WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Flood Emergency Response Plan

1-3 Reid Street and 2-4 Woodside Avenue

Woodside Residence DM Pty Ltd

16 June 2026

Document Status

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Project Name	1-3 Reid Street and 2-4 Woodside Avenue
Client	Woodside Residence DM Pty Ltd
Client Project Manager	Isaac Kan
Water Technology Project Manager	Isaac Boehme
Water Technology Project Director	Rhiannon Garrett
Authors	Isaac Boehme, Danni-Elle Clowes
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First Floor, 40 Rowan Street
Wangaratta VIC 3677
Telephone (03) 5721 2650
ACN 093 377 283
ABN 60 093 377 283

ACKNOWLEDGEMENT OF COUNTRY

The Board and employees of Water Technology acknowledge and respect the Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of Country throughout Australia. We specifically acknowledge the Traditional Custodians of the land on which our offices reside and where we undertake our work.

We respect the knowledge, skills and lived experiences of Aboriginal and Torres Strait Islander Peoples, who we continue to learn from and collaborate with. We also extend our respect to all First Nations Peoples, their cultures and to their Elders, past and present.

Artwork by Maurice Goolagong 2023. This piece was commissioned by Water Technology and visualises the important connections we have to water, and the cultural significance of journeys taken by traditional custodians of our land to meeting places, where communities connect with each other around waterways.

The symbolism in the artwork includes:

- Seven circles representing each of the States and Territories in Australia where we do our work.
- Blue dots between each circle representing the waterways that connect us.
- The animals that rely on healthy waterways for their home
- Black and white dots representing all the different communities that we visit in our work.
- Hands that are for the people we help on our journey.

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1 INTRODUCTION

1.1 Context and Background

It is understood that HYDRACOR Consulting Engineers (HYDRACOR) have prepared an Integrated Water Management and Flood Impact and Risk Assessment (FIRA) for the proposed residential development across 2-4 Woodside Avenue and 1-3 Reid Street, Lindfield (dated 18th December 2025), prepared in response to RFIs from relevant authorities. The prepared FIRA indicates minor impacts and addresses the intensification of the site's land use and subsequent increased risk during rare design storm events via a proposed shelter-in-place (SIP) strategy. An overview of HYDRACORs previously submitted study is provided in a later section of this report.

Water Technology understands that HYDRACORs response to an RFI provided by the NSW SES FIRA also demonstrated consistency with the NSW DPHI's Shelter In Place Guideline for Flash Flooding, although there continues to be a return of RFIs from the relevant authorities regarding risk matters for the site. To pre-emptively address potential future concerns with the application, it is intended a detailed FERP be prepared to strengthen the understanding of risk and emergency management procedures for the site.

Figure 1-1 Site Plan (PBD Architects, DA004 Issue 03)

A review of the Ku-Ring-Gai Council online flood and overland flow mapping portal (Figure 1-2) shows that the site is not considered to be affected by flooding from Gordon Creek, owing to its position in the upper reaches of the catchment.

The online mapping does, however, indicate that the site is affected by an overland flow path which flows directly through the subject site from north to south. Owing to this, the focus of the HYDRACOR study and this subsequent FERP will focus on the exposure of the proposed development to overland flow only.

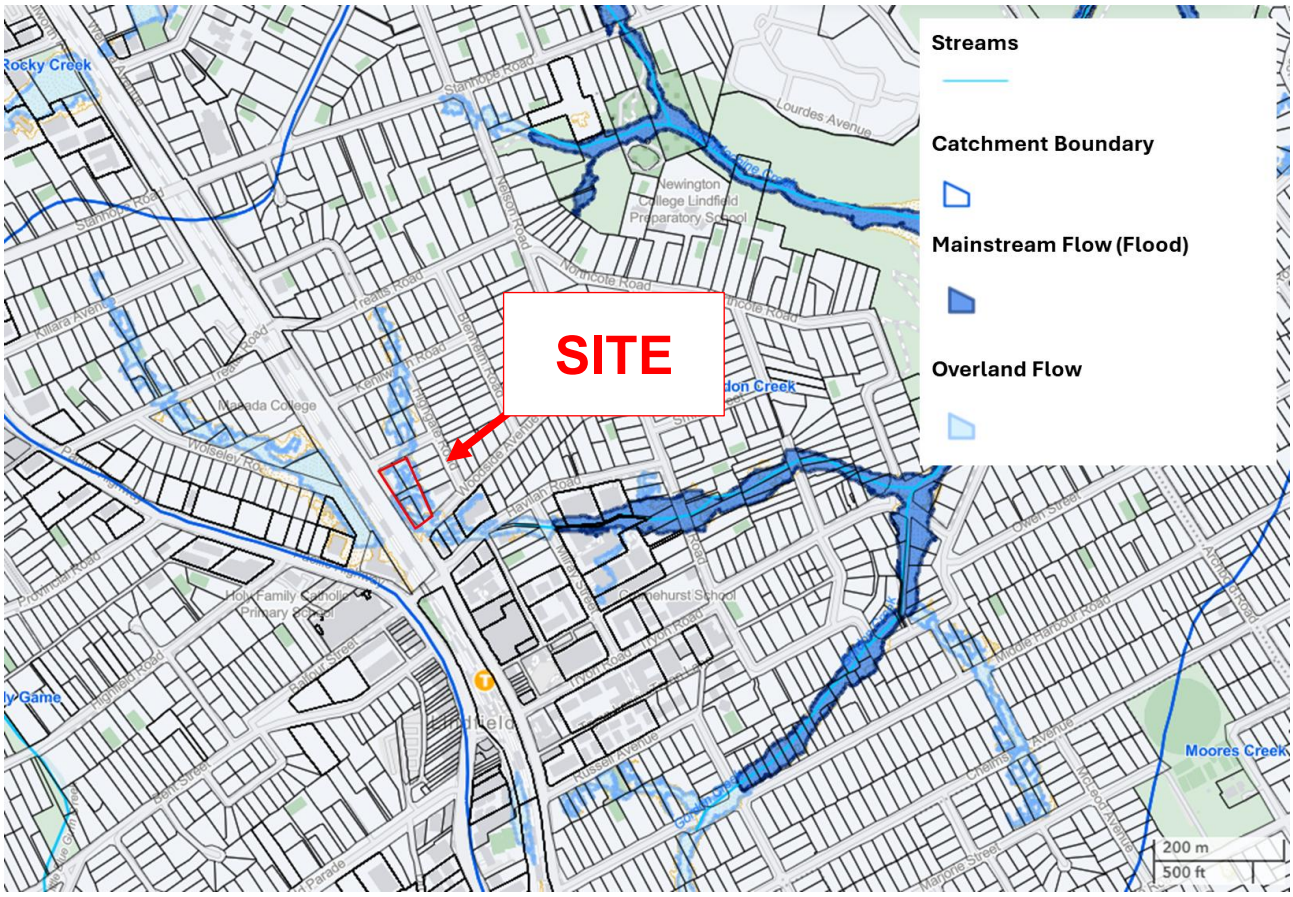

Figure 1-2 Ku-Ring-Gai Council Flood and Overland Flow Mapping

1.2 Summary of Hydracor Integrated Water Management Report

The Flood Impact and Risk Assessment (FIRA) forms part of the Integrated Water Management Plan which was prepared by Hydracor to support a State Significant Development Application (SSDA) submitted to the Department of Planning, Housing and Infrastructure (DPHI) in accordance with Part 8 of the Environmental Planning and Assessment Regulation 2021. The purpose of the Integrated Water Management Plan was to provide information to enable the Department to assess the proposed development in relation to risk management.

As part of the FIRA, a site specific overland flow assessment was undertaken for the subject site. A 1D/2D hydraulic model of the catchment was developed using TUFLOW to analyse overland flow behaviour within the vicinity of the development.

The model was used to simulate overland flow conditions under pre- and post-development catchment scenarios and to determine the extent of inundation, depths, and velocities across the modelled area. Modelling was undertaken for a range of design events including the 5% AEP, the 1% AEP event (with and without climate change provisions), and the Probable Maximum Flood (PMF). The modelling outputs were used to form the basis for the flood risk management strategy developed for the site.

Hydrologic modelling for the assessment was undertaken within the TUFLOW model using a direct rainfall ("rain-on-grid") methodology. Under this approach rainfall is applied directly to the 2D terrain and the model routes runoff based on the elevation and surface roughness of the terrain together with any included 1D pipe network. The direct rainfall approach generates runoff across the entire catchment area, resulting in the modelled area becoming 'wet'. To ensure that mapped results represent areas of meaningful inundation, the outputs were filtered to only include cells where the simulated depths exceeded 0.05m.

The critical duration storm event for each location was defined as the duration producing the highest median water level at that location. Based on the HYDRACOR modelling results, a 15-minute storm duration was identified for all design storm events.

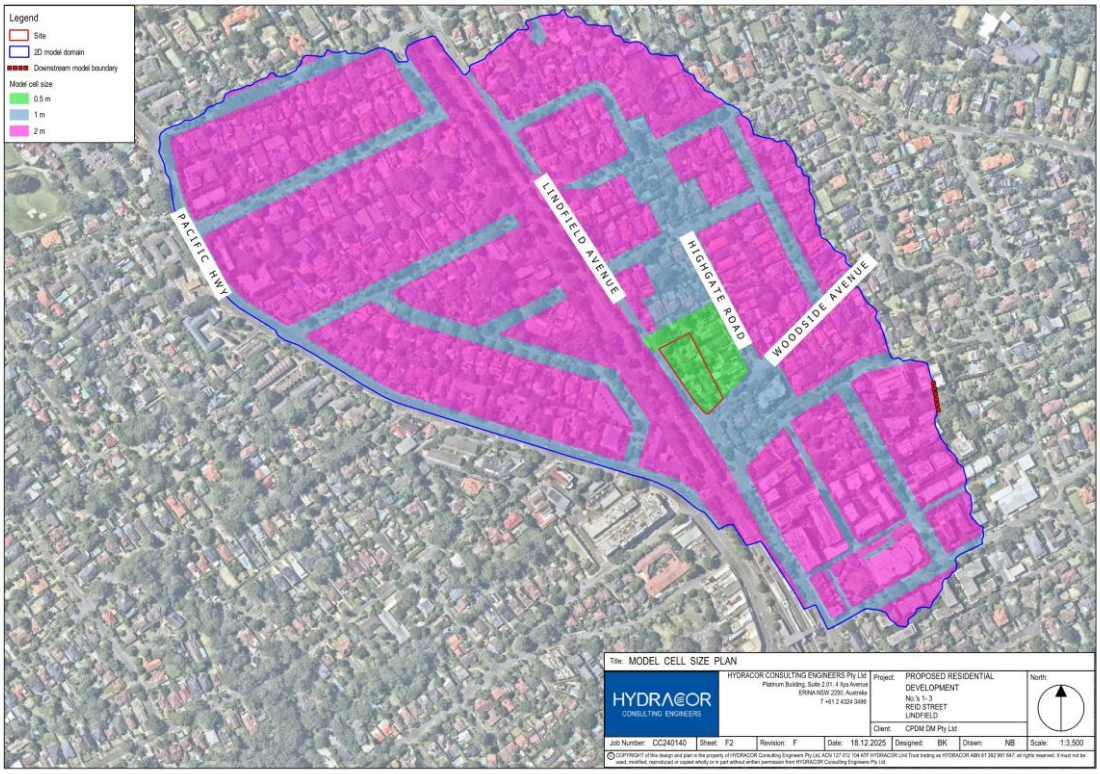

Figure 1-3 TUFLOW Model Cell Size Plan (Hydracor, 2025)

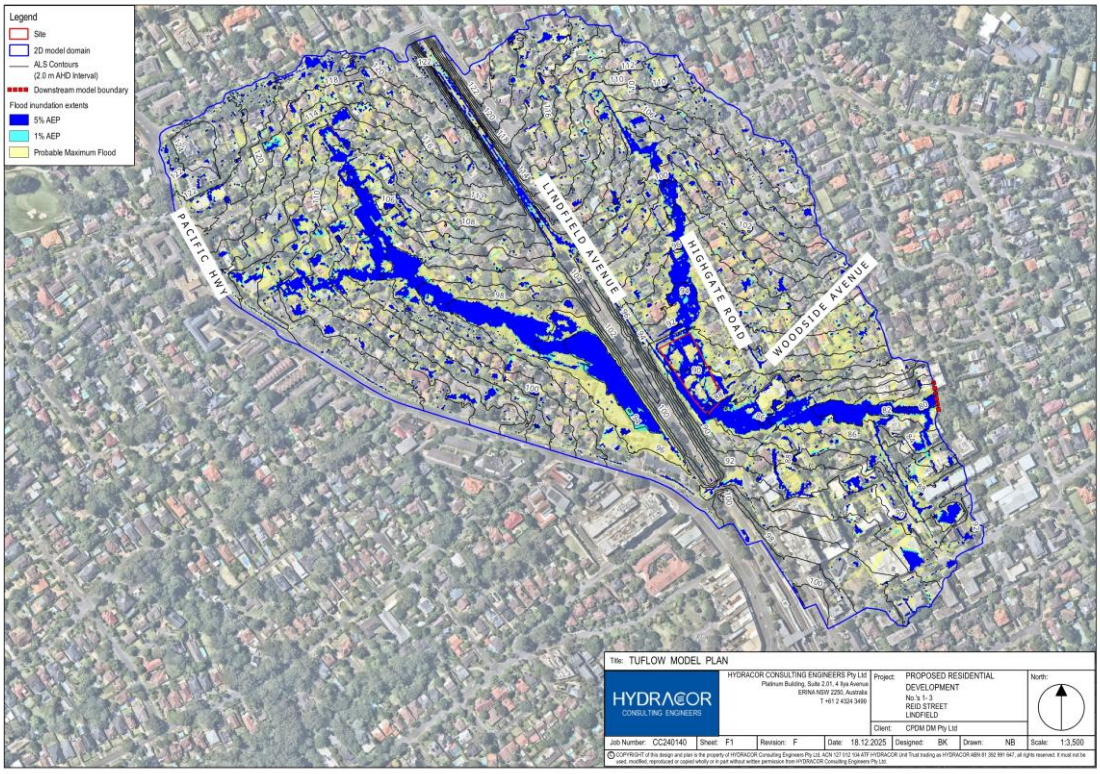

Figure 1-4 TUFLOW Model Plan (Hydracor, 2025)

1.3 Scope of This FERP

To support the ongoing planning and approval process, this new and more detailed FERP has been prepared in support of the development application. This FERP will supplement the draft HYDRACOR flood assessment within the Integrated Water Management Plan and will provide additional detail regarding the management of risk at the site.

