



**FLOOD IMPACT REPORT
MIX USE DEVELOPMENT
105 FOREST ROAD
&
1A HILL STREET
HURSTVILLE NSW 2220**

DATE: 30.03.2026

REVISION : B

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1. INTRODUCTION

This flood impact report has been prepared by ATB Consulting Engineers for the Proposed Mixed-Use Development at 1A Hill Street & 105 Forest Road, Hurstville (SSD-84552728) in response to the Request for Information (RFI) issued by the Department of Planning, Housing and Infrastructure (the Department) on 6 February 2026.

The primary purpose of this report is to address the flood-affected nature of the subject site and demonstrate that the proposal aligns with the safety and management requirements set out in Chapter 6 of the Georges River Stormwater Management Policy, dated 2023, to ensure the development does not result in a significant increase in social or economic costs due to flooding and to minimize the risk to human life and property damage.

Specifically, the Department requires a detailed assessment by a qualified engineer to address the site's hazard classification and to provide formal recommendations for risk mitigation.

This flood report has been prepared in conjunction with the following documents:

- Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards, dated October 2023.
- Georges River Council- Stormwater Management Policy (2023).
- Flood Study results datasets for Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) obtained from SES-NSW Website.
- Australian Disaster Resilience Handbook Collection- Guideline 7-5.
- Detail Survey of the site by ATS Land & Engineering Surveyors before the existing pavement on the North was demolished, dated 19/19/2002.
- Architectural Plans by DWA.
- Site Inspection.

2. SITE DESCRIPTION

The subject site is located at the corner of Forest Road and Hill Street in Hurstville, NSW 2220, and is formally identified as 105 Forest Road and 1A Hill Street (Lot A and B, DP421265) as shown in Figure 1. The Site is approx. 2634m² in area, and slopes towards Forest Road.

North part of the Site (105 Forest Road) served as a Petrol Station until late 1998, whereas the south (1A Hill Street) had a Hotel/Pub on site as shown in the historical aerial image from 1998 (Figure 2).



Figure 1. Site location (Background image sources: SixMaps-NSW and Openstreet Maps).

Site Survey (Figure 3) shows the Site elevations after the petrol station was decommissioned before its pavement was demolished in 2002. As shown in Figure 3, the site had no depression or sink which would result in permanent ponding on site during a design flood event until 2002.

As shown in historical aerial image of the Site (Figure 4), the concrete pavement on the north of the Site was demolished by 2005.

Following the Development approval for “Demolition of Buildings at 1A Hill Street and 105 Forest Road- Hurstville & Construction of 7-13 Storey Mixed Use Development with Basement Parking” on 11/10/2012 (12/DA-132), the Hotel/pub in the south of the Site was also demolished and the Site was vacant.

From the contour lines derived from 2013 Lidar derived Digital Elevation Model (which was also used in Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards, dated October 2023) it can be seen that the digital elevation model captured the ground elevations after the demolition of the concrete pavements on site. The areas hatched in blue shows the depression (sink) areas where the ground levels are lower than its surrounding which were not there prior to demolition of the concrete pavements.



Figure 2. Aerial image of the Site in 1998 (Source: Historical Imagery- NSW Spatial Services).

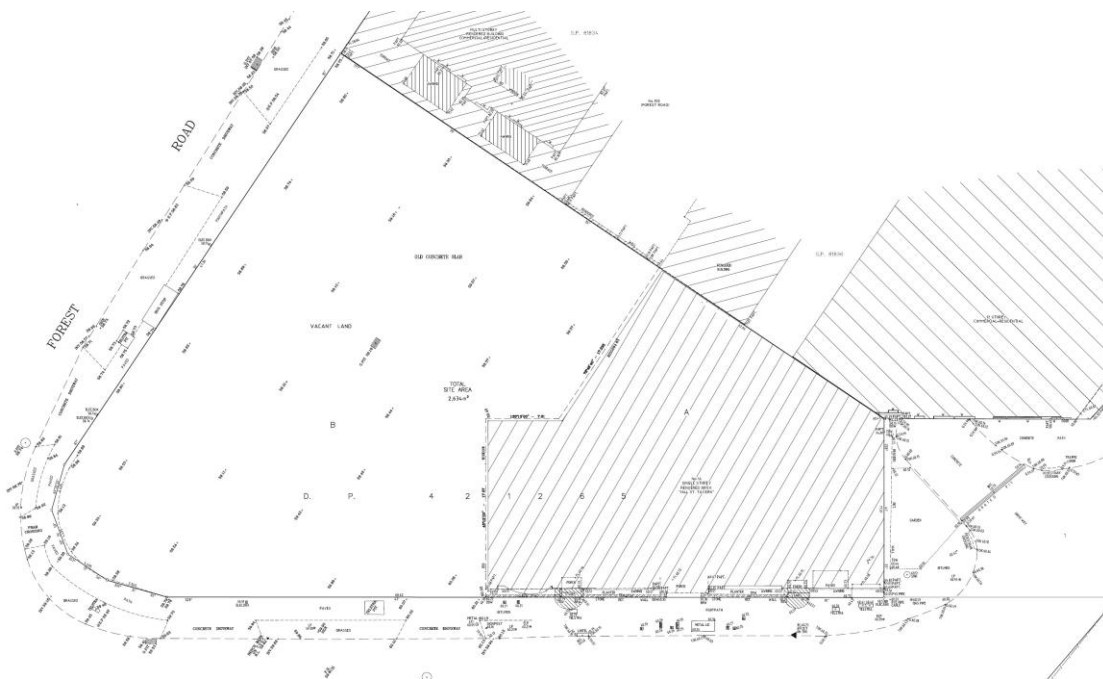


Figure 3. Site Survey by ATS Land & Engineering Surveyors, dated 2002.



