the proposed development, the relevant design levels for the site are as follows:

- **Main Residence Ground Floor Level: RL 20.035 m AHD**
- **Main Residence First Floor Level: RL 23.075 m AHD**
- **Main Residence Garage Floor Level: RL 19.863 m AHD**
- **Granny Flat Finished Floor Level: RL 19.615 m AHD**

The proposed habitable floor levels have been designed to exceed the applicable 1% AEP flood level plus 500 mm freeboard, in accordance with the flood planning controls contained within Bankstown DCP 2015 – Part B12.

2.0 SITE DESCRIPTION

The subject site at 91 Windsor Road, Padstow, is proposed to be developed for a new residential dwelling and secondary dwelling (granny flat). The site is identified by Council as being flood affected during major storm events associated with stormwater overland flow within the local drainage catchment.

The site is generally rectangular in shape and fronts Windsor Road. Based on the available site survey and architectural documentation, ground levels across the site generally fall from the eastern boundary toward the western boundary, reflecting the natural topography of the surrounding catchment. The site topography forms a shallow drainage depression across the allotment, with a localised low point occurring along the western boundary. This natural valley alignment facilitates the conveyance of overland stormwater flows through the site during major rainfall events. A Council stormwater drainage pipeline traverses the site within a registered drainage easement, which contributes to the conveyance of stormwater flows through the catchment during extreme rainfall events.

Flood mapping provided by Council indicates that the site is partially inundated during the 1% Annual Exceedance Probability (AEP) and Probable Maximum Flood (PMF) storm event, with flood levels varying across the site in response to the surrounding catchment topography and drainage network.



3.0 FLOOD INFORMATION AVAILABLE FROM COUNCIL

Flood information for the subject site has been obtained from the Council Stormwater System Report (SSR) and associated flood mapping for the catchment. The SSR provides flood levels, flood extents and supporting mapping derived from the Little Salt Pan Creek Stormwater Catchment Study (Bewsher & BMT WBM, 2009).

The SSR identifies that the site may be affected by stormwater flooding associated with rainfall-driven overland flow within the local catchment. Council records also indicate the presence of a 450 mm diameter Council stormwater pipeline within a 1.83 m wide drainage easement traversing the property, running diagonally across the site.

Flood levels applicable to the site based on the SSR are summarised below.

1% AEP Flood Levels

Location	Flood Level (RL m AHD)
Western boundary (downstream)	RL 18.64
Eastern boundary (upstream)	RL 19.51
Eastern boundary (downstream)	RL 19.10

Probable Maximum Flood (PMF) Levels

Location	Flood Level (RL m AHD)
Western boundary (downstream)	RL 18.81
Eastern boundary (upstream)	RL 20.00
Eastern boundary (downstream)	RL 19.30

Available survey and SSR data indicate existing ground levels across the site range between approximately **RL 18.49 m AHD and RL 20.48 m AHD**. These levels indicate a hydraulic grade line across the site from east to west, consistent with the natural fall of the land toward the western boundary where the local drainage low point occurs.

3.1 Overland Flow Behaviour

Council flood mapping attached to the SSR includes 1% AEP flood extent, PMF flood extent, flood depth mapping, and velocity-depth hazard mapping for the site. The mapping indicates that floodwaters enter the site from the eastern portion of the allotment, where flood levels are highest, and traverse the site toward the western boundary, which represents the localised low point. This flow path generally aligns with the natural drainage depression across the property.

Flood depth mapping indicates that inundation affecting the site during the 1% AEP event is generally shallow, with depths typically in the order of approximately 0.1 m to 0.2 m across much of the flood affected area. These depths are consistent with minor overland sheet flow conditions rather than concentrated channelised flow.

Velocity-depth product mapping indicates that the flood behaviour across the site is characteristic of low hydraulic hazard stormwater flooding, with relatively shallow flood depths and low overland flow velocities ranging between 0.05 to 0.1 m²/s.

The SSR also confirms that the site is not affected by Georges River flooding, and flood behaviour at the site is therefore governed entirely by local stormwater catchment runoff processes. Overall, the available flood mapping indicates that flood behaviour across the site is characterised by shallow overland flow following the natural drainage corridor across the allotment, with flood hazard primarily governed by flood depth rather than high flow velocities.