The intent of this FERP is to provide clearer operational guidance and more detailed procedures to assist building management, occupants and emergency services in responding to rainfall events affecting the site. The plan will also provide further information to assist the relevant authorities in reviewing the proposed flood emergency management arrangements for the development.

The primary focus of this FERP is managing flood risk to life, with some measures to reduce risk to property. It details the most appropriate flood emergency management strategy for the site. It does not include measures to reduce the risks of flooding to corporate property or profitability.

Water Technology have adopted the hydraulic modelling results and technical findings presented in HYDRACORs flood study and impact assessment, which have formed the basis for the overland flow assessment and FERP. [1]

A key assumption of this FERP is that the hydrologic and hydraulic modelling undertaken using TUFLOW was prepared in accordance with relevant guidelines, standards and accepted modelling practices, and that the results presented are suitable for use in informing emergency planning for the development.

This FERP is also noted to consider the response planning for inundation at the site resulting from the external overland flow path which flows through and around the site, and is not intended to guide the design of local site-based drainage. Inundation resulting from local site-based rainfall is to be managed separately to this FERP.

Owing to the above, the preparation of this FERP does not involve a review, verification or recalibration of the supplied HYDRACOR model data.

Mapping and images of the site locality, view of the site frontage, and site topography are also shown in Figure 1-5 to Figure 1-8.

[1] Based on HYDRACOR model reference: **CC240140_post_021**

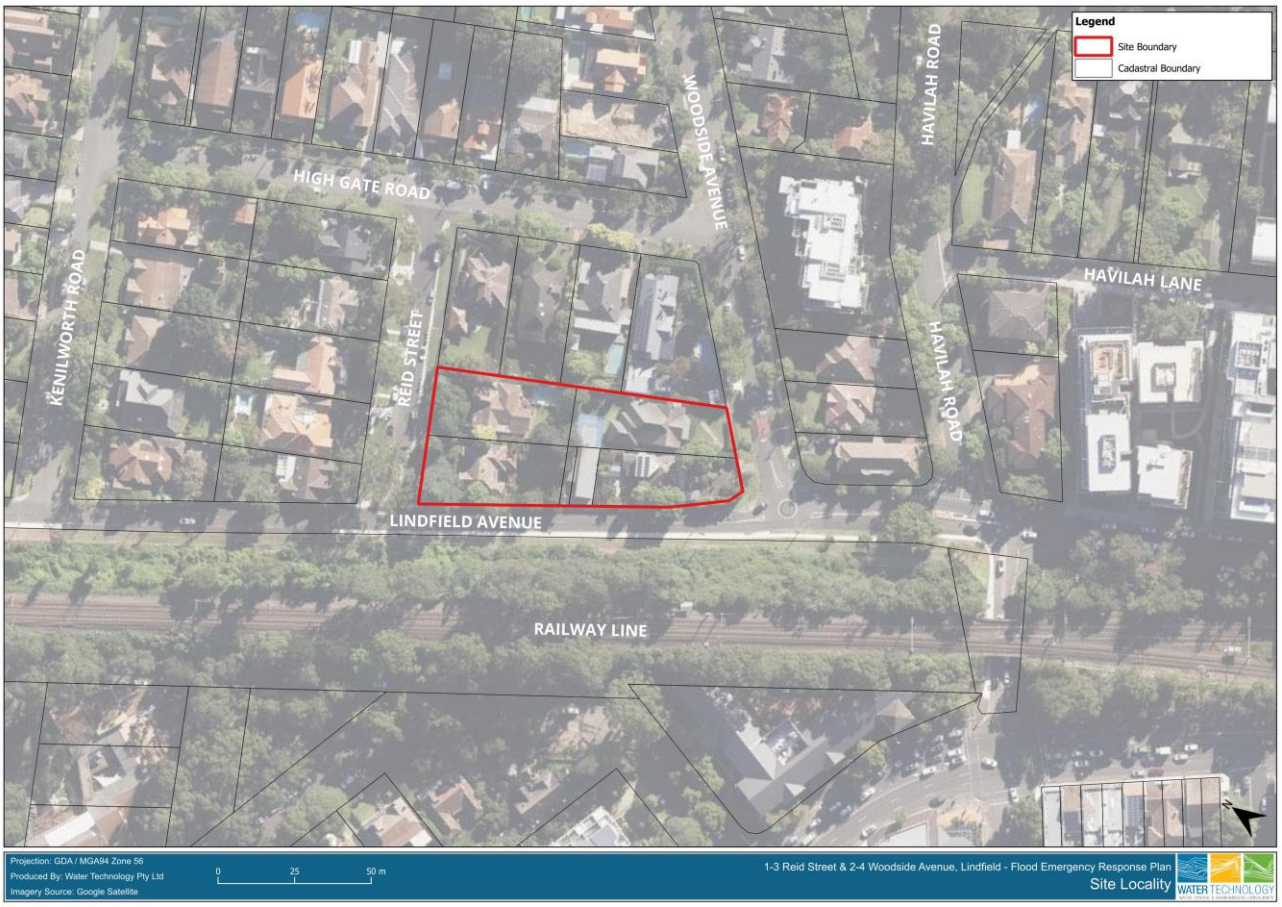

Figure 1-5 Site Locality

Figure 1-6 Current Site (From Intersection of Lindfield Avenue and Woodside Avenue, Google Maps)

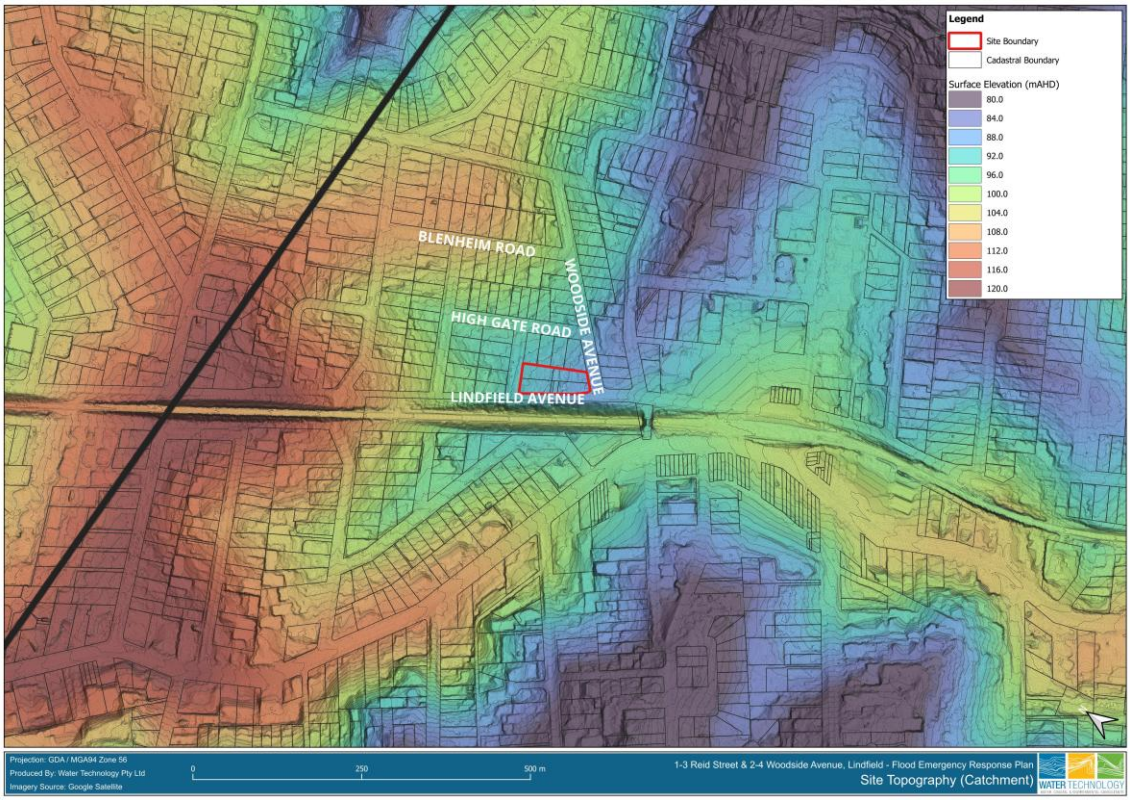

Figure 1-7 Catchment Topography

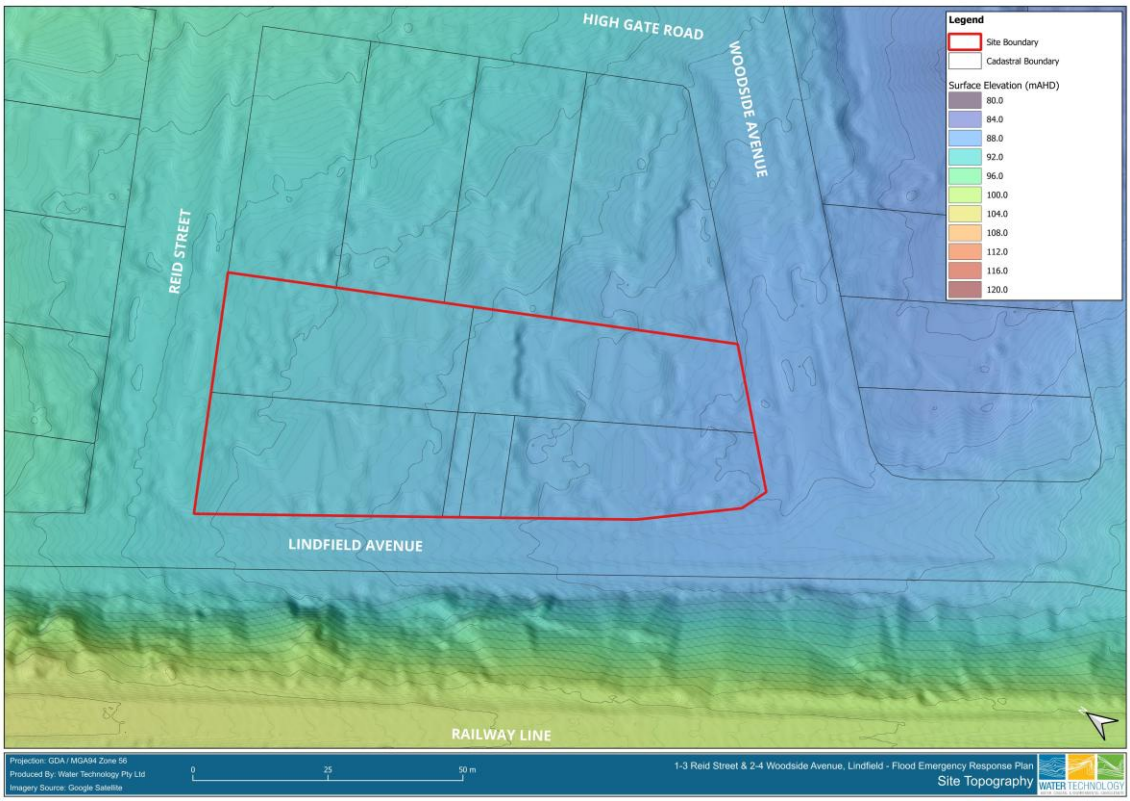

Figure 1-8 Site Topography

1.4 Description of Proposed Development

The proposed development comprises a residential apartment building with eight levels above ground level and basement parking. A mix of dwelling types is proposed throughout the development. Further details regarding the unit mix and occupancy assumptions adopted for this assessment are provided later in this report.

The proposed floor levels for each of the basement and residential levels are summarised in Table 1-1. It is noted that the ground floor does have residential use.

The ground floor plan is shown in Figure 1-9 and the fencing diagram is shown in **Error! Reference source not found.**. The ground floor plan shows the key floor levels for each apartment unit on this floor, and the fencing diagram has been used to extract the levels of the proposed flood deflection walls which envelop the building footprint.

The proposed flood deflection walls, whether against the building itself or offset (along the footpath to the east), are expected to offer protection of the building from the external overland flow path which flows from the north, in events up to and including the Probable Maximum Flood (PMF).