Figure 4. Aerial image of the Site in 2005 (Source: Historical Imagery- NSW Spatial Services).

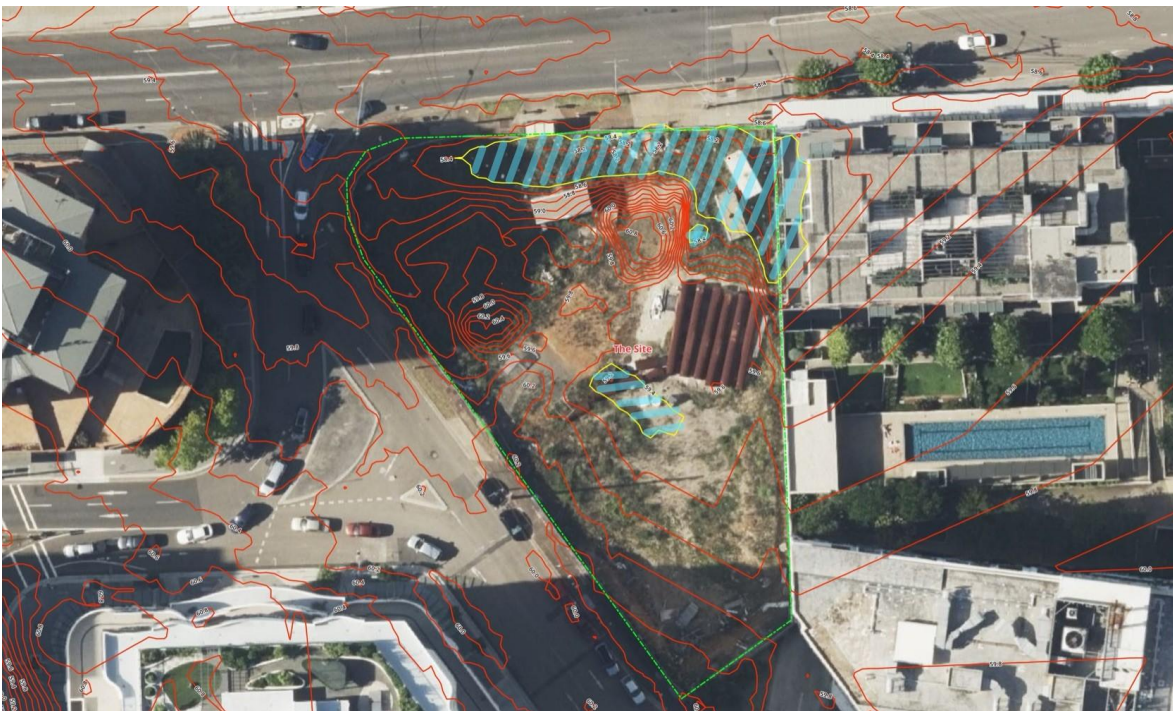


Figure 5. Sink Locations captured in 2013 DEM, after the demolition of concrete pavements on Site. In light of the site's transitional history, it is evident that 2013 digital terrain representations do not fully reflect the Site's natural topography. The decommissioning and subsequent demolition of the service station and hotel

between 2002 and 2013 introduced artificial depressions, identified as "sinks" in the 2013 LiDAR-derived DEM, which are inconsistent with the site's historical topography and drainage patterns.

3. EXISTING FLOOD BEHAVIOUR

The Site falls within the area of Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) as shown in Figure 6.

Before looking at the flood modelling results of Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023), it is useful to determine the relevant flowpaths and subcatchments contributing to flood behaviour around the Site as it may be difficult to see exact flow paths from a 2D flood study results where the results are filtered out for depths less than 150mm.

Figure 7 shows the areas contributing the flood flows at the junction of Forest Road and Hudson Street, adjacent to the northern boundary of the Site where it is mapped as flood affected. The subcatchments and flow paths were delineated by ATB using 2013 DEM, and HEC HMS v4.12.