4.0 FLOOD PROTECTION

4.1 Flood Protection Provisions

Flood protection for the proposed development has been assessed in accordance with the provisions of Bankstown Development Control Plan 2015 – Part B12: Flood Risk Management, with specific reference to Schedule 5 – Catchments Affected by Stormwater Flooding. Schedule 5 provides a planning and development control matrix outlining requirements for development located within areas affected by stormwater flooding. The controls address matters including minimum habitable floor levels, structural soundness, flood compatible building materials, flood impacts on surrounding properties, parking and access provisions, and evacuation/refuge requirements.

4.2 Floor Level Controls

Control 1

Non-habitable floor levels should be no lower than the 20-year flood level unless justified by specific assessment.

Assessment

The proposed garage floor level is located above the mapped 1% AEP flood extent and therefore is expected to also be above the 5% AEP (20-year ARI) flood level. As such, the garage and parking areas are not subject to flood inundation.

Compliance: Complies

Control 2

All habitable floor levels to be equal to or greater than the 100-year flood level plus freeboard.

Assessment

The governing 1% AEP flood level adjacent to the main residence is RL 19.51 m AHD.

Applying the required 500 mm freeboard, the minimum habitable floor level required is:

RL 20.01 m AHD

The proposed main residence finished floor level is RL 20.035 m AHD, which exceeds the required flood planning level.

For the granny flat, the relevant downstream flood level is RL 19.10 m AHD. Applying 500 mm freeboard results in a required habitable floor level of RL 19.60 m AHD.

The proposed granny flat finished floor level is RL 19.615 m AHD, which also exceeds the required flood planning level.

Compliance: Complies



Control 6

A restriction on the use of land is required where floor levels are elevated more than 1.5 m above ground level.

Assessment

The development does not elevate habitable floors more than 1.5 m above existing ground levels. Accordingly, a restriction on title is not required.

Compliance: Not required

4.3 Building Components

Control 1

All structures to have flood compatible building components below the 100-year flood level plus freeboard.

Assessment

Building construction within the flood affected portion of the site adopts flood compatible materials and construction methods.

The main dwelling is proposed as a suspended structure supported on piers, allowing floodwaters to pass beneath the building without obstruction. The open subfloor configuration maintains the existing overland flow path and minimises flood impacts on the structure.

Flood compatible materials are proposed below the flood planning level in accordance with the architectural documentation.

Compliance: Complies

4.4 Structural Soundness

Control 1

Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy.

Assessment

Flood depths across the site are expected to be relatively shallow, with minor overland flow conditions.

The structural design of the development will be certified by the project structural engineer, confirming that the structure can withstand the forces associated with floodwaters, debris and buoyancy for anticipated flood conditions.

Given the shallow flood depths (generally up to approximately 300 mm) associated with the overland flow path, structural impacts are expected to be minimal.

Compliance: Complies

4.5 Flood Effects

Control 2

Development to demonstrate that flooding elsewhere will not be increased.

Assessment

The proposed development maintains the existing overland flow path across the site and avoids significant filling or obstruction of flood conveyance areas.

The main residence is elevated on piers allowing floodwaters to pass beneath the structure. As such, the development will not increase flood levels, velocities or flood hazard to surrounding properties.

Compliance: Complies



Control 3

Council may require an easement identifying major overland flow paths.

Assessment

A drainage easement already exists across the site accommodating the Council stormwater pipeline.

The proposed development maintains the functionality of the overland flow path and does not obstruct flood conveyance. Should Council determine that additional restrictions are required to protect the flow path, the applicant acknowledges that such requirements may be imposed as a condition of consent.

Compliance: Acceptable

4.6 Parking and Driveway Access

Control 2

Minimum surface level of parking areas to be as high as practical and not below the 20-year flood level.

Assessment

The proposed garage and parking areas are located outside the mapped 1% AEP and PMF flood extents. Accordingly, the parking areas are expected to be higher than the 5% AEP (20-year ARI) flood level.

Compliance: Complies

Control 3

Garages accommodating more than three vehicles must be protected from inundation.

Assessment

The development provides standard residential parking only, accommodating fewer than three vehicles. Accordingly, this control is not applicable.

Compliance: Not applicable

Control 4

Driveway levels to be as high as practical and generally rising in the egress direction.

Assessment

The driveway is located higher than 0.3 m below the adjacent 1% AEP flood level, and therefore the control relating to driveway inundation does not apply.

Compliance: Not applicable

Control 5

Warning signs required where enclosed car parking areas may be inundated.