Table 1-1 South and North Building Floor Levels

Level	Height (mAHD) North Building "A"	Height (mAHD) South Building "B"
Basement 2	81.60	
Basement 1	84.90	
Driveway Crest	88.40	
Top of Stair 5	88.25 (Landing Denoted As 88.40, PMF Level)*	
Ground Floor	90.80	88.40
Level 1	93.95	91.55
Level 2	97.10	94.70
Level 3	100.25	97.85
Level 4	103.40	101.00
Level 5	106.55	104.15
Level 6	109.70	107.30
Level 7	112.85	110.45
Level 8	116.00	113.60
Roof	119.15	116.75

** Note: The extent of the steps and landing for Stair 5 is denoted as being 88.40mAHD (PMF Level) as per Flood Mitigation Plan – Sheet No. 3 (HYDRACOR, Issue A)*

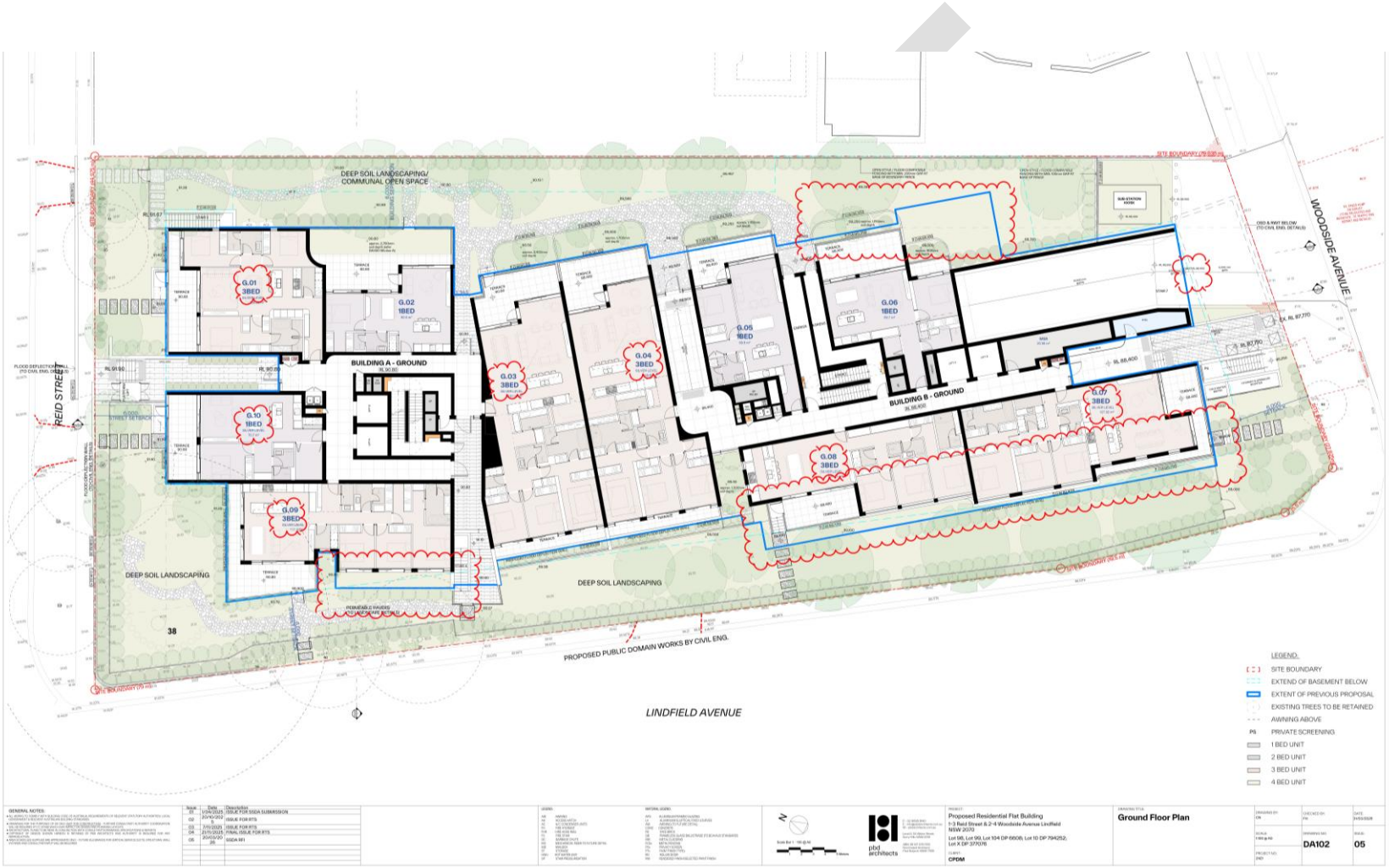

Figure 1-9 Ground Floor Plan (PBD Architects, DA004 Issue 03)

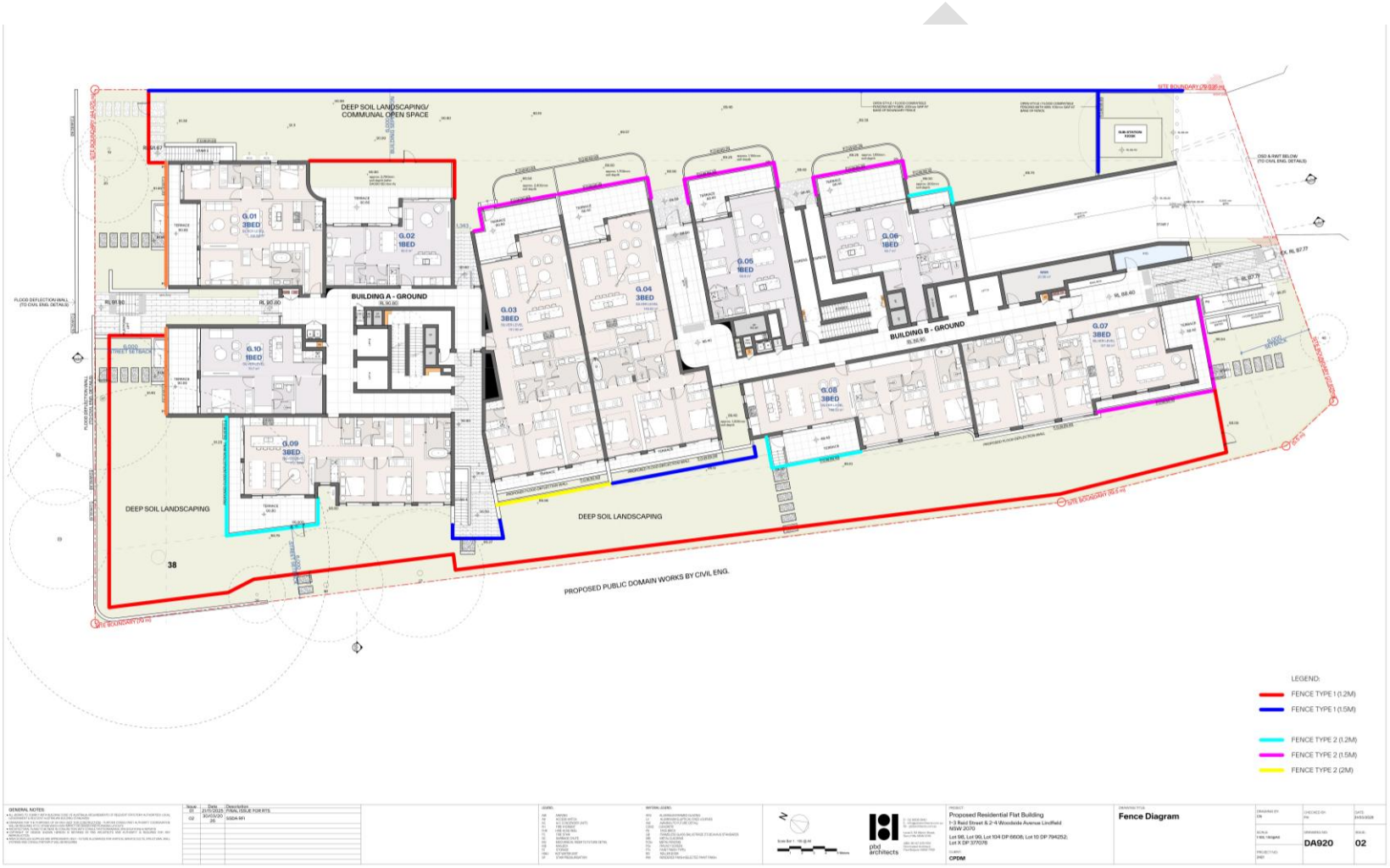

Figure 1-10 Fence Diagram (PBD Architects, DA004 Issue 03)

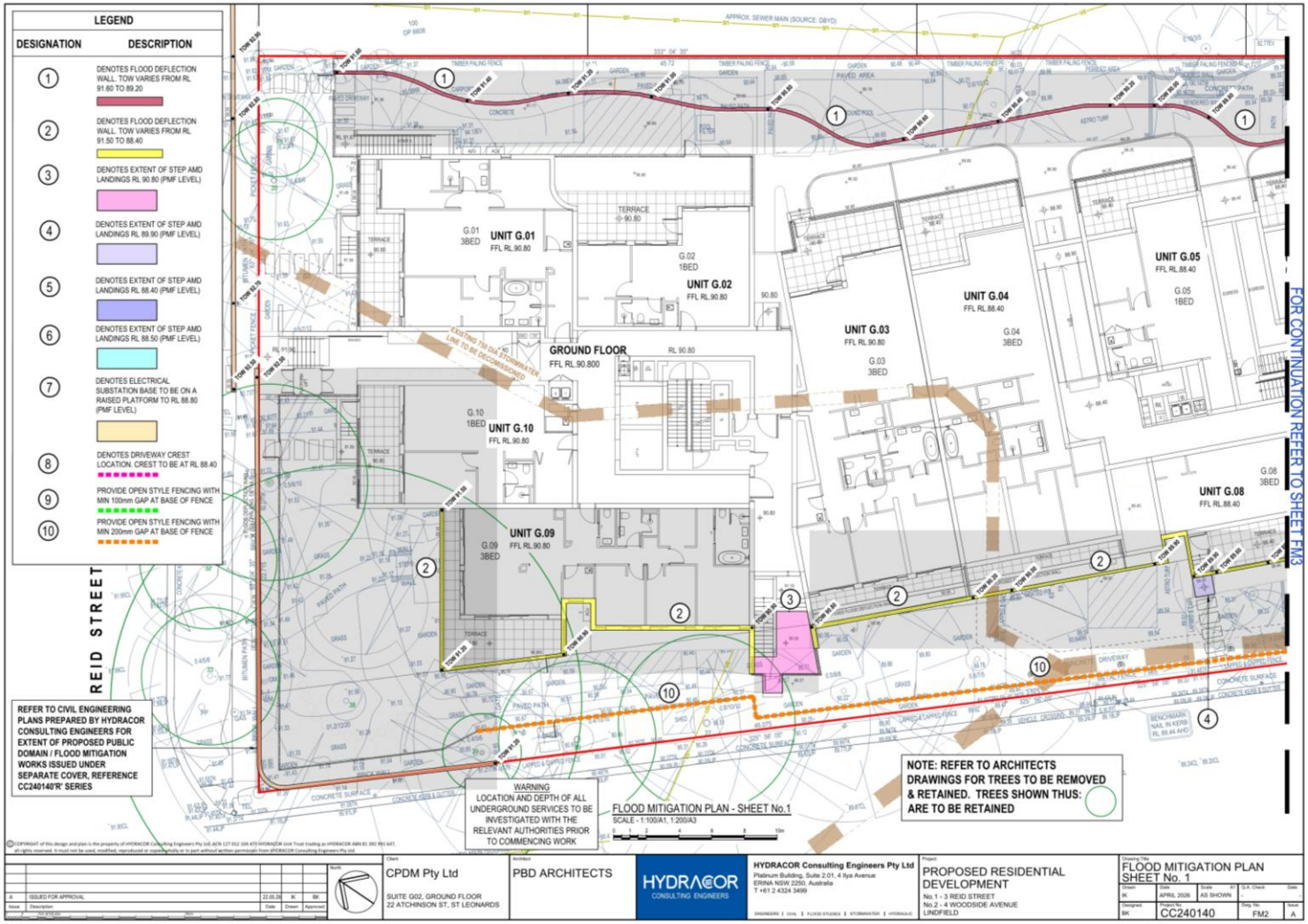

Figure 1-11 Flood Mitigation Plan – Sheet No. 1 (HYDRACOR, Issue A)

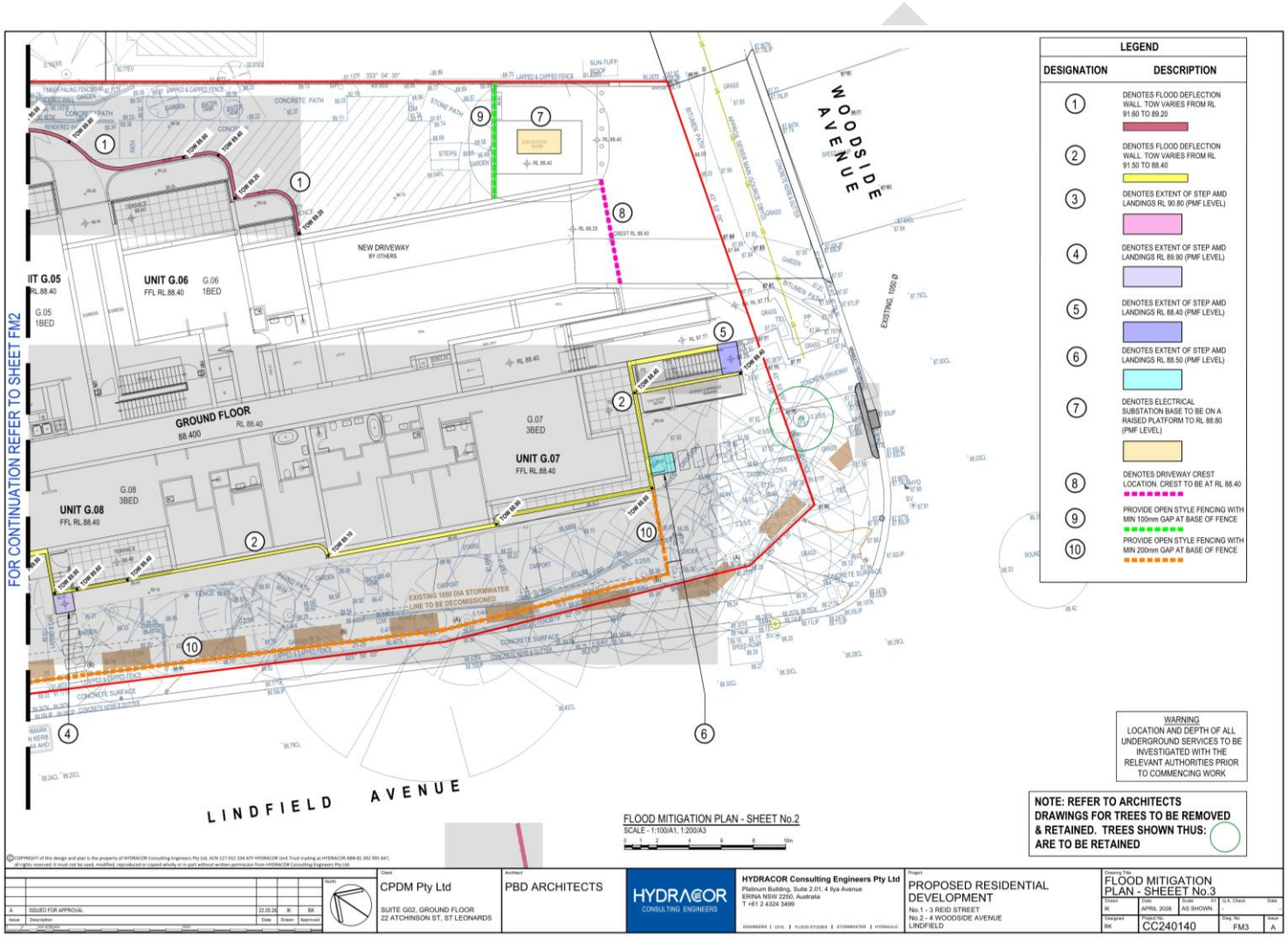

Figure 1-12 Flood Mitigation Plan – Sheet No. 3 (HYDRACOR, Issue A)

1.5 Site Use

As a residential development, the building is expected to be occupied on a 24-hour basis, with residents potentially present at any time of the day or night. While the building is not anticipated to be continuously staffed, building management personnel may be present during normal operating hours to undertake management and maintenance activities.