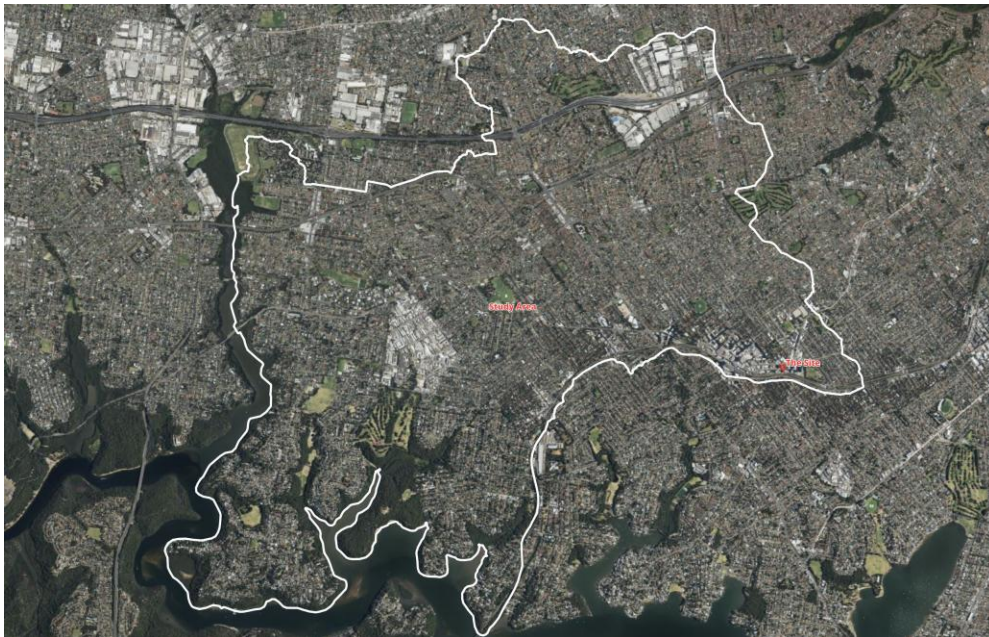


Figure 6. Site Location, and boundaries of Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023).

It is seen in Figure 7 that the area marked with blue is at an intersection point for the expected overland flows, and the floodwater is expected to follow the flow paths to the north on Hudson Street. Being at the edge of the overall study area, the contributing upper subcatchments are relatively small which results in shallow overland flood depths which are filtered out in flood mapping.

It is also important to notice that, the catchment of overland flow filling the sink on Site (see Figure 5) is mainly the Site itself. The overland flow catchment of the Site contains an upstream sink next to the Railway Corridor, which can only contribute

to overland flow to the Site if it is filled. It should be expected to see constant flood levels over these sink locations (Figure 8). If the sink is filled during a design flood event, then it overflows on to lower elevations of the sub catchment.

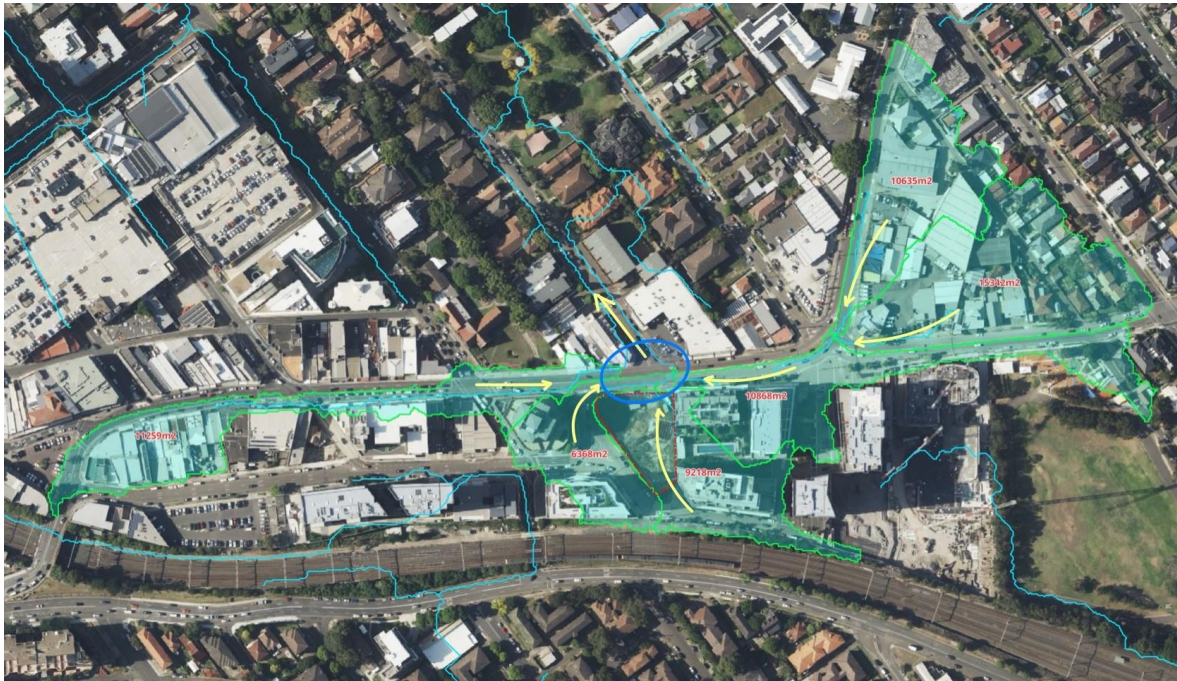


Figure 7. Sub Catchments contributing the flood flow at the junction of Forest Road and Hudson Street.