Assessment

The development provides fewer than three parking spaces, and the parking areas are not subject to flood inundation.

Compliance: Not applicable

Control 6

Vehicle barriers to prevent floating vehicles leaving the site.

Assessment

The driveway and garage areas are not affected by the 1% AEP flood extent, and therefore the risk of floating vehicles is negligible.

Compliance: Not applicable



4.7 Evacuation

Control 2

Minimum habitable floor level or refuge above the PMF.

Assessment

Refuge above the Probable Maximum Flood (PMF) is available within the development.

The adopted PMF levels are RL 20.00 m AHD (upstream eastern boundary) and RL 19.30 m AHD (downstream eastern boundary).

The proposed finished floor levels are:

Building	Floor Level
Granny Flat	RL 19.615
Main Residence	RL 20.035
First Floor Residence	RL 23.075

The granny flat floor level exceeds the downstream PMF level, while the main residence ground floor exceeds the upstream PMF level. Additional refuge is also available on the first floor of the main dwelling.

Compliance: Complies

Control 6

Development to be consistent with flood evacuation strategies.

Assessment

The site maintains direct pedestrian and vehicular access to Windsor Road, allowing evacuation where required.

Habitable floor levels exceed the flood planning level and refuge above the PMF is available within the development.

Compliance: Complies



6.0 CONCLUSION

This Flood Risk Management Report has been prepared for the proposed residential development at 91 Windsor Road, Padstow, in accordance with Bankstown Development Control Plan 2015 – Part B12: Flood Risk Management. Council flood information identifies that the site is affected by stormwater overland flooding during the 1% AEP event, associated with runoff from the surrounding catchment. Flood behaviour across the site is characterised by shallow overland flow following the natural drainage corridor across the allotment.

The proposed development has been designed to respond to these flood conditions by maintaining the existing overland flow path and elevating habitable floor levels above the applicable flood planning levels. The main residence is proposed as a suspended structure supported on piers, allowing floodwaters to pass beneath the building without obstruction. The extent of the suspended structure is documented within the Acroyali Engineering Stormwater Engineering Plans, which identify the portion of the dwelling elevated above the flood-affected ground plane.

Habitable floor levels for both the main residence and the granny flat exceed the 1% AEP flood level plus 500 mm freeboard, and refuge above the Probable Maximum Flood (PMF) is available within the development.

The proposed development does not introduce filling or obstructions within the flood affected corridor and will therefore not alter flood behaviour, reduce flood conveyance capacity, or increase flood risk to surrounding properties.

Accordingly, the proposed development is considered to satisfy the flood risk management objectives and development controls contained within Bankstown Development Control Plan 2015 – Part B12.

Please do not hesitate to contact us to discuss this letter.

Yours faithfully,

A blue ink signature of Mr Oscar Gutierrez, written in a cursive style.

Mr Oscar Gutierrez
BE (Civil), MIEAust.
MIEAust.

Reviewed by,

A black ink signature of Dr Ali Amin, written in a cursive style.

Dr Ali Amin
BE (Hons. 1), PhD,
CPEng. NER, RPEQ

For, and on behalf of, Acroyali Engineering.

Acroyali Engineering
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462 King Georges Rd
Beverly Hills, 2209



APPENDIX A

To: Fowler Homes
405A Victoria St, WETHERILL PARK NSW 2164

STORMWATER SYSTEM REPORT

Property Address	91 Windsor Road Padstow 2211
Lot/Section/Deposited Plan	Lot 18 / / DP 19247
Date Prepared:	17/07/2025
Ref:	WP-SIAONL-1473/2025
Prepared By:	Amin Haddad
Development Type:	Detached dwelling (single house)

FLOOD STUDY REQUIRED

No

This Stormwater System Report (SSR) provides flood and stormwater information about the property.

The information in this report should be reviewed by those who are knowledgeable in flooding or have a technical requirement to understand more about Council's building development controls (such as surveyors, builders, certifiers, architects and engineers).

Stormwater Infrastructure

The site is/may be affected by the following Council / Sydney Water / Private stormwater system components.

- 450mm Council stormwater pipe with associated 1.83m wide easement, located within the property, running diagonally from the western boundary to the eastern boundary. Refer to GIS map.
- Stormwater components are according to Council records – pipe location and size are to be confirmed by survey.