A breakdown of the proposed residential unit types and vehicle parking provisions are summarised in Table 1-2 and Table 1-3, respectively. There are 89 apartments proposed and there could be up to 118 cars on site at any given time, in addition to 6 motorbikes and 99 bicycles.

Table 1-2 Summary of Unit Types and Amounts

Level	1 Bed	2 Bed	3 Bed	4 Bed	TOTAL
Ground Floor	4		6		**10**
Level 1	2	4	6		**12**
Level 2		6	6		**12**
Level 3		6	6		**12**
Level 4		4	6		**10**
Level 5		4	6		**10**
Level 6		3	5	1	**9**
Level 7		3	5	1	**9**
Level 8			3	1	**4**
TOTAL	**6**	**31**	**50**	**2**	**89**

Table 1-3 Summary of Parking Types and Amounts

Item	Quantity
Residential Parking	104
Visitor Parking (1 per 6 Apartments)	13
Car Share Parking (1 per 90 Apartments)	1
Total Car Parking Spaces	**118**
Resident Bicycle Parking (1 per Apartment)	89
Visitor Bicycle Parking (1 per 10 Apartments	10
Motorbike Parking	6
Total Bike Parking Spaces	**105**

2 FLOOD RISKS

2.1 Flood-Generating Weather

Coastal areas of eastern Australia mostly receive flooding rains from so-called "east coast lows" that develop from time to time over the adjacent Tasman Sea. These are intense depressions off the coast and can produce thunderstorm activity associated with troughs.

Depressions can develop at any time of year but are most likely when sea surface temperatures are high and the air is humid. Therefore, these events usually occur in the summer months and over the first half of the year. In Lindfield, March historically records the highest average number of wet days, corresponding to late-summer and early-autumn weather patterns in eastern NSW.

Flooding can also be a winter-spring phenomenon, associated with unusually frequent or active extra-tropical depressions and fronts. However, some major events have occurred in the summer half-year as systems of tropical origin extend or move south. Flooding is usually associated with southward-moving tropical systems, but in the cooler months it may occur when well-developed cloud bands extend across the interior from the oceans north and northwest of Australia. East Coast Lows are historically prevalent in the winter months.

Rainfall patterns are also dependent on longer term weather patterns. Flooding is more prevalent in a La Niña year when rainfall is significantly greater than the mean average rainfall. Thunderstorms, which generally occur during the summer, can also result in localised flooding which could impact specifically on the site.

In summary, there are many different weather events which could cause intense rainfall in Lindfield leading to flooding. There is no strong seasonality associated with flooding in Lindfield and an event could occur at any time of day or night and on any day of the year.

2.2 The Meaning of Flood Probability

Flood probability can be expressed in more than one way. For example, a flood may be described as having a 100-year Average Recurrence Interval (ARI). This means that over many thousands of years, a flood of this magnitude would occur on average once in 100 years. This does not mean that a flood of this size only occurs once every 100 years. It is possible to have floods of this size in consecutive years or even 2 in the same year, to be followed by several hundred years without flood events this large.

Another way of expressing flood probability is in terms of Annual Exceedance Probability (AEP). A 100-year ARI flood has roughly a 1 in 100 AEP. That is, each year and every year it has a 1 in 100 or 1% chance of being reached or exceeded. This is perhaps a more helpful way of thinking about flood probabilities. A flood with a 1% AEP has about a 1 in 2 chance of being reached or exceeded in the average person’s lifetime. There were 4 floods of about this size on the Georges River between 1860 and 1889 but there has not been another since. This underlines the randomness of flood frequency.

Bigger floods can and do occur. There were several floods with greater than a 1% AEP experienced in NSW between 2020 and 2023. A flood with a 1 in 500 (0.2%) AEP has about a 1 in 6 chance of being reached or exceeded in the average person’s lifetime, the same as tossing a die and getting a 6. This was about the frequency of the Lismore flood in 2022 and of the Taree flood in 2025. The Eugowra flood in 2022 was larger than a 1 in 5,000 (0.02%) AEP event, which has about a 1 in 60 chance of being reached or exceeded in the average person’s lifetime.

The largest flood that can occur is referred to as the Probable Maximum Flood (PMF). Although it has a very low probability of occurring in any one year (1 in 10,000 or less), events approaching a PMF have been recorded. Flooding may occur at any time of year and at any time of day.

2.3 Comments On Hydraulic Model Results Interpretation

The hydraulic model has been developed to assess overland flow behaviour and the interaction of floodwaters across the broader site and surrounding catchment. As a rain-on-grid model, rainfall is applied uniformly across the model surface, and runoff is routed based on the represented topography and hydraulic controls.

While the proposed building footprint is represented as a physical obstruction to external overland flow paths originating outside of the site, the model does not explicitly simulate the collection, conveyance and discharge of rainfall that falls directly onto the building roof. Consequently, model outputs may show shallow inundation or ponding within the building footprint where rainfall is applied to areas occupied by the structure. Examples of this are shown in Figure 2-1.

These mapped inundation extents within the building footprint are not considered representative of actual flood behaviour. In reality, the building roof would intercept rainfall and direct runoff to the site's roof drainage system, preventing the accumulation of water within the footprint of the structure.

Accordingly, any inundation shown within the building footprint should be regarded as a modelling artefact associated with the rain-on-grid methodology and should be excluded from the assessment of flood impacts and flood behaviour across the site.

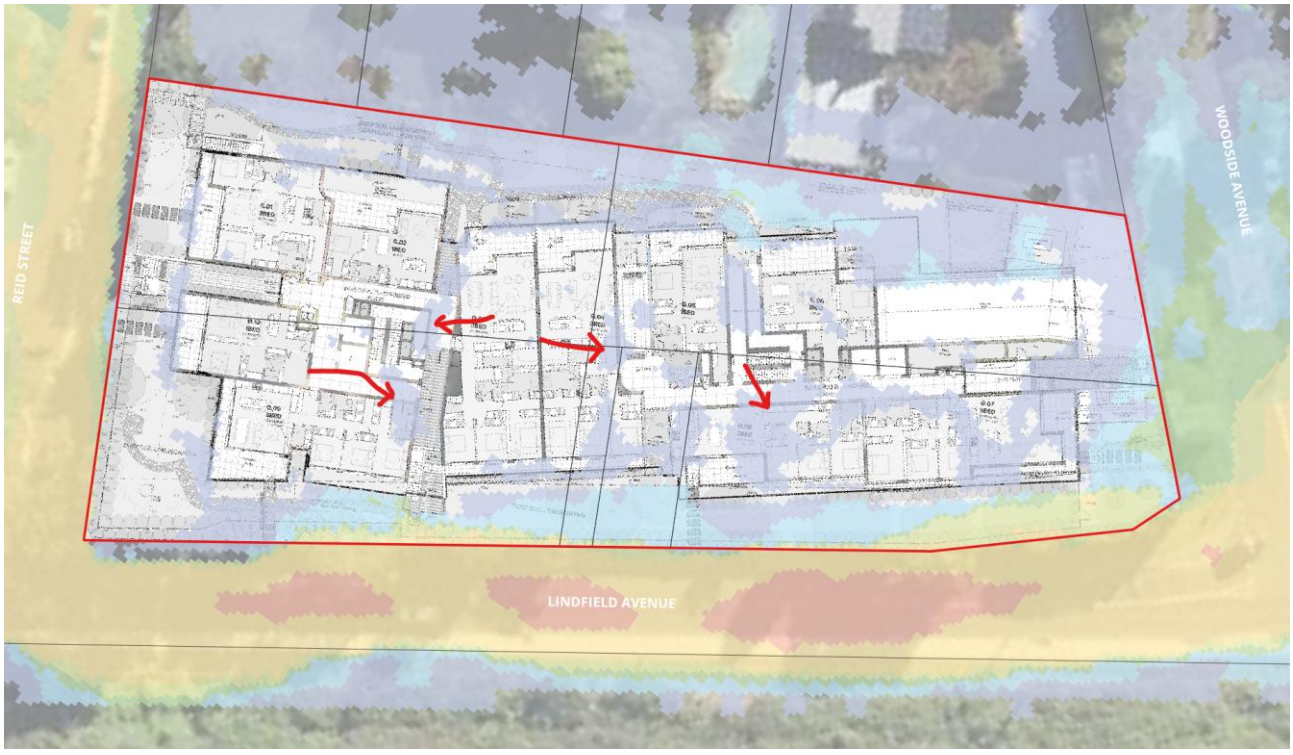

Figure 2-1 Examples of Model Artifact Ponding Within Building Footprint

2.4 Description of Overland Flow Conditions

The analysis in this section is based on the hydraulic model outputs supplied by HYDRACOR.

Under pre-development conditions, an overland flow path discharges directly through the site which inundates it in all assessed design events (from at least the 5% AEP design event, although it is possible inundation would occur in smaller, more frequent events).

For reference, the post-development 1% AEP and PMF water surface level maps are shown in Figure 2-2 and Figure 2-3, respectively. This shows that in a PMF event, the proposed building footprint becomes entirely surrounded by overland flow, cutting off access to the site.

Additionally, The Australian Emergency Management Institute (refer to Figure 2-4) hazard categorisation is useful for estimating vehicle and pedestrian safety, and considers the peak flood depth and velocity.

Mapping of the 1% AEP and PMF peak hazard categorisation is shown in Figure 2-5 and Figure 2-6.

When considering the proposed design, the HYDRACOR hydraulic modelling demonstrates the following:

- There are proposed flood protection works along the northern site boundary, adjacent to Reid Street. These works effectively protect the site from the northern external flow path in events up to and including the 1% AEP (climate change) event, as shown in the HYDRACOR flood assessment.
  - The modelling shows the works along the northern site boundary are ‘breached’ in the PMF. Essentially, the external flow path is re-routed around the flood protection works and continues to enter the site further downstream along the eastern boundary.
  - The flows which enter the site along the eastern boundary are limited to the H1 hazard category in the PMF event and does not interact with the building footprint owing to the proposed flood deflection wall which runs alongside the footpath, offset from the building by between 2-3m. This flood deflection wall along the site’s eastern footpath is intended to offer protection of the building from these flows.
- Owing to the proposed flood protection works along the northern site boundary, the residual, redirected water instead flows downstream along Reid Street (west) towards the intersection with Lindfield Avenue. At this intersection, the flows break out and flow downstream along Lindfield Avenue and also enter the site further downstream along the western boundary.
  - The flows which enter the site along the western boundary are modelled to have hazard categories between H1 to H3-H5. The area mapped as H5 in the PMF does not directly interact with the building footprint in this instance.
  - In anticipation of this worst case scenario, the proposed flood deflection wall which runs alongside along the western side of the building is intended to deflect this flow away from the building footprint to prevent inundation of the ground floor units.