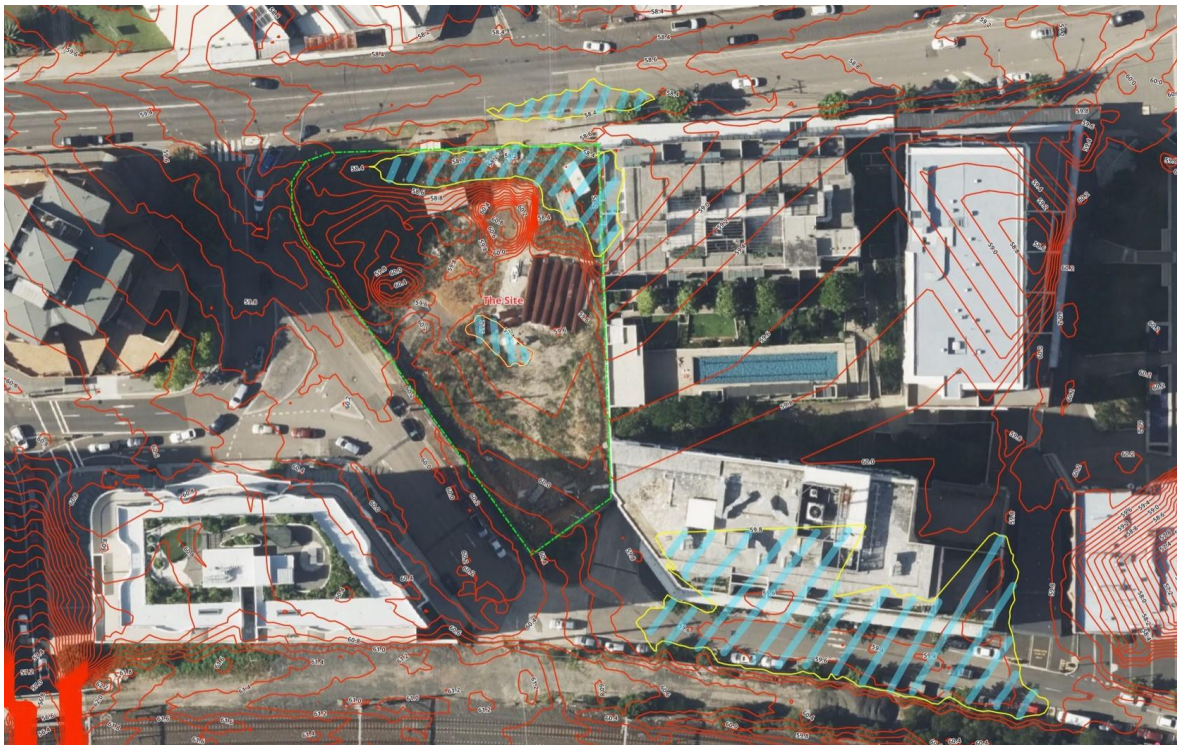


Figure 8. Sinks in the overland flow catchment of the Site, derived from 2013 DEM elevations.

Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) shows this lot as flood affected in 20%AEP, 1%AEP and PMF.



Figure 9. 20%AEP flood levels.



Figure 10. 1%AEP Flood Levels.



Figure 11. PMF Flood Levels.

It can be seen that 20%AEP and 1%AEP flood levels over the sinks are exactly the same and higher than the flood levels over Forest Road, which can be interpreted that the source of overland flow filling the sink is not coming from Forest Road, but the Site itself. The flood levels over the sinks shown in Figure 8 are constant for 20%AEP, 1%AEP and PMF as anticipated.

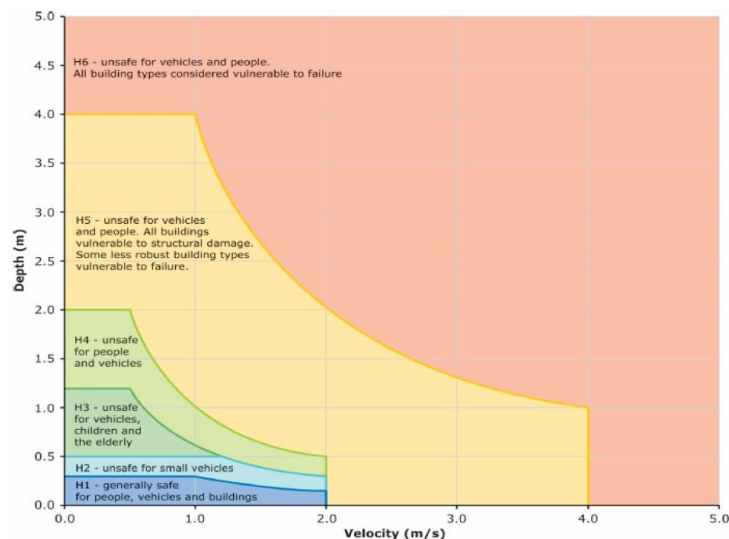


Figure 12. Combined Hazard Curves (Source: ARR2019 Guidelines- Figure 6.7.9).

Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) mapped the Hydraulic Hazard (Figure 13) according to 1%AEP Velocity and Depth modelling results and the combined flood hazard curves from ARR2019 Guidelines as shown in Figure 12. The hydraulic Hazard values in the vicinity of the Site are only H1 and H2, which is not classified

as High Hazard by Georges River Council- Stormwater Management Policy (2023).



Figure 13. 1% AEP Hydraulic Hazard.

The Flood Study described the Flood Function as shown in Figure 14.

Category	Floodway Definition Parameters
Floodway	a) $VD > 0.25 \text{ m}^2/\text{s}$ AND $V > 0.25 \text{ m/s}$; b) or $V > 1.0 \text{ m/s}$ AND $D > 0.01 \text{ m}$
Flood Storage	Areas outside floodway where $D > 0.2 \text{ m}$
Flood Fringe	Remaining areas not defined by floodway or flood fringe

Figure 14. Flood Function definitions by Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023)- Table 7.