Property Levels

Description	Minimum (m AHD)	Maximum (m AHD)
Approximate Ground Level	18.49	19.36

Flooding Levels

Stormwater Catchment Flooding from Little Salt Pan Creek Stormwater Catchment Study (Bewsher & BMT WBM, 2009)

Flood Event	Minimum Level (m AHD)	Maximum Level (m AHD)
5% AEP (20 year ARI)	-	-
1% AEP (100 year ARI)	18.64	19.51
PMF (Probable Maximum Flood)	18.81	20.00



Terms and Definitions

Annual Exceedance Probability (AEP)	The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.
Average Recurrence Interval (ARI):	Similar to AEP. The long-term average number of years between the occurrence of a flood as big as (or larger than) the selected event.
metres above Australian Height Datum (m AHD)	The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.
Maximum and Minimum Ground Level –	Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.
Probable Maximum Flood	An extreme flood deemed to be the largest flood that could conceivably occur at a specific location The PMF defines the extent of flood prone land (i.e. the floodplain).

Further Information

For further information on flood-related development controls which may be applicable to this property, refer to the following guidelines:

- Bankstown Development Control Plan (2015)
- Bankstown Development Engineering Standards (2009)
- Council Standard Drawings
- Canterbury Development Control Plan (2012)

Disclaimer

The information contained in this document is not endorsed by the Council as without error, omission or mis-description. Council accordingly expressly disclaims all and any liability and responsibility in respect of loss, damage or injury to person or property arising from anything done or omitted to be done by any person in reliance, whether wholly or in part, upon any part of this information.

Any person having regard to the information contained in this document is encouraged to seek, at their discretion, all other sources of information on the subject matter as they consider appropriate, which may include local knowledge and/or professional advice.



ATTACHMENTS

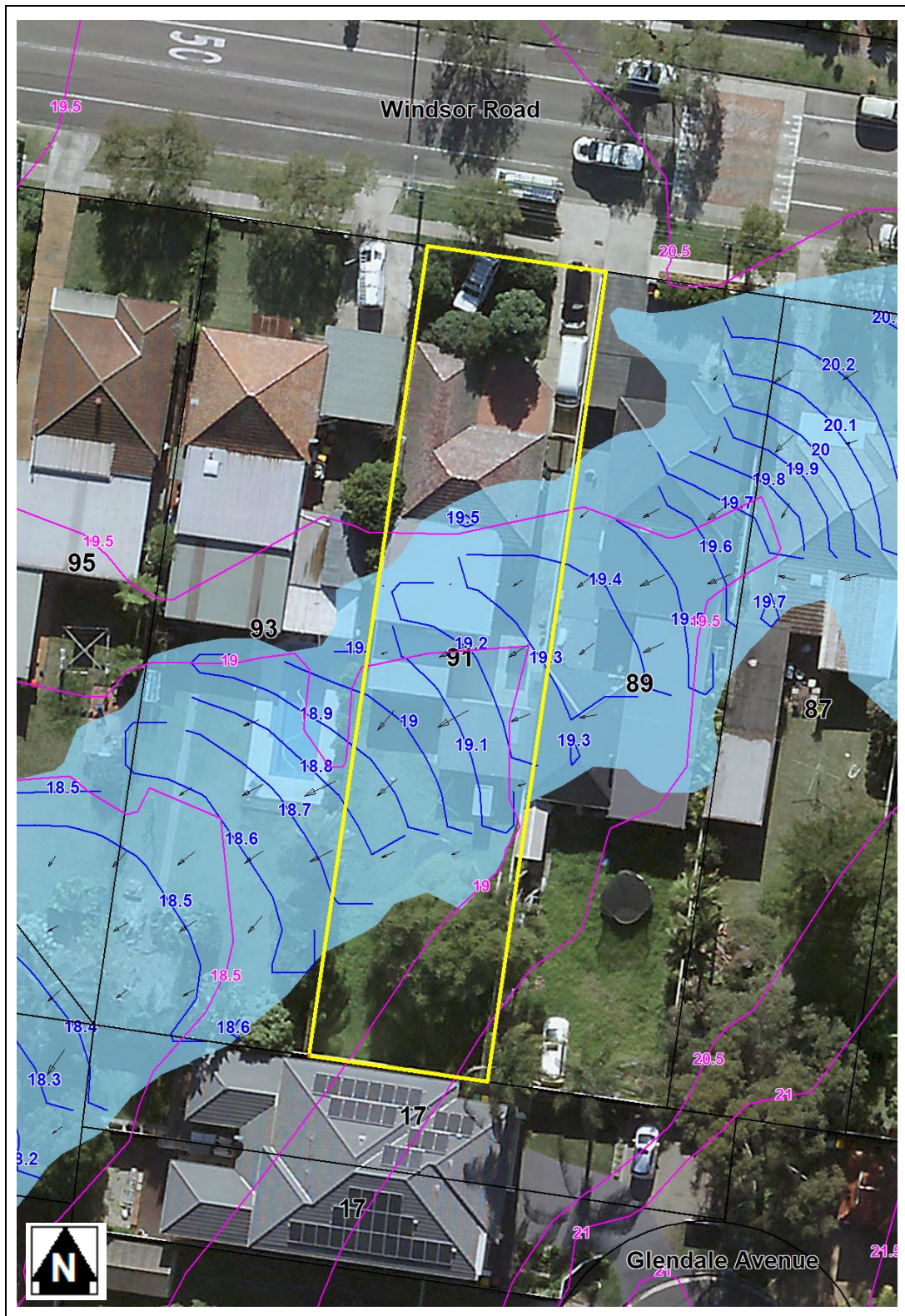
For 1% AEP (100 year ARI)