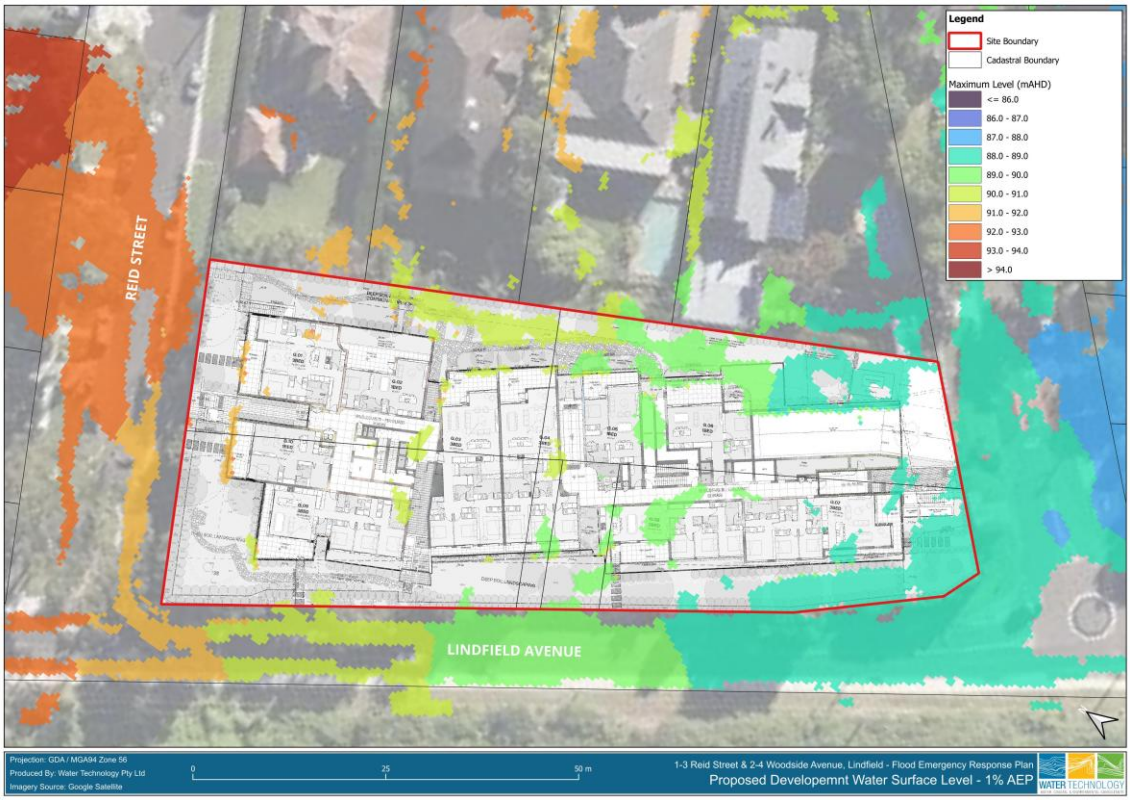

Figure 2-2 Proposed Development Water Surface Level – 1% AEP

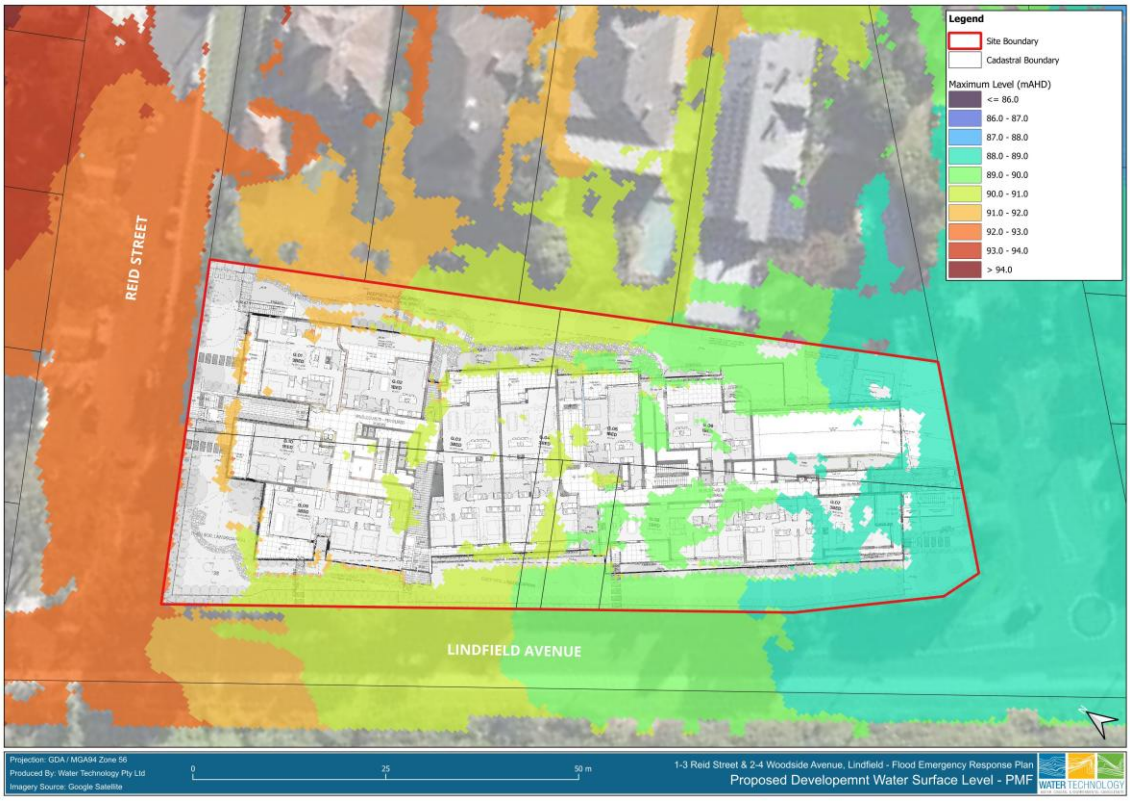

Figure 2-3 Proposed Development Water Surface Level – PMF

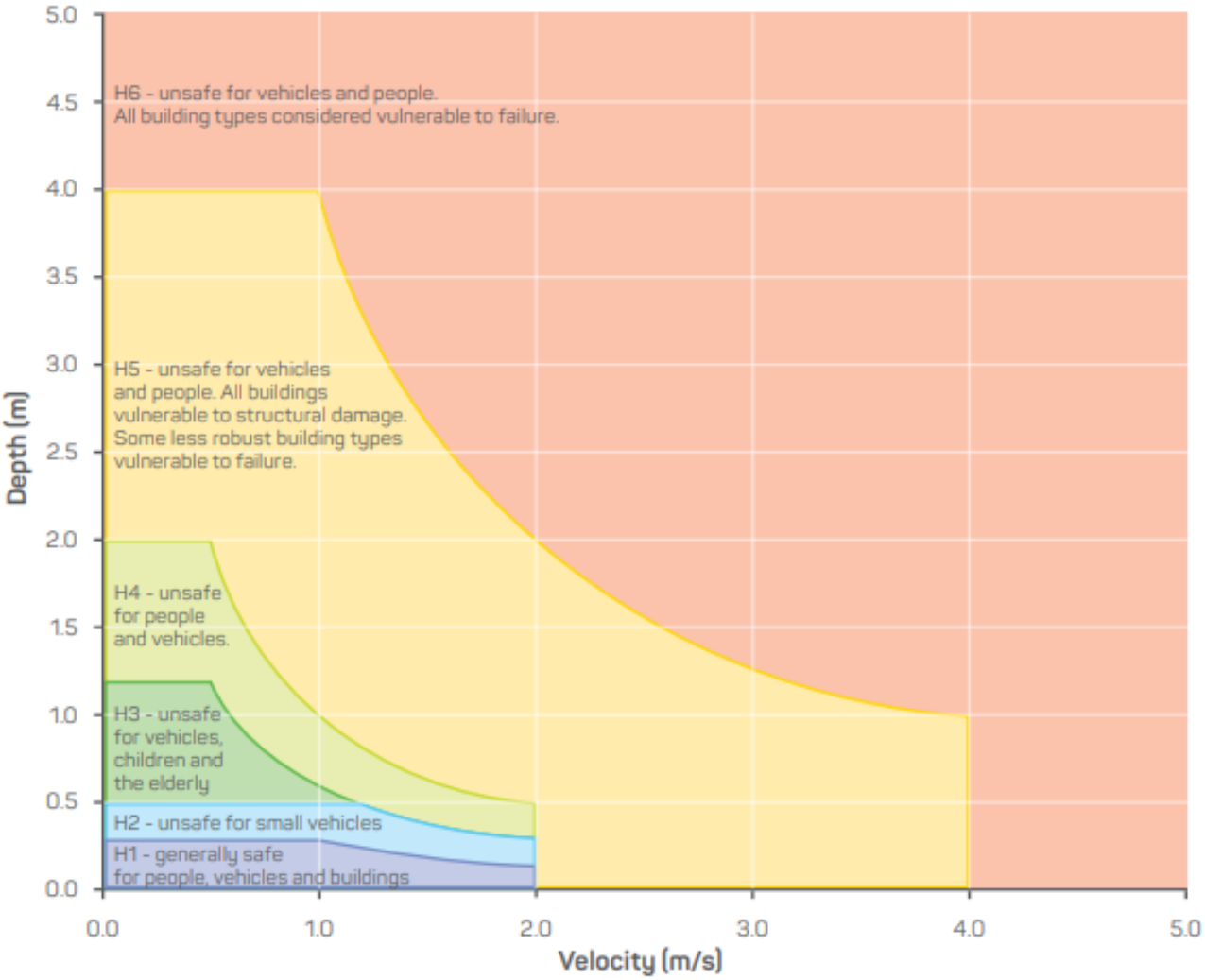

Figure 2-4 Australian Emergency Management Institute Hazard Categories

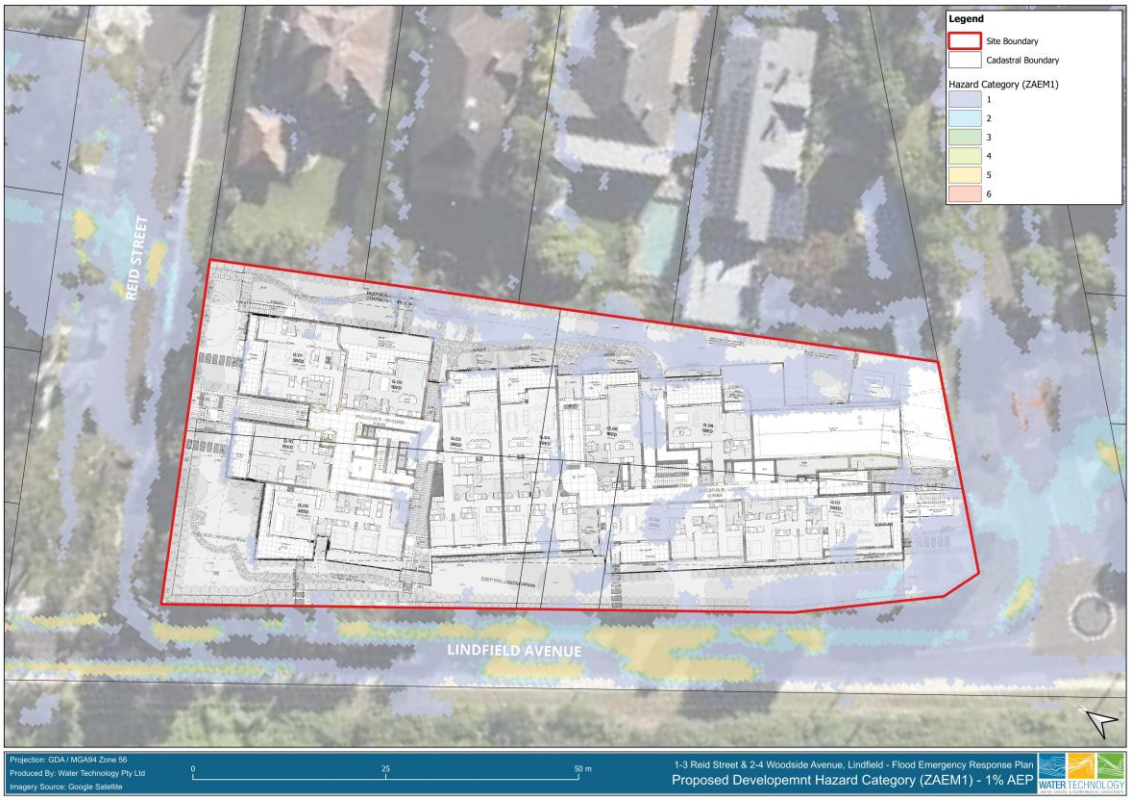

Figure 2-5 Proposed Development Hazard Category (ZAEM1) – 1% AEP

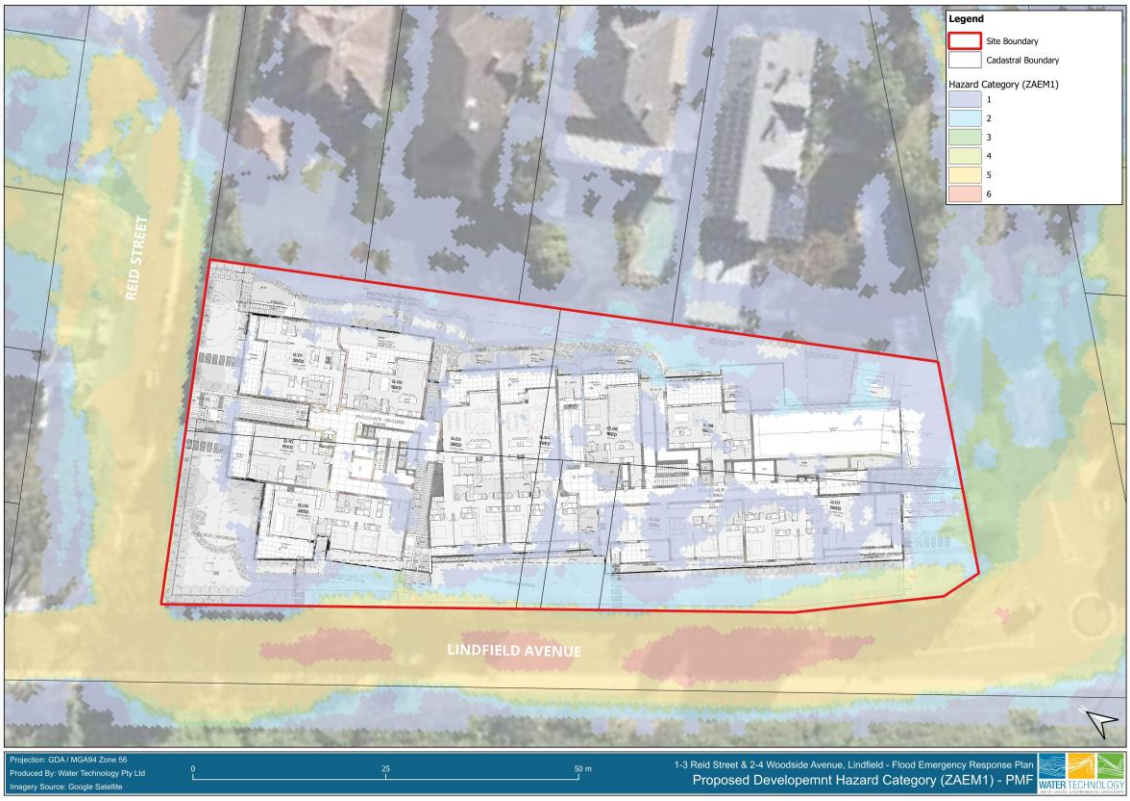

Figure 2-6 Proposed Development Hazard Category (ZAEM1) – PMF

2.4.1 Time to Inundation and Duration of Inundation

The rate of rise and duration of inundation has been extracted at a reporting location which is positioned adjacent to the Woodside Avenue driveway, which is generally representative of the timing in this area. This location is critical as it dictates accessibility of the site since any attempt to evacuate would realistically be towards Woodside Avenue. This location (model reference G10.1) is shown in Figure 2-7 and the water surface level timeseries for the 5% AEP, 1% AEP, 1% AEP (Climate Change), and PMF events at this location are also shown in Figure 2-8.