It should be noted that, the Flood Study refers to the definitions of flood functions described in Australian Disaster Resilience Handbook Collection- Guideline 7-5, where Flood Storage was defined as “During a flood event, significant amounts of floodwater can also extend into, and be temporarily stored in flood storage areas of the floodplain. This water flows downstream as the flood recedes”.

For the Site, the depression located within the Site acts as inactive dead storage (a sink). Unlike active flood storage, most of this volume does not return to the conveyance system during the recession of the flood pulse. Thus, numerically defining a flood storage (eg. $D > 0.2 \text{ m}$) may lead to defining the sink area on Site as Flood Storage, which is merely a numerical artifact rather than its actual flood function. Considering the actual flood behaviour, this area should have been classified as Flood Fringe.



Figure 15. 1%AEP Flood Function Map by Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023).

4. FLOOD RISK PRECINCTS

Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) uses Flood Planning Constraint Categories definitions by Australian Disaster Resilience Handbook Collection- Guideline 7-5 for the Study Area (on p.55 Section 7.2, Table 14) and proposes aligning these definitions with the Flood Risk Precincts definitions of Georges River Council-Stormwater Management Policy (on p.57, Table 15, as shown in Figure 16 below). The alignment matrix includes flood storage areas in the High Flood Risk (Flood Risk Precinct-1), which ATB considers does not apply.

Flood Planning Constraint Category	Flood Risk Precinct	Variations
1	1 – High Flood Risk	FPCC1 considers Hydraulic Categories (1% Floodway and Flood Storage).
2	1 – High Flood Risk	FPCC2 considers Hydraulic Categories (0.2% AEP Floodway) and Hazard in events larger than the 1% AEP (0.2% AEP H6).
3	2 – Low Flood Risk	-
4	3 – Outside 1% AEP extent but within PMF	-

Figure 16. Alignment Matrix by the Flood Study for Flood Risk Precincts.

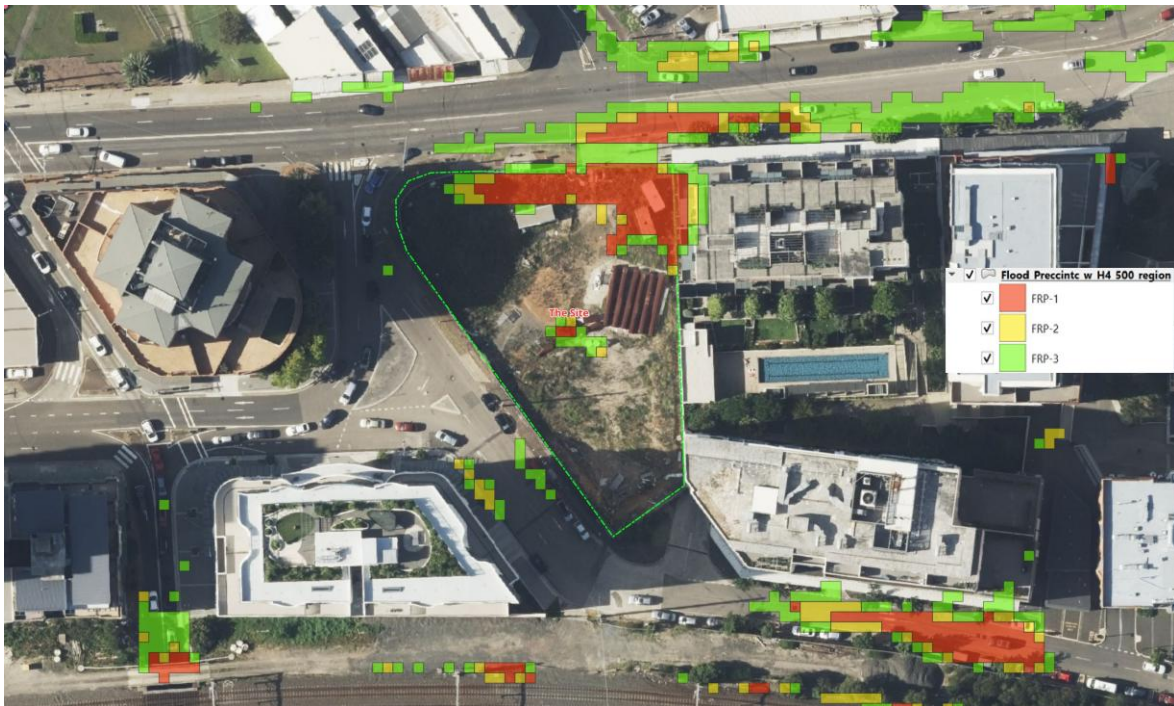


Figure 17. Flood Risk Precincts map from Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023).

Georges River Council-Stormwater Management Policy (2023) considers inundation in 1%AEP and Flood Hazard, and Evacuation difficulties in determining the Flood Risk Precinct type.