1. Flood Extent & Flood Contours Map
2. Flood Depth Map
3. Velocity Depth Product Map

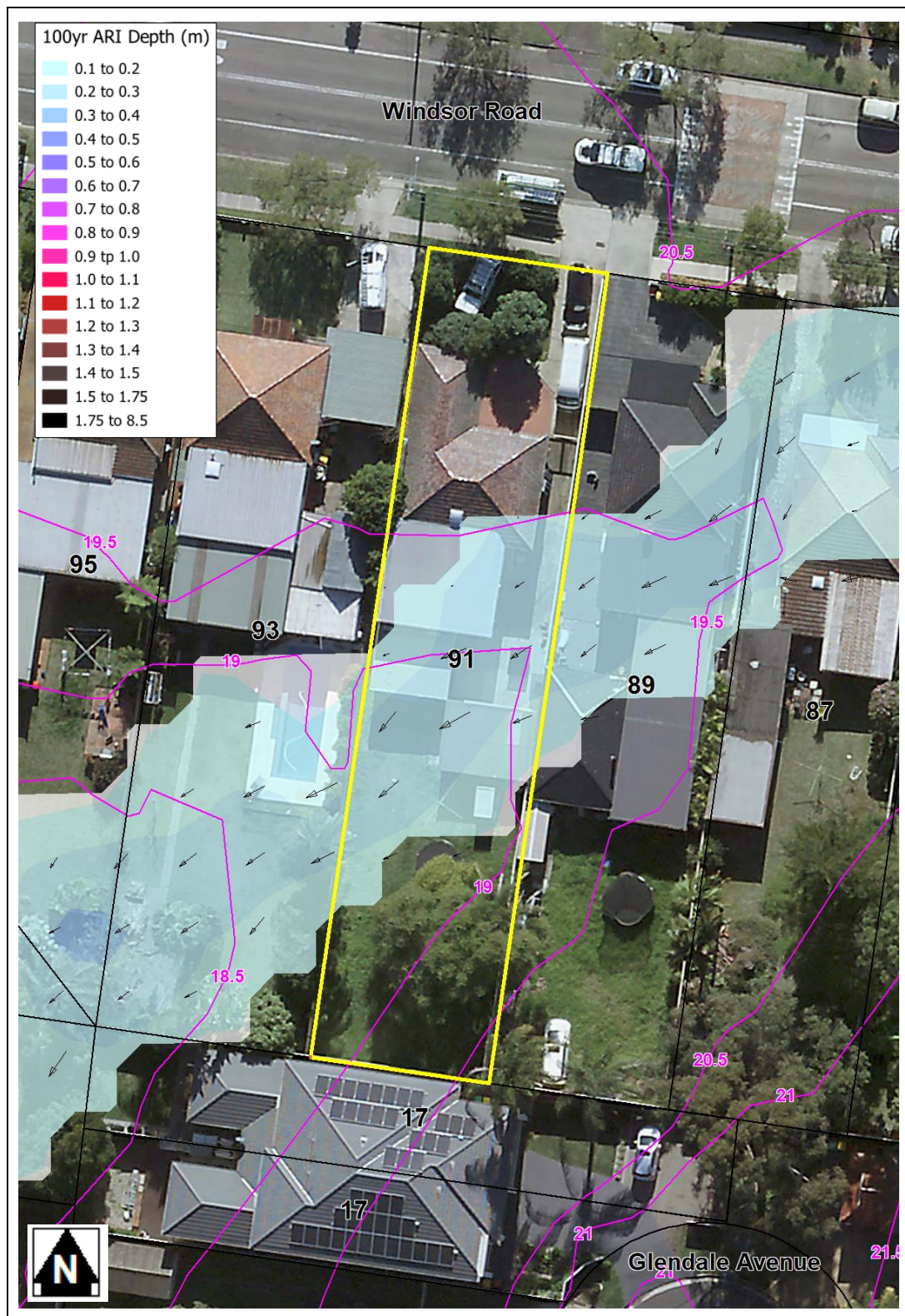
For PMF

4. Flood Contours & Flood extent Map
 5. GIS Map (from Council's Data)