The time to inundation has been calculated from the model simulation start time (0-hours) to the time of first inundation (depth >0m) at the reporting location. The duration of inundation has been calculated as the model simulation time during which the reporting location is inundated, until the water surface level recedes. For the purpose of this exercise, the time to inundation and duration of inundation has been calculated in reference to 1) the driveway crest level, 2) the Woodside Avenue Centreline immediately across from the driveway, and 3) 300mm above the Woodside Avenue Centreline.

The results suggest that in an event rising as fast as the 15-minute duration PMF the site could become isolated within 4 – 8 minutes of the start of rainfall and could remain isolated for up to 23 minutes (Figure 2-8).

Table 2-1 Critical Storm Duration Time To Inundation (Hours)

Reference Location	5% AEP	1% AEP	1% AEP (CC)	PMF
Woodside Ave (87.95mAHD)	0.74 (44-minutes)	0.66 (40-minutes)	0.64 (38-minutes)	0.07 (4-minutes)
Woodside Ave (+300mm) (88.25mAHD)	-	-	-	0.11 (6-minutes)
Driveway Crest (88.40mAHD)	-	-	-	0.13 (8-minutes)

Table 2-2 Critical Storm Duration of Inundation (Hours)

Reference Location	5% AEP	1% AEP	1% AEP (CC)	PMF
Woodside Ave (87.95mAHD)	0.06 (4-minutes)	0.19 (12-minutes)	0.24 (14-minutes)	0.38 (23-minutes)
Woodside Ave (+300mm) (88.25mAHD)	-	-	-	0.19 (12-minutes)
Driveway Crest (88.40mAHD)	-	-	-	0.13 (8-minutes)

Figure 2-7 Reporting Location G10.1

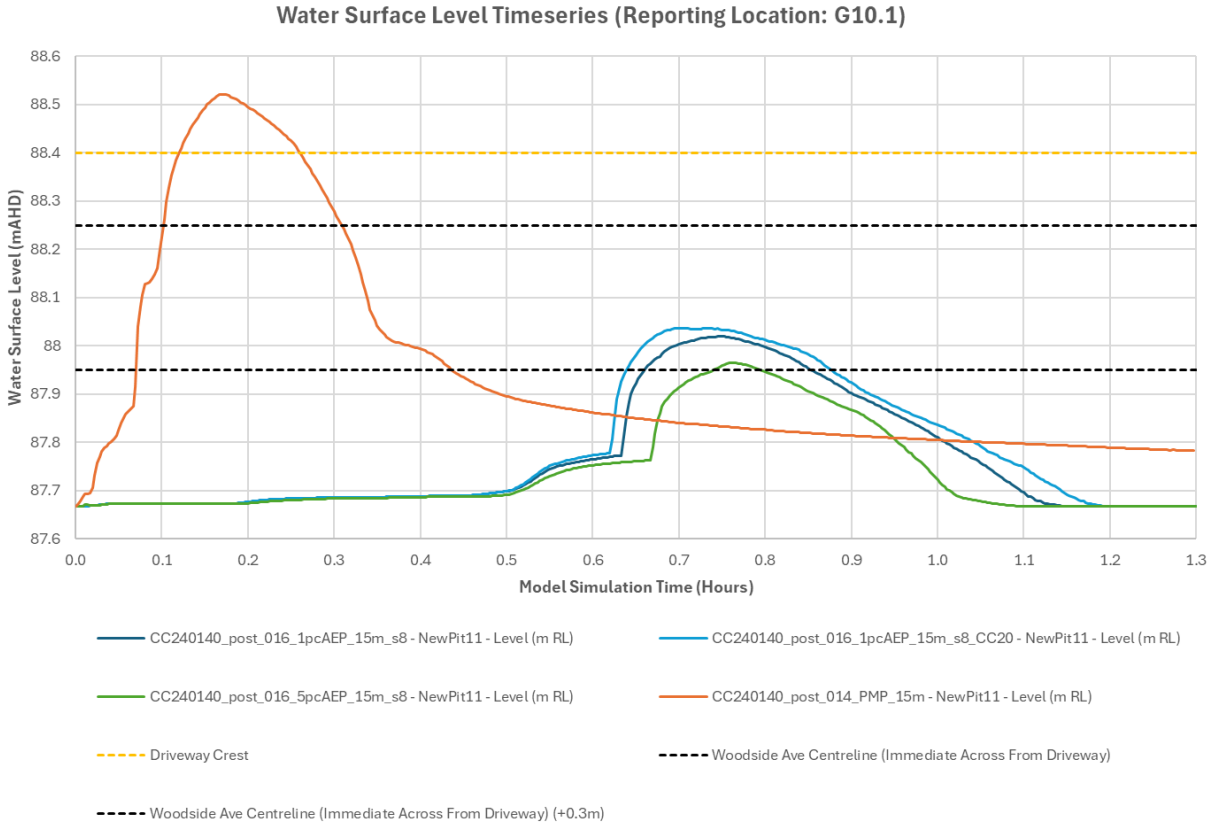

Figure 2-8 Critical Storm Duration Water Surface Level Timeseries (Reporting Location G10.1)

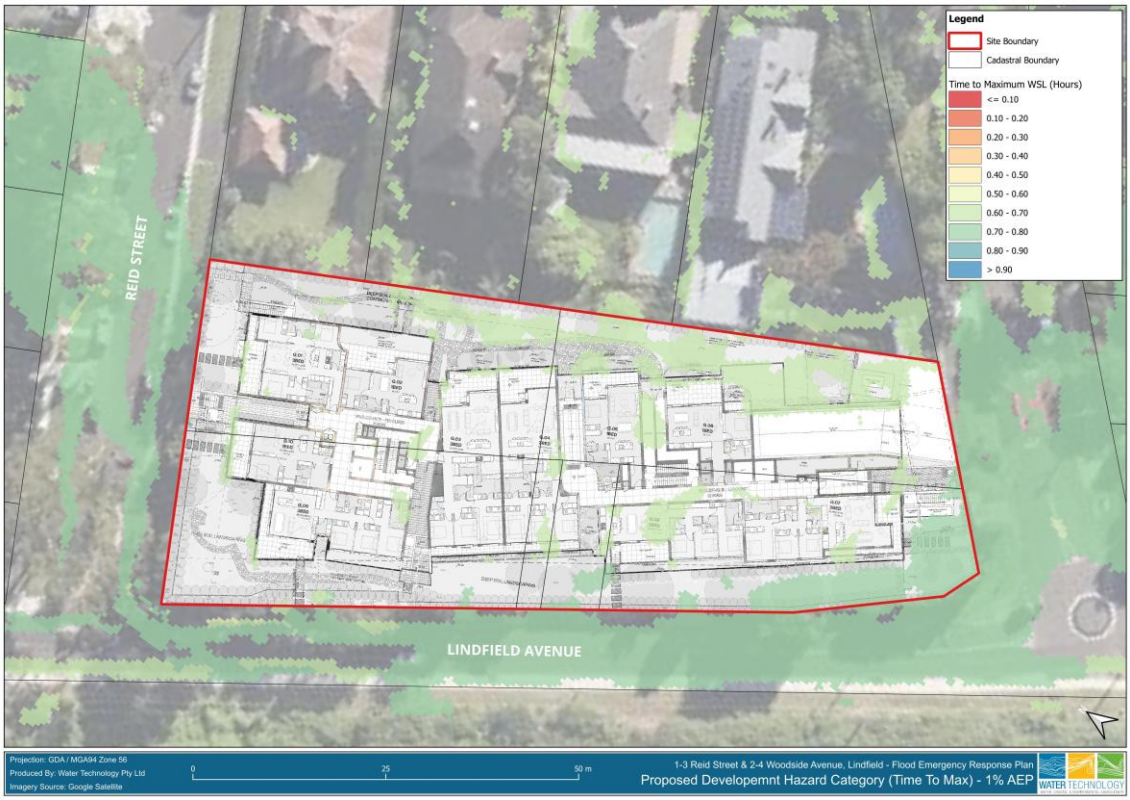

Figure 2-9 Proposed Development Time To Maximum Level (T-max) – 1% AEP

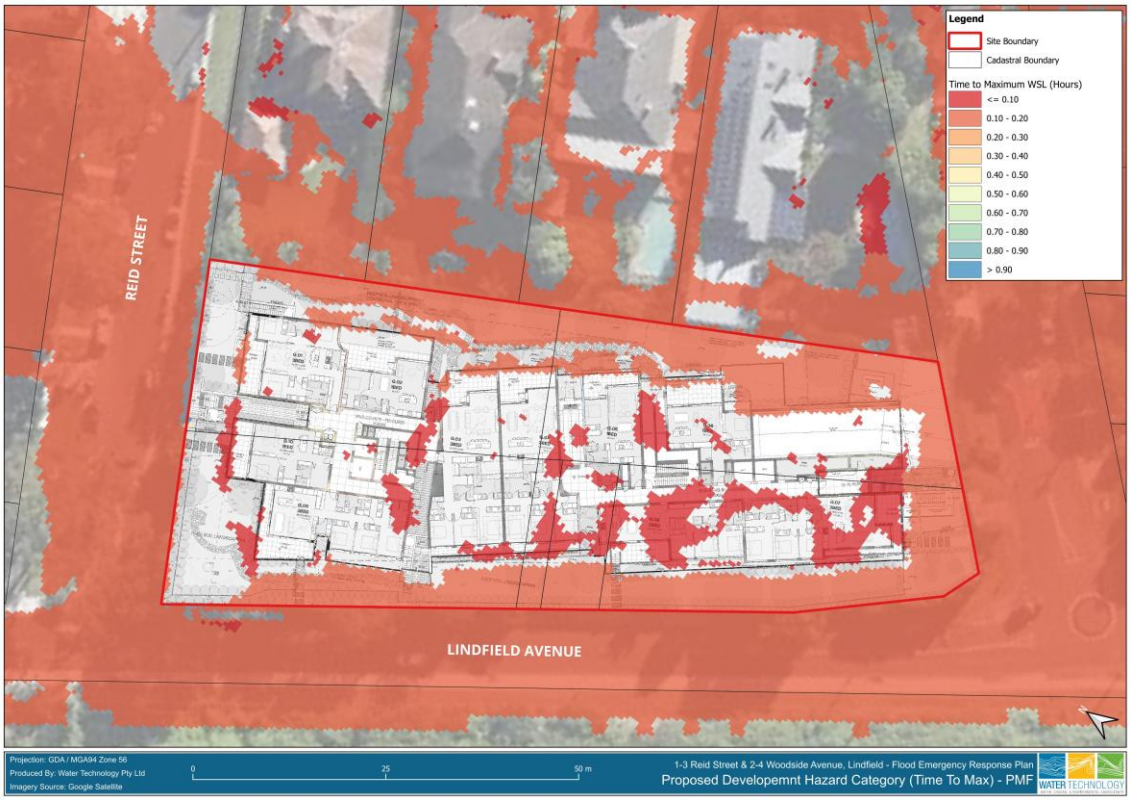

Figure 2-10 Proposed Development Time To Maximum Level (T-max) – PMF

The time to inundation and durations in Table 2-1 and Table 2-2 are based on the 15-minute duration overland PMF as this was the only duration of the PMF for which model results were available. However, it is possible that longer duration PMFs could isolate the site for a longer period of time. Longer duration PMFs would need to be modelled to confirm the maximum duration of isolation due to overland flows, although the duration is unlikely to exceed several hours.

2.4.2 Estimated Rate of Rise

The rate of rise of floodwaters has been estimated by calculating the time to peak inundation from the starting point of initial inundation (i.e., rise over time).The time to initial and peak inundation and the initial and peak water surface level used to estimate the rate of rise, and the estimated rate of rise itself, is summarised in Table 2-3.

It is important to note that the rate of rise has been estimated based on the supplied model results, which considers only the 15-minute design storm for the 5% AEP, 1% AEP, 1% AEP (climate change), and PMF events.

Considering this, the estimated rate of rise for the more frequent 5% AEP event (0.42m/hour) is the slowest compared to 0.47m/hour for the 1% AEP and 0.57m/hour for the 1% AEP (climate change) event.

The hydraulic modelling for the PMF event shows the fastest estimated rate of rise at 4.18m/hour.

Table 2-3 Critical Storm Duration Estimated Rate of Rise

Reference Location	5% AEP	1% AEP	1% AEP (CC)	PMF
Time To Maximum Inundation (Hours)	0.76 (46-minutes)	0.75 (45-minutes)	0.75 (45-minutes)	0.17 (11-minutes)
Initial WSL (mAHD)	87.67	87.67	87.67	87.67
Maximum WSL (mAHD)	87.99	88.05	88.10	88.38
Estimated Rate of Rise (m/Hour)	0.42	0.47	0.57	4.18

2.4.3 Site Inundation and Isolation

It has been established previously in this document that the proposed flood deflection walls along the site's northern boundary, adjacent to Reid Street, are expected to offer protection up to the 1% AEP (climate change) event (meaning the northern external flow path should not flow directly into the site and will instead be redirected towards Lindfield Street), although under PMF conditions the northern external flow path continues to enter the site further downstream along the site's eastern boundary.

- Note: It is possible that design events of magnitude greater than the 1% AEP (climate change) and up to the PMF may still enter the site downstream along the site's eastern boundary.
- Owing to the potential for events greater in magnitude than the 1% AEP (climate change) to generate enough flow to directly inundate the site from the north, it is anticipated that rainfall intensities greater than, or depths of similar magnitudes over similarly short timer periods, has the potential to generate catchment flows which directly inundate parts of the site.
- It is important to understand that the hydraulic modelling is prepared on the basis of theoretical design storm events to reflect flow generating conditions, although in reality storm events may occur in a different manner.
- Notwithstanding this, the modelling shows that events with an intensity greater than 20.8mm/hour or storm depth of 13.5mm over a short duration (in the case of this assessment, 15-minutes) could be considered as a possible trigger for implementing an emergency action plan.

In all assessed design events (5% AEP, 1% AEP, 1% AEP (climate change), and PMF) for the 15-minute critical duration, Woodside Avenue is inundated in some capacity. The modelling indicates that inundation of Woodside Avenue is as follows:

- In the 5% AEP event, Woodside Avenue hazard is limited to a H1 category,
- In the 1% AEP event, Woodside Avenue hazard is mostly H1 with isolated areas of H2, although access to the site is still viable.
- In the 1% AEP (climate change) event, Woodside Avenue is similarly mostly H1 with isolated areas of H2-H5, although access to the site is still viable.
- In the PMF event, Woodside Avenue experiences inundation up to H2-H3 at the main site access and Woodside Avenue itself experiences up to H5 to the immediate south of the site.