According to 1%AEP flood level map (Figure 10) and 1%AEP Flood Hazard Map (Figure 13), the Site contains land below 1%AEP, and the parts inundated in 1%AEP are only H1 and H2 Flood Hazard Category, which are defined as Low Flood Hazard. Most of the Site is flood free up to PMF, and there is no apparent difficulty of evacuation for the Site. Thus, the areas mapped as High Flood Hazard in Figure 17 should have been Flood Risk Precinct 2- Low Flood Risk instead of Flood Risk Precinct 1- High Flood Risk.

Thus, the Northern Part of the Site should be within FRP2- Low Flood Risk Precincts which is defined as “(b) Flood Risk Precinct 2 –land below the 1% AEP flood that is not subject to a high hydraulic hazard and where there are no significant evacuation difficulties. There would still be a significant risk of flood damage in this precinct. However, these damages can be minimised by the application of appropriate development controls.” in Georges River Council-Stormwater Management Policy (2023).

In summary,

- 2013 DEM contains elevations which reflects post demolition of concrete pavement in the northern part of the Site, adjacent to Forest Road.
- For the purposes of this flood impact assessment, these localized depressions should be treated as anthropogenic artifacts rather than permanent hydraulic features.

- Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) classified this feature (Sink) as flood storage as a result of Hydraulic Model outcomes following the definitions described in Figure 14.
- Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) study requested including flood storage areas as High Flood Risk Precinct definition in its alignment matrix as shown in Figure 16.
- Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) mapped the flood storage areas (as well as floodways) as High Flood Risk Precincts (FRP-1).
- Considering Georges River Council- Stormwater Management Policy (2023) and maps for Flood Levels and Hydraulic Hazard of the Flood Study, the Site should be considered as Flood Risk Precinct 2- Low Flood Risk.

5. PROPOSED DEVELOPMENT

It should be noted that a Development Application was approved for “Demolition of Buildings at 1A Hill Street and 105 Forest Road- Hurstville & Construction of 7-13 Storey Mixed Use Development with Basement Parking” on 11/10/2012 (12/DA-132). Minor earthworks and demolition of existing structures was carried out in 2013.

After the acquisition of the Site by TQM, a Major Modifications application, S4.55(2) for 12/DA-132 (MOD2017/0033) was approved by Georges River Council on 05/05/2021 for amendments of ground floor and basement layouts.

Construction activities had started on Site in late 2022 for utility and Infrastructure works. Water main relocation, preliminary preparations and high intensity excavation, drilling and structural shoring for the proposed basement floors were carried out between early 2023 and late 2025 (Figure 18 and Figure 19).

Proposed development is for a Mix Use Development at 1A Hill Street and 105 Forest Road- Hurstville NSW. It is comprised of 4.5 levels of underground basement carpark, a Ground floor for Commercial/Retail units and 19 levels of Residential units.



Figure 18. Shoring wall construction for Basement, Southern part of the site.



Figure 19. Shoring Wall construction, Northern part of the site.

The commercial units will be on the Northern perimeter (Forest Road boundary), and North western perimeter (Hill Street boundary) of the Site. Basement Garage ramp will be on the south side of the Site on Hill Street as shown in Appendix A.

1%AEP flood maps show that only the northern part of the Site is flood affected on Forest Road side. Hill Street side is not flood affected in 1%AEP design flood conditions.

6. COMPLIANCE WITH GEORGES RIVER COUNCIL-STORMWATER MANAGEMENT POLICY- PRESCRIPTIVE CONTROLS

The Proposed Mix Use Development is subject to Prescriptive Controls for Flood Risk Precinct 2- Low Flood Risk described in Chapter 6 of Georges River Council-Stormwater Management Policy (2023).

The Proposed Development will be assessed against the prescriptive controls for Floor Levels, Building Components, Structural Soundness, Flood Effects, Parking and Driveway Access, Evacuation, and Management and Design as shown in Figure 20.

Matrix 2 – Flood Risk Precinct 2 – Low Flood Risk

Flood Precinct	Low Risk							
Land Use	Critical uses and facilities	Sensitive uses and facilities	Subdivision	Residential	Commercial or industrial	Tourist related development	Recreation or non-urban uses	Concessional development
Floor level				1, 2, 6	1, 2, 6	1, 2, 6	4, 6	5, 6
Building Components				1	1	1	1	1
Structural Soundness				1	1	1	2	1
Flood Effects			3, 4	1, 4	1, 4	1, 4	1, 4	1, 4
Parking and Driveway Access			8	1, 3, 5, 6, 7	1, 3, 5, 6, 7	1, 3, 5, 6, 7	2, 4, 6, 7	1, 5
Evacuation			3, 4, 5	3, 4, 6	3, 4, 6	3, 4, 6	1, 4	3, 6
Management and Design			1	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4

Figure 20. Excerpt of Flood Risk Planning Matrix-2 from Georges River Council- Stormwater Management Policy (2023).

Table 1. Addressing Prescriptive Controls.