 6. Aerial Map (from Council 's Data)
- Note: Attached Georges River Flood Extent Map if affected by Georges River flooding

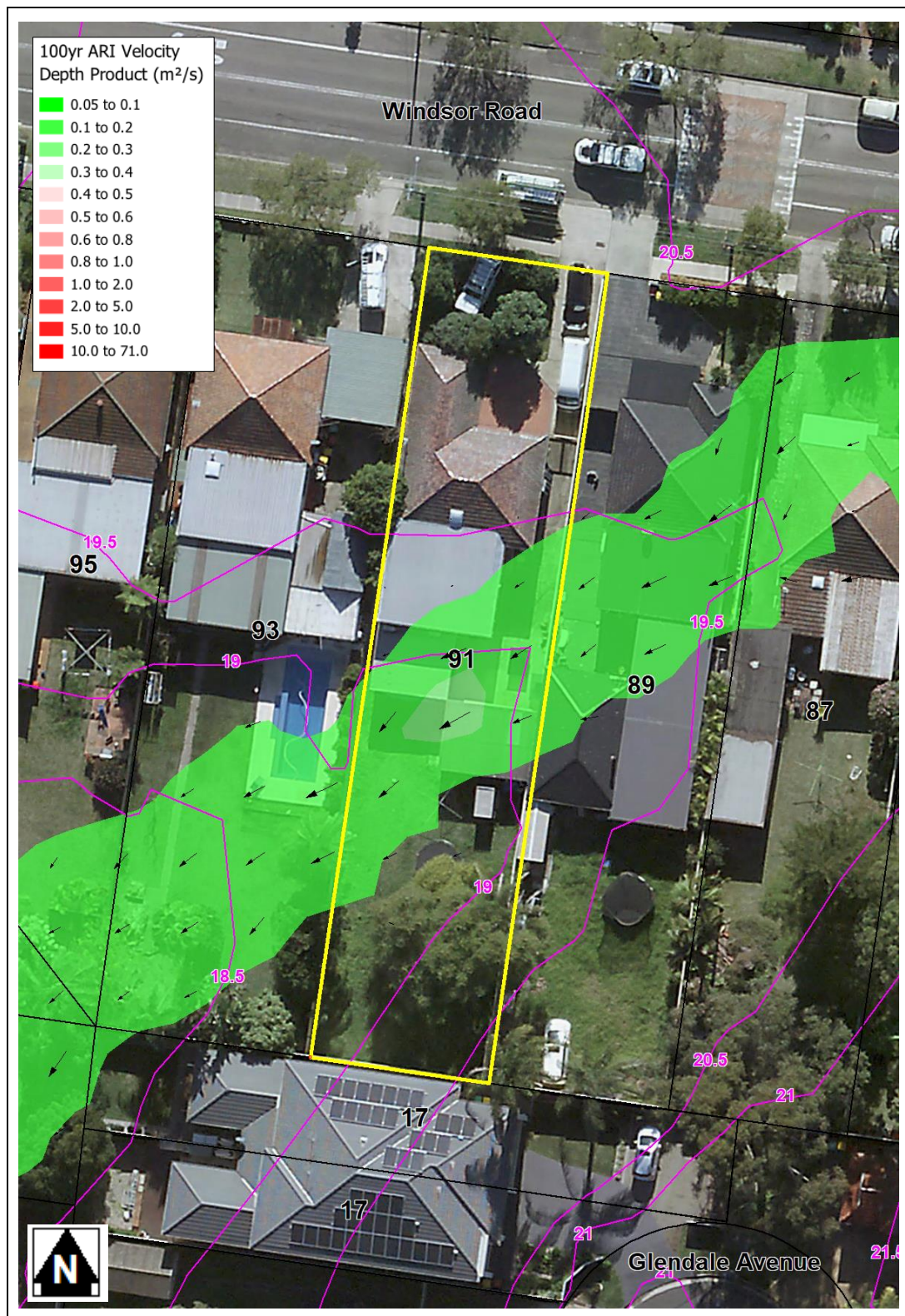
The hazard categories are: NOT affected by Georges River flooding