It is approximately the 1% AEP or greater when Woodside Avenue hazards begin to exceed H2.

2.5 Summary of Overland Flow Conditions and Implications For Evacuation

The catchment exhibits a rapid flash flooding response, characterised by short times to peak and limited warning time between the onset of intense rainfall and the development of hazardous flood conditions. Under these circumstances, floodwaters can rise quickly and inundate key access routes before a full evacuation can be safely initiated and completed.

The limited flood warning and response time significantly constrains the practicality and reliability of an evacuation-based emergency response. While evacuation may remain an option under certain circumstances where sufficient lead time is available, the rapid onset nature of inundation means there is a heightened risk that evacuation routes could become unnecessarily unsafe before all occupants have reached a place of safety. Consequently, a shelter-in-place strategy represents the most practical and dependable flood emergency response approach.

3 FORECASTS AND WARNINGS

3.1 Bureau of Meteorology (BoM)

The Bureau of Meteorology (BoM) has warning products that could provide an indication of an increased flood threat. These are summarised in Table 3-1.

Table 3-1 Warning products provided by the BoM

Bom Product	Description	Warning Lead-Time	Where The Product Can Be Accessed	What To Monitor For
Severe Weather Warnings	Issued for potentially hazardous or dangerous weather that is not solely related to severe thunderstorms, tropical cyclones or bushfires. The warnings describe the area under threat and the expected weather hazards. Warnings are issued with varying lead-times, depending on the weather situation. Occasionally, severe weather may occur without the relevant warning having been issued by the BoM.	1 – 24 hours	Issued directly to the media when there is a high probability of flash flooding. Can be found at: https://www.bom.gov.au/weather-and-climate/warnings-and-alerts BOM Weather app	Severe Weather Warnings with reference to intense rainfall or flooding for the Sydney Metropolitan Forecast Area
Severe Thunderstorm Warnings	Issued for events that may produce heavy rainfall with the potential to result in flash flooding. As severe thunderstorms can develop quickly, these warnings may not provide much warning time.	As little as minutes, but generally a few hours.	Issued directly to the media when there is a high probability of flash flooding. Can be found at: https://www.bom.gov.au/weather-and-climate/warnings-and-alerts BOM Weather app	Severe Thunderstorm Warnings for the broader Sydney metropolitan or Sydney Metropolitan Forecast Area
Rainfall Maps	Coarse forecast rainfall maps which can be used to estimate the amount of rain expected to fall over the next 4 days, as well as the next 24 hours.	1 – 4 days	Can be found at: https://www.bom.gov.au/location/australia/new-south-wales/metropolitan/o117098338-lindfield	Intense or prolonged rainfall in the broader Sydney metropolitan or specifically Lindfield - Roseville region.

Bom Product	Description	Warning Lead-Time	Where The Product Can Be Accessed	What To Monitor For
Rainfall Forecasts	Rainfall forecasts which can be used to estimate the amount of rain expected to fall within 3-hour windows over the next 7 days.	Up to 7 days	BOM Weather app (up to 3 days) BoM website (up to 7 days): https://www.bom.gov.au/location/australia/new-south-wales/metropolitan/o117098338-lindfield	Intense or prolonged rainfall in the broader Sydney metropolitan or specifically Lindfield - Roseville region.
Radar Service	Shows current rainfall locations and intensities.	90 minutes (BoM Weather App only)	Can be found at: https://www.bom.gov.au/location/australia/new-south-wales/metropolitan/o117098338-lindfield BOM Weather app	Intense or prolonged rainfall in the broader Sydney metropolitan or specifically Lindfield - Roseville region.
Flood Watch	Provide early advice regarding the potential for flooding in a particular area. May refer to possible local flooding, but will not be issues solely on the basis of overland flooding.	24 – 96 hours	Issued directly to the media when there is potential of flooding. Can be found at: https://www.bom.gov.au/weather-and-climate/warnings-and-alerts BOM Weather app	Flood Watches with reference to local flooding in the Northern Sydney Flood Watch Area.
Flood Warning	Issued when there is greater certainty that flooding is expected. Issued for waterways that take more than 6 hours to respond to rainfall	Unlikely to be issued for Gordon Creek	Issued directly to the media when there is potential of flooding. Can be found at: https://www.bom.gov.au/weather-and-climate/warnings-and-alerts and https://www.ses.nsw.gov.au/ BOM Weather app or the Hazards Near me app	Unlikely to be issued for Gordon Creek or local flooding. Use SES website or Hazards Near Me app.

The BOM Weather app can be set to show only the relevant warnings that apply to the area set by the user, as well as three-hourly rainfall forecasts. The use of this app is particularly recommended because it provides most of the available BoM data that can be used to inform the emergency plan on mobile devices, and the BoM warnings can be prioritised as push notifications.

Importantly, the BoM Severe Weather Warnings, Severe Thunderstorm Warnings and Flood Watches may occasionally be issued without necessarily being followed by the event that they are predicting or may not be issued at all ahead of an actual thunderstorm or flood event.

As such, these warnings are to be considered an indication - not a certainty - that a flood affecting the site might occur. Similarly, the lack of such warnings does not mean that a flood event affecting the site within the following hours or days is impossible.

The BoM also issues Flood Warnings when there is greater certainty that flooding is expected. However, these warnings are only issued for waterways that take more than 6 hours to respond to rainfall. Given the potential fast rate of rise of local floodwaters in the area, the BoM likely would not issue Flood Warnings relevant to the site.

Rainfall forecasts on the BOM Weather app give an indication of the amount of rain that will fall within a 3-hour windows over the next 3 days. BoMs 3-hour forecast windows do not provide a 15-minute resolution for rainfall forecasts. Therefore, as a conservative compromise, and for the purpose of defining a trigger for flood emergency response actions, this report assumes that the total rain that the BoM app indicates could possibly fall within a 3-hour period *could fall within any* 15-minute period within that window.

It is acknowledged that the modelling which informs this FERP establishes the 1% AEP event equivalent as a reasonable trigger for flood emergency response actions.

The latest available BoM IFD [2] indicates that the equivalent 1% AEP 15-minute duration storm depth is 44.5mm.

It should be noted that there is significant uncertainty associated with rainfall forecasts, particularly with regard to the depth of rainfall expected. Therefore, rainfall forecasts should not be relied upon as sole triggers for flood emergency response actions.

In summary, Severe Weather Warnings and Flood Watches provide anywhere between 1 hour to 4 days of warning time that flooding may occur. These types of warnings can be issued several times per year. Rainfall forecasts can provide up to 7 days of warning time that a rainfall event that could produce flooding may occur, although they do not provide any certainty that flooding will eventuate.

[2] Accessed 12 June 2026

3.2 NSW State Emergency Service

The NSW State Emergency Service (SES) is also likely to issue warnings using the Australian Warning System (AWS) which is a nationally consistent, 3-tiered approach designed to provide clear warnings and lead people to act ahead of severe weather events. The warning system comprises warning levels, action statements, hazard icons, colours and shapes. The 3 warning levels and corresponding actions are:

- **Advice** - an incident has started. Stay up to date in case the situation changes.
  - Stay informed.
  - Monitor conditions.
  - Reduced threat: return with caution.
- **Watch and Act** - conditions are changing and you need to start acting now.
  - Do not enter floodwater.
  - Prepare to evacuate.
  - Prepare to isolate.
  - Avoid the area.
- **Emergency Warning** - the highest level of warning. You may be in danger and need to act immediately.
  - Evacuate now / Evacuate before [time]
  - Shelter now
  - Move to higher ground.

NSW SES warnings can be monitored through the **Hazards Near Me** app and it is possible to set it to receive notifications for a particular location.

3.3 Observations

The preceding sections have set out multiple warnings and observations which can be used to alert the building to the possibility of flooding. However, each relies on technologies which are not fail safe and during a major flood electricity and telecommunications systems may fail.

It would also be possible to observe what is happening around the site and use visual cues to indicate potential overland flood behaviour. The observation of intense rainfall at the site would suggest that overland flooding may soon isolate the site, as would the observation of floodwaters in Lindfield Avenue. The observation of floodwaters in front of the driveway would indicate that the site has become isolated.

4 EMERGENCY MANAGEMENT CONSIDERATIONS

4.1 Flood Emergency Response Strategy

This Flood Emergency Response Plan recognises that protection of life is of critical and primary importance. Consistent with any emergency protocol, the protection of all lives is the first priority, the comfort of residents, staff and visitors is second, and protection of site property is third.

Generally speaking, there are 2 main types of responses to a flood emergency. These are to either:

- Evacuate off-site away from the building/s to an area above the reach of floodwaters in the PMF. This is the NSW SES preferred response, provided that the risks of evacuating are deemed acceptable; or
- Take Shelter in Place (SIP), which is to evacuate vertically within the site to higher floor levels and wait until floodwaters have receded and the emergency has passed. SIP may be considered an alternative to evacuation only when the risks of evacuating are higher than the risks of SIP. SIP requires suitable access to a suitable shelter above the PMF level. The shelter must be protected from the weather, be structurally stable in a PMF and have sufficient floor area for all people likely to be on site at any one time. Additional requirements to increase the comfort of the people taking shelter may be needed depending on the specific circumstances.

Given that the site can be isolated by floodwaters within 8 minutes of the start of rainfall with little or no warning, the primary flood emergency response strategy is for site occupants to shelter in place in their own homes. They should remain in their units before, during, and after a major rainfall event.

This strategy is based on the rapid onset and short duration of inundation at the site, flood protection of all ground floor units to events up to and including the PMF event owing to the implementation of various flood deflection walls, as well as the limited reliability of off-site evacuation owing to the rapid and short nature of events.

The following sections describe in more detail the analysis that was undertaken to inform the identification of the proposed emergency response strategy.

4.2 Evacuation Capability Assessment

The first step to developing a flood emergency response strategy is to assess whether a safe evacuation of the site can be obtained under all circumstances. Namely, evacuation to a location outside the floodplain must be possible in the worst-case scenario of a flood rising as fast as the PMF, when the site is at full capacity. If evacuation is possible in the worst-case scenario, it is possible in all scenarios. This is the reason why the PMF is adopted as the industry-standard event when considering risk to life and flood emergency response.

In order for occupants of the proposed development to evacuate off site by vehicle they would need to exit onto Woodside Avenue via the driveway. There may be less than 8 minutes of lead warning time before the road in front of the driveway becomes flooded, isolating the site.

The estimated time necessary to safely evacuate the site by vehicle is 3 hours and 10 minutes.

This is calculated using the NSWSES Timeline Evacuation Model (Opper et al., 2009), which requires that the calculated evacuation time includes:

- One hour of “warning acceptance factor” (time required for residents to decide to evacuate after an evacuation order has been communicated to them)
- One hour of “warning lag factor” (time required for residents to gather their belongings and leave)
- A standard vehicular evacuation rate of 600 cars per lane per hour
- One hour of Traffic Safety Factor (to account for delays due to road congestion and accidents).

If a public address (PA) system, audible in all parts of both buildings during heavy rain, is installed on site this will allow instructions to be disseminated quickly and without the necessity of door knocking all residences. Ten minutes should be allowed in the timeline for Flood Wardens to disseminate instructions to site occupants.

With the warning acceptance factor, warning lag factor, traffic safety factor and instruction dissemination time, it would take a minimum of 3 hours and 10 minutes to evacuate the site by vehicle. **This is 3 hours in excess of the warning time that may be available**. Therefore, vehicular evacuation from the site is not an appropriate flood emergency response strategy.

The above does not consider the travel time of vehicles evacuating the site or other vehicles that may be evacuating along the same route at the same time. This would increase the time required to evacuate the site, making vehicular evacuation an even less suitable flood emergency response strategy.

4.3 Shelter in Place

The NSW Department of Planning, Housing, and Infrastructure (DPHI) has published the Shelter In place Guideline For Flash Flooding (2025), which is intended to provide a framework for site-specific and risk-based assessments regarding shelter-in-place emergency management strategies for developments in flash flood environments. Owing to the relatively short time to inundation, rapid estimated rate of rise upon initial inundation, and short duration of inundation expected to occur within this catchment and surrounding the site, the principles of this guideline are relevant to this FERP.

The definition of a shelter-in-place strategy is the internal movement of a building's occupants to an area within the building above the PMF level before the property becomes inundated by floodwaters. The following section aims to address the guideline's key principles for a feasible shelter-in-place strategy.

4.3.1 Why Shelter-In-Place Is Appropriate

1. Does shelter in place align with existing emergency management strategies for the area, as determined through the flood risk management process and by the NSW SES?

Shelter-in-place aligns with the emergency management approach identified in the Middle Harbour Southern Catchments Flood Study 2023, which forms the basis of flood risk management for the area. The study identifies that flooding is characterised by steep, highly urbanised catchments that respond rapidly to intense, short duration rainfall, resulting in limited warning time and short-lived inundation. It further notes that:

- Isolation of properties may occur during major events, but typically for only a few hours.
- There is minimal requirement for evacuation up to and including the PMF, except in localised areas adjacent to major flow paths.

At the subject site, the primary overland flow path is redirected around the development for all events up to and including the 1% AEP (climate change) event, with meaningful inundation of the site only occurring during events greater than the 1% AEP (climate change) event and up to the PMF. Accordingly, the proposed shelter-in-place strategy is consistent with the flood study findings.

In addition, the Hornsby Ku-ring-gai Flood Emergency Sub Plan (NSW SES, 2021) states that:

> *1.6.1 The protection and preservation of human life (including the lives of responders and the community) is the highest priority.*

The proposed development prioritises the protection and preservation of human life. As the local streets can be subject to hazardous flash flooding with little warning, or in some circumstances potentially with no warning time, the most appropriate flood emergency response strategy for the site is for site occupants to shelter in place in their dwellings beyond the reach of the PMF. This strategy prevents site occupants from coming into contact with hazardous floodwaters.