Prescriptive Control	How the Proposal Addresses the Prescriptive Control
Floor Level <i>1. Non-habitable floor levels should be no lower than 300mm above the 1% AEP.</i> <i>2. All habitable floor levels to be equal to or greater than the 1% AEP flood level plus freeboard.</i> <i>6. If a qualified stormwater engineer provides evidence to the satisfaction of Council's development engineers that in the 1% AEP flood the maximum depth of flooding does not exceed 150mm, and the hydraulic hazard determined in accordance with Figure 1 is low:</i> <i>(i) Habitable floor levels are to be equal to or greater than the 1% AEP flood level plus 300mm freeboard; and</i> <i>(ii) Non-habitable floor levels should be no lower than 150mm above the 1% AEP flood level.</i>	Although the flood maps show that the northern part of the Site as flood affected, it is explained in Part 2 and 3 of this report why these parts should be treated as man-made artifacts rather than natural flood behaviour features of the Site. Considering the natural flow direction is from the Site to Forest Road, the downstream of the subject Site will benefit from the construction of the proposed development rather than being negatively affected. The current flood study results are unrepresentative of the site's natural behavior because the underlying Digital Elevation Model (DEM) was captured after the demolition of concrete pavement, inadvertently recording a man-made sink that does not exist in the site's natural or final intended state. As the proposed development will fill this artificial depression, the localized ponding behavior captured in previous modeling will be eliminated, reflecting a more accurate flood profile for the site. 1% AEP flood depth adjacent to the Site will not exceed 150mm (this part will not be flood affected in Post Development stage) and the hydraulic hazard is low. Thus the required floor levels for two Ground Floor Commercial/Retail Premises next to flood affected area (north eastern corner of the Site) will be 300mm above the existing adjacent 1%AEP Flood Levels on Forest Road (FFL=1%AEP FL58.59+0.3m=RL58.89m AHD). All the other GF commercial/retail units are adjacent to flood free areas and above the finished ground levels outside the proposed building. Thus, Floor Level requirement is satisfied.

Building Component <i>1. All structures to have flood compatible building components below the 1% AEP flood level plus freeboard.</i>	The proposed building is to be constructed using flood compatible building materials up to the 1%AEP flood level plus freeboard and above. Therefore, through the use of the building components, this requirement is satisfied.
Structural Soundness <i>1. Applicant to demonstrate that the structure can withstand the forces of floodwater, debris, and buoyancy up to and including a 1% AEP flood plus freeboard, or up to the probable maximum flood (PMF) if required to satisfy the evacuation requirement (see below); an engineer's report may be required.</i>	The structural integrity of the proposed mixed-use development, incorporating the primary building, subterranean parking facilities, pavement, and On-site Stormwater Detention (OSD) system, will be certified by a chartered Structural Engineer prior to the issuance of a Construction Certificate (CC). Adherence to the design principles outlined in the ABCB Standard 'Construction of Buildings in Flood Hazard Areas' will ensure the development is engineered to withstand hydrodynamic forces, debris impact, and buoyancy effects up to the Probable Maximum Flood (PMF) event. These requirements may be integrated as formal Conditions of Consent. Therefore, Proposed Mix Use Development will be able to withstand the forces of floodwater debris and buoyancy up to and including PMF.
Flood Affection <i>1. The applicant is to demonstrate to Council (by way of an Overland Flow Path Assessment or Local Flood Study as per Section 6.11 of this Policy if requested) that the development will not increase flood affection elsewhere having regard to:</i> <i>(i) Loss of flood storage;</i> <i>(ii) Changes in flood levels, flows and velocities caused by alterations to flood flows; and</i> <i>(iii) The cumulative impacts of multiple potential developments in the vicinity.</i> <i>4. Council may require the creation of an easement, or that a Positive Covenant and Restriction on the use of the land be placed on the Title Certificate identifying the location of "overland flow paths", "flood storage" or locations of significant backwater flooding.</i>	Overland flow Floodplain Risk Management Study and Plan for Hurstville, Mortdale, and Peakhurst Wards (2023) hydraulic model results indicates that the flood affection noted in the northern portion of the Site is an artifact of the DEM data acquisition timing. The elevation data reflects post-demolition conditions where the removal of concrete pavement created a localized depression, or 'sink,' which is non-existent in the Site's natural or proposed final landform. Given the Site's natural discharge toward Forest Road, the proposed development represents a hydraulic improvement over current conditions. The project will effectively eliminate existing artificial storage areas, thereby mitigating adverse impacts on downstream receptors.

<i>This may include any sub-floor areas under buildings or other structures that are required to be of an “open structure” to allow for the passage of stormwater flow.</i>	Thus, no negative change in flood affectation elsewhere is expected, satisfying these requirements.
Parking and Driveway Access <i>1. The minimum surface level of open car parking spaces or carports shall be as high as practical, but no lower than 300mm below the 1% AEP flood level. In the case of garages, the minimum surface level shall be as high as practical, but no lower than the 1% AEP flood level.</i> <i>3. Garages capable of accommodating more than 3 motor vehicles on land zones for urban purposes, or enclosed car parking, must be protected from inundation by floods to a level no lower than 500mm above the 1% AEP flood level. Basement ramp crest entry levels are to be set as follows:</i> <i>i. Residential dwelling – 1% AEP plus 500m</i> <i>ii. Mixed use/apartments etc. – 1% AEP plus 500mm including a Flood Gate to rarer flood events.</i> <i>5. The level of the driveway providing access between the road and the parking spaces should be as high as practical, and not lower than 0.3 metres below the 1% AEP flood level. However, Council may consider a lower level for the driveway in the following circumstances, where risk to human life is not compromised.</i> <i>(i) Where the road is lower than the parking space, no part of the driveway should be inundated to a greater depth than the roadway.</i> <i>(ii) Where the car parking space is lower than the road, the depth of inundation over the driveway must not be greater than the car park inundation depth, and the driveway must rise continuously in an egress direction.</i> <i>(iii) Where the car parking space and road are both below the 1% AEP flood level, the depth of inundation over the driveway must not be greater than the depth at either the car parking space or the road. Where feasible, the driveway should rise continuously in the egress direction.</i>	Basement ingress/egress is situated on the southern boundary (Hill Street), which is outside the extent of the 1% AEP flood plain. The ramp crest level of RL 60.55m ensures the basement is protected from local overland flow, as this elevation exceeds the existing and proposed finished ground levels of the adjoining public domain. Thus, Parking and Driveway Access requirement is satisfied.