1% AEP (100 year ARI) Flood Extent



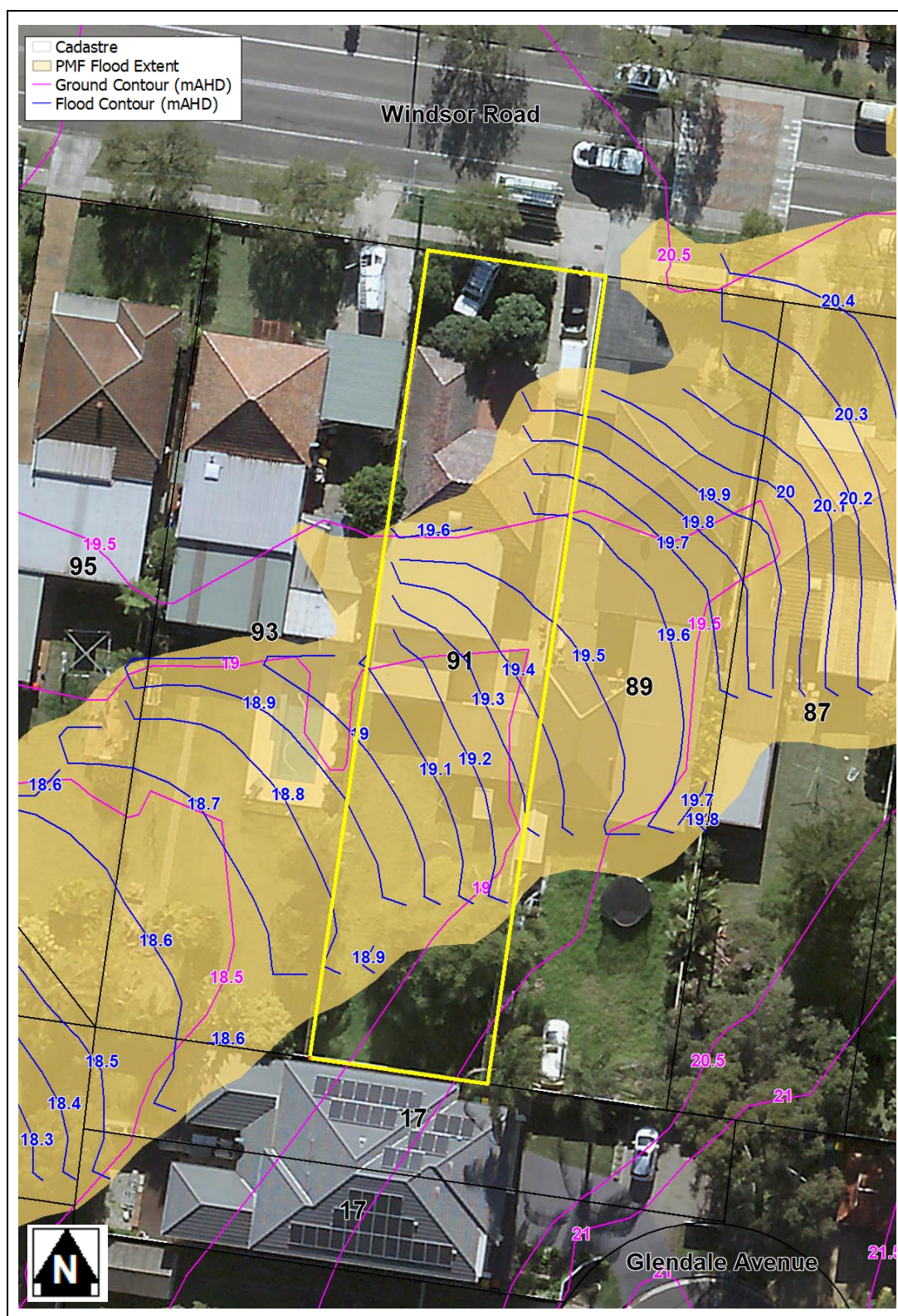
1% AEP (100 year ARI) Flood Depth



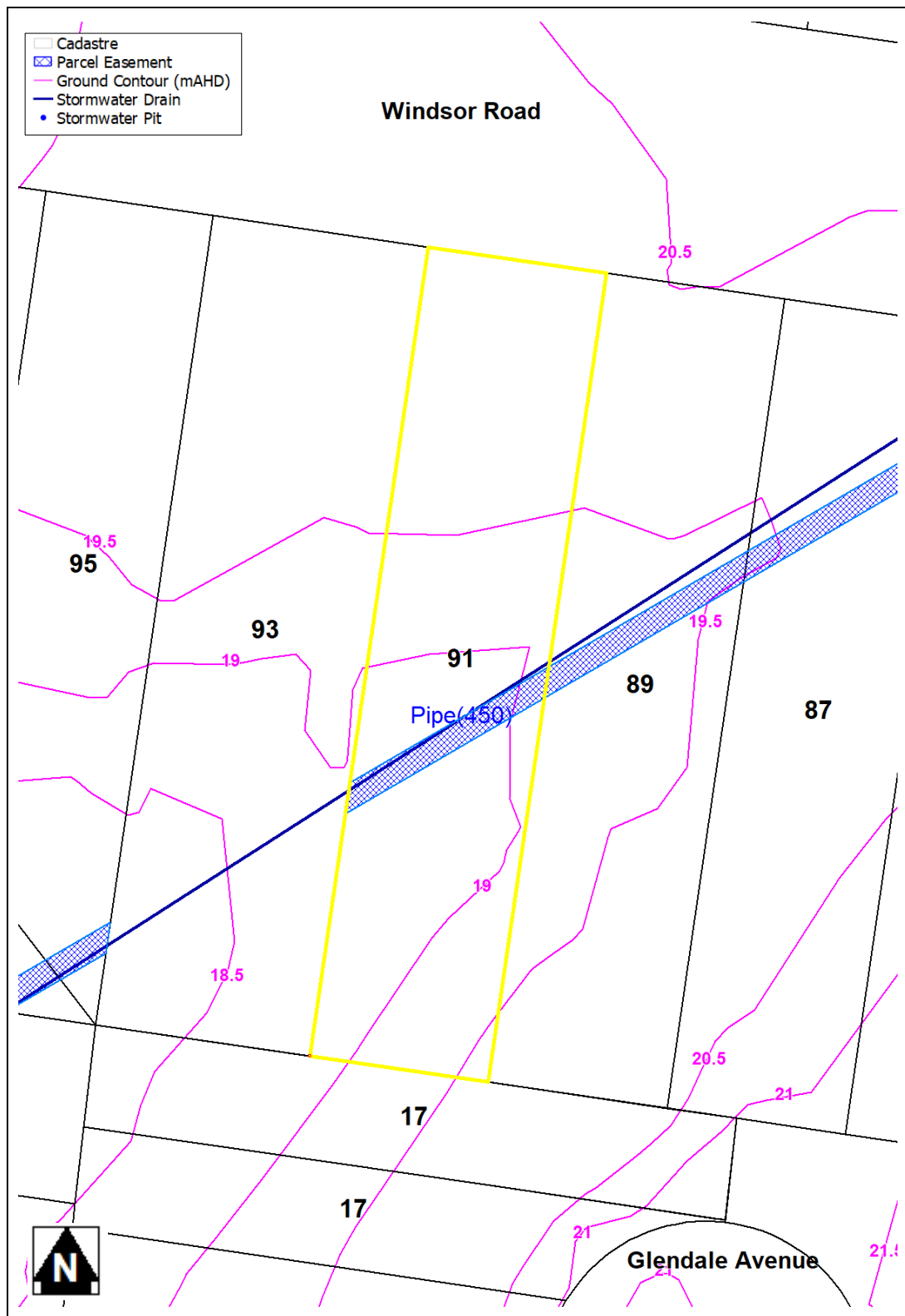
1% AEP (100 year ARI) Flood Velocity Depth Product



Georges River Flood Hazard Category



PMF Flood Extent



GIS Map for 91 Windsor Road Padstow



Aerial Map for 91 Windsor Road Padstow