<i>7. Restraints or vehicle barriers to be provided to prevent floating vehicles leaving a site during a 1% AEP flood.</i>	
Evacuation <i>3. Reliable access for pedestrians or vehicles is required. An engineer's report may be needed to address this matter and should consider access for pedestrians or vehicles to a publicly accessible location above the PMF level. Where feasible, an area of refuge within the building or development site that is above the PMF level, and which is equal to 20% of the gross floor area of the development, or such other area capable of accommodating the number of people likely to require evacuation.</i> <i>4. The evacuation requirements of the development are to be considered. An engineer's report will be required if circumstances are possible that the evacuation of persons may not be achieved within the effective warning time. The development is to be consistent with any flood evacuation strategy, flood plan or similar strategy that has been adopted by Council.</i> <i>6. An evacuation strategy to be considered and proposals made for improving the evacuation arrangements to the site in relation to the present situation where possible. Adequate flood warning should be available to allow safe and orderly evacuation without undue reliance on the SES or other authorised emergency personnel. Options could include the provision of access for pedestrians or vehicles to a publicly accessible location, or an area of refuge equal to at least 20% of the gross floor area, or such other area capable of accommodating the number of people likely to require evacuation that is above the PMF level.</i>	As established above, this access points to the proposed development remains unaffected during the 1% AEP event. While the primary strategy is early evacuation, the development incorporates floor levels located above the PMF level exceeding 20% of the gross floor area (GFA). This provides a robust "shelter-in-place" redundancy should evacuation not be achievable within the effective warning time. The proposal represents a significant improvement over the existing site conditions. By formalizing the crest levels and providing floor levels over PMF, the development enhances the overall flood resilience of the site and reduces the potential burden on public emergency resources compared to the current site configuration. Therefore Evacuation conditions are satisfied.
Management and Design <i>2. A Site Emergency Response Flood Plan is required where the site is affected by the 1% AEP flood level.</i> <i>3. Applicant to demonstrate that there is an available area above the 1% AEP flood level plus freeboard to store goods.</i>	All proposed finished floor levels (FFLs) exceed the designated Flood Planning Level (FPL); consequently, a Site Emergency Response Flood Plan is not a regulatory requirement for this development. Furthermore, all inventory and goods will be stored above the FPL, as the

4. <i>No storage of materials below the prescribed floor level which may cause pollution or be potentially hazardous during floods.</i>	building's Ground Floor levels are situated above the Probable Maximum Flood (PMF) extents. To mitigate environmental risks, the storage of hazardous or pollutable materials is strictly prohibited below the 1%AEP Levels plus a freeboard. Accordingly, the development satisfies all relevant management and design criteria.
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7. CONCLUSION

This assessment evaluates the flood risk for the Proposed Mixed-Use development at 1A Hill Street and 105 Forest Road, focusing on compliance with Georges River Council Stormwater Management Policy (2023).

- The analysis identifies that earlier high-hazard classifications resulted from artificial terrain depressions created during demolition, which do not reflect the site's natural state
- The proposed design addresses these findings by filling these "sinks," resulting in a hydraulic improvement that does not negatively impact neighboring properties.
- The development adheres to all Low Flood Risk (FRP-2) controls by setting habitable floor levels at the required freeboard, using flood-compatible materials, and ensuring the structure can withstand forces up to a Probable Maximum Flood (PMF).
- Safe vehicular access is maintained via Hill Street, which remains entirely outside the 1% AEP floodplain, while the inclusion of refuge areas exceeding 20% of the Gross Floor Area provides robust emergency safety for shelter-in-place scenarios.
- the Proposed Mix Use Development successfully manages risk to life and property through compliant management and design

In conclusion, the proposed development satisfies all flood-related requirements described in the Georges River Council Stormwater Management Policy (2023) and effectively minimizes risks to human life and property.

8. LIMITATIONS

This report has been prepared based on the information available at the time of the investigation, including site observations, and documentation provided. The findings, assessments, and recommendations presented herein are specific to the scope of work carried out by ATB Consulting Engineers and are intended solely for the purpose stated in this report.

This report is intended for use by the client and their appointed consultants, contractors, and relevant authorities for the specific project and location outlined. It

should not be reproduced or relied upon by third parties without the express written consent of ATB Consulting Engineers.

I trust the above information and recommendations will be satisfactory in addressing this matter. Should you require any further information or clarification, please do not hesitate to contact me.

For & on Behalf of ATB Consulting Engineers Pty Ltd



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9. APPENDIX A – PROPOSED ARCHITECTURAL PLAN