The NSW SES flood plan for Hornsby Ku-ring-gai also states:

> *1.6.2 Evacuation is the primary response strategy for people impacted by flooding.*

However, given the potential for flash flooding in the local street's evacuation is not suitable as a primary flood emergency response strategy for the site as it would require site occupants to evacuate into potentially flooded streets. This would not be conducive to the protection and preservation of human life and would place site occupants at unnecessary risk. This is also the case for many sites within the Middle Harbour Southern Catchments due to the flash flooding behaviour described in the Middle Harbour Southern Catchments Flood Study.

2. Has evacuation off-site (the primary emergency management strategy) been investigated and determined to be unachievable?

The evacuation capability assessment in Section 4.2 demonstrates that in many cases there would be insufficient time available for evacuation of the proposed development.

Inundation surrounding the site is expected to occur quickly following the onset of rainfall and the rapid rate of rise limits the window for safe evacuation. The hydraulic modelling indicates that evacuation from the site towards Woodside Avenue is technically achievable during events up to and including the 1% AEP (climate change) event. However, for rarer events such as the PMF, Woodside Avenue becomes non-trafficable. It would not be possible during a rainfall event for site occupants to determine the magnitude of flooding that will eventuate and therefore evacuation would not be an appropriate flood emergency response strategy as it would risk site occupants exiting the site into hazardous floodwaters.

3. Does the development include medical centres, emergency service and community facilities, and sensitive and hazardous land uses, some of which may not be suitable for shelter in place?

The development comprises a residential apartment building and does not include medical or aged care facilities, emergency service infrastructure, or hazardous or sensitive land uses. The absence of vulnerable or special-needs occupants supports the suitability of a shelter-in-place strategy.

4. Shelter in place for greenfield development is not supported.

The development is not greenfield. It is located within an established, urbanised catchment that is already subject to the flash flood behaviour described in the adopted flood study. The strategy therefore represents an adaptation to an existing flood regime, rather than introducing new risk to undeveloped land.

5. Whether there is existing government developed flood warning systems that give advanced detailed forecasts of flash flooding to allow sufficient time to evacuate to the proposed refuge locations.

There are no government developed flood warning systems for flash flooding in the overland flow catchment. Owing to this, the design of the building and landscaping ensures no external flow path to enter the ground floor (or any other) residential units up to and including the PMF.

6. Can the community effectively be informed of the risks associated with the emergency management strategy?

The risks associated with the emergency management strategy can be communicated through standard emergency alert systems (BoM and NSW SES) and site-specific emergency management procedures and resident information. The key behavioural message should be consistent and clear; remain indoors during forecasted intense rainfall events and do not attempt evacuation through flash flood conditions once inundation begins.

Actions for informing residents and staff of the flood risks at the site and the risks of isolation are set out in Section 5.3 of this FERP.

7. Detailed assessment of evacuation off-site (the primary emergency management strategy) to determine that evacuation off-site is not achievable.

The evacuation capability assessment in Section 4.2 demonstrates that in many cases there would be insufficient time available for evacuation of the proposed development.

Due to the expected rapid onset of heavy rainfall and subsequent inundation it is not reasonably expected there will be sufficient time to prepare and implement an evacuation following the onset of severe rainfall. Considering the rates of rise expected surrounding the site, attempting evacuation during active flash flooding presents unacceptable and unnecessary risk.

Given that off-site evacuation would need to occur before any visible flood hazard is present, it is not considered a practical or reliable primary strategy for extreme events. Accordingly, shelter-in-place should be considered as the safer and more dependable approach for PMF-scale events.

8. The flood behaviour at the site, with consideration of climate change and assessment of the potential maximum duration of isolation up to and including the PMF to identify that: a. flash flooding is the only flood risk present at the site, whether it be from overland flooding, local creek or riverine flooding, and b. the flooding occurs within less than 6 hours from the commencement of causative rain and the duration of shelter in place due to isolation by floodwaters is less than 12 hours from the commencement of rainfall, and c. the development is not subject to high hazard flooding.

Flash flooding by overland flows is the only flood risk present at the site. Flood modelling demonstrates that flooding at the site is limited to short duration, intense overland flow events where the time to inundation is less than 6-hours from the onset of rainfall (4 – 8 minutes in the critical duration PMF). In the 15-minute duration PMF the site would remain isolated for 23 minutes. Longer duration PMFs would need to be modelled to confirm the maximum duration of isolation due to overland flows. However, the duration of isolation is unlikely to exceed the 12 hour threshold set out by DPHI in the Guideline. Therefore, shelter-in-place is an appropriate flood emergency response strategy given the flood behaviour at the site.

4.3.2 Proposed Shelter-In-Place Strategy

A staged approach is proposed which ensures that evacuation is not attempted during hazardous flash flood conditions and that occupants can safely shelter in place within the building. The proposed procedure is outlined below.

1. **Receipt of Severe Weather / Heavy Rainfall Warning**

   Upon receipt of a Bureau of Meteorology or NSW SES warning for heavy rainfall or potential flash flooding, building management and occupants should be alert. If it is raining Flood Wardens will visually monitor Lindfield Avenue and Woodside Avenue for floodwaters every **2 hours**. If intense rainfall is observed, they will increase the frequency of visual monitoring to every **20 minutes**.

2. **Preparation for Shelter in Place**

   If the BoM Weather App indicates there is a rainfall event expected with 44.5mm total depth or greater within a 3-hour window, site occupants should be advised to remain on site and avoid unnecessary off site travel. Occupants should avoid using the landscaped area along Lindfield Avenue.

   All occupants should prepare to shelter in place within their own dwelling by:

   a. Monitoring weather conditions and official alerts.

   b. Preparing essential items (food, water, medication, charging phones/devices).

   c. Remaining within their dwelling and avoiding all unnecessary outdoor movement for the duration of the event.

3. **Monitoring of Local Flood Conditions**

   During the rainfall event, conditions surrounding the site should be monitored, including:

   a. Road conditions along Woodside Avenue.

   b. Overland flow overtopping from Reid Street into the site.

   c. Any observed ponding or flow accumulation adjacent to building.

   Any observed overland flow entering the site or ponding or flow accumulation adjacent to the building would indicate and event comparable to or greater than the 1% AEP event is occurring. Occupants on all floors, including the ground floor, should remain sheltered in place within their dwellings.

4. **Trigger for Shelter in Place at Dwelling Level**

   If overland flow is observed to enter the site from the north, ponding or flow accumulation adjacent to the building is occurring or floodwaters are observed on woodside Avenue in front of the driveway, then the rainfall event should be considered severe enough to warrant the Shelter in Place strategy.

   Occupants on all floors should remain within their own dwelling for the duration of the severe storm event. Ground floor apartments are protected from the external overland flow path by deflection walls designed to prevent the external overland flow path from reaching the building in all events up to and including the PMF. The expected time to inundation and duration of inundation is short, with water surface levels anticipated to recede within less than a few hours. Lifts should not be used during severe weather events under any circumstances.

5. **Contingency - Internal Relocation (Levee Failure)**

The site benefits from protection via the flood deflection walls, and failure of these walls represents an unlikely scenario. However, in the improbable event that a deflection wall failure or overtopping occurs and ground-level inundation begins to affect the building beyond the capacity of the flood deflection walls, ground floor occupants have the option to temporarily relocate internally via the stairwells to upper floors if needed.

In this contingency scenario, occupants might:

a. Use the internal stairwells only - lifts must not be used.

b. Temporarily relocate upon instruction from building management or emergency services.

c. Remain within the building on Levels 1 - 8 and continue to shelter in place until floodwaters have receded and all-clear advice has been received from the NSW SES or emergency services.

This contingency is not anticipated to be required as there is proposed protection of the ground floor up to the PMF level under normal conditions, and as such is provided as a precautionary and secondary measure only.

4.4 Flood Risk Management Features

This Flood Emergency Response Plan assumes that the following features are integrated into the design, construction and operation of the site to minimise the risk to life from flooding. It is a responsibility of the owners and operators of the site to ensure that these features are installed and adequately maintained so that they remain fit for purpose at all times.

- The flood deflection walls protect all habitable floor levels from flooding in events up to and including the PMF.
- The basement will be protected from flooding up to and above the PMF level by a driveway crest, raised stairway landings and flood deflection walls.
- The external pathway between Building A and Building B will be flood free in all events up to and including the PMF. Any water ponding between the deflection wall and the building itself is a result of localised rainfall-runoff (which is a site drainage matter and not relevant pertinent to flood management matters).
- The building will remain structurally stable during a PMF.
- A number of staff and residents are to be nominated as Flood Wardens. One will be nominated as Chief Flood Warden, preferably a staff member.
- There will be at least one Flood Warden in each building at all times.
- Flood Wardens are subscribed to the BoM Weather App and the NSW Hazards Near Me App
- The Chief Flood Warden (or Flood Warden on site) is to have access at all times, to a laptop/tablet/smartphone with 4G/5G internet access and at least 24 hours of battery capacity
- Flood Wardens are to have smartphones or other portable methods of communicating with each other (e.g. radio) and with the Chief Flood Warden. These systems will have a minimum of 24 hours battery capacity (this can be achieved through the use of power banks
- Flood warning signage will be installed throughout the building. Signage will indicate:
  - Follow the instructions of Flood Wardens in the event of a flood.
  - In the event of a flood shelter in your home.
  - It is never safe to walk or drive through floodwaters.
- Flood signage should be installed throughout the basement showing flood evacuation arrows towards Stair 4. Anybody in the basement during a flood should exit the basement via Stair 4.
- A barrier will be located across the vehicular entry to the basement (e.g., a boom gate) to prevent vehicles from exiting into potentially hazardous floodwaters
- A public address (PA) system, audible in all parts of both buildings during heavy rain, will be installed on site. This will allow instructions to be disseminated quickly and without the necessity of door knocking. This will be used in communicating flood emergency messages to site occupants and must have back-up power supply that does not rely on grid power.
- There is a recommended 6-hour back-up power supply that will ensure the flood refuge has working power facilities. This 6-hour duration has been adopted on the basis that overland flow flooding in this catchment is typically fast-moving and short in duration, often receding within a few hours. While this is considered a reasonable assumption given the local flood behaviour, it is acknowledged that further analysis may be required to confirm the actual period of site isolation under a range of longer-duration storm events.
- Flood emergency response drills will be conducted annually.
- A hard copy of this FERP is to be kept in each of the residential apartment buildings

- The following are to be kept in each building:
  - An emergency kit
  - First aid kit
  - A defibrillator
  - A laptop/tablet/smartphone with 4G/5G internet access and at least 24 hours of battery capacity (can be achieved via power banks)
  - Portable radio with batteries,
  - Torches with spare batteries,
  - Shelf-stable food/snacks

5 FLOOD EMERGENCY RESPONSE PLAN (FERP)

5.1 Priorities

This FERP recognises that protection of life is of critical and primary importance. This FERP is principally concerned with the safety and comfort of all occupants on site. All flood emergency responses recommended in this FERP are to recognise the primacy of life and wellbeing over protection of property.

Nonetheless, it is recommended that the building management and staff take all necessary measures outside of this FERP to manage the risks which flooding poses to the site and its property.

The FERP sets emergency management prevention, preparedness and response measures that are relevant to a flood emergency. It does not cover broader emergency management guidance for any other type of hazard that could affect the site.

5.2 Roles and Responsibilities

5.2.1 NSW State Emergency Services (NSWSES)

The NSWSES is the lead combat agency for flooding in NSW. It can command resources from other government organisations including local councils, Transport for NSW and the Police to assist in flood operations under its command.

Under the State Emergency and Rescue Management Act, 1989, the NSWSES has the power to direct any citizen or organisation to take actions in response to flooding. This includes the power to order evacuations.

Any flood response directive issued by the NSWSES or by delegated authority to others acting on its behalf must be followed by site management and staff. This includes any order to evacuate the site or not evacuate the site, irrespective of what decisions have been made by management in accordance with this FERP.

5.2.2 Building Owner

The organisation which owns the building will be responsible for ensuring that:

- all flood management features listed in section 4.4 of this report are implemented and are regularly assessed, serviced and repaired so that they remain fit for purpose at all times.
- the public address system is kept in working order and assessed annually.
- the Chief Flood Warden and Flood Wardens are familiar with this FERP.
- the FERP is reviewed and updated every 5 years, or following a flood that triggers sheltering in place.
- the FERP is kept up to date.
- Flood Wardens are appointed from among the staff and residents and are given flood risk management responsibilities and have sufficient training to implement this FERP.
- all staff are given induction and training into their flood emergency response responsibilities
- all site occupants are informed of the site flood risks, this FERP and their responsibilities during a flood emergency (refer to Section 5.2.5) and are encouraged to keep non-perishable food and drinks in their dwellings
- flood signage is visible and legible.
- there are at least 2 adequately trained Flood Wardens on site at all times.

- support the Chief Flood Warden and Flood Wardens in their duties.
- an annual audit is undertaken of the resources necessary to implement the FERP.
- post-flood site clean-up and recovery
- there are sufficient financial, human and other resources to maintain and implement the FERP.

5.2.3 Building Manager / Chief Flood Warden

The Building Manager will be the Chief Flood Warden who will be responsible for:

- being familiar with all flood emergency management procedures set out in this document and with BoM warnings, NSW SES warnings and rainfall data.
- ensuring that all staff and Flood Wardens are aware of the flood emergency response procedures set out in Chapter 5 and Appendix A of this FERP.
- ensuring that all Flood Wardens know how to monitor flood forecasts and external water levels.
- organising training for themselves and Flood Wardens in the implementation of the flood emergency management procedures set out in Chapter 5 and Appendix A of this FERP.
- subscribing themselves and Flood Wardens to the BOM Weather App and the Hazards Near Me App to receive severe weather warnings, flood watches, flood warnings, rainfall notifications and AWS warnings direct to their mobile devices
- an annual drill is undertaken involving all staff and Flood Wardens nominated in the FERP.
- keeping a fully charged and functional mobile phone/laptop/tablet with 4G/5G internet access and at least 24 hours of battery charge on site at all times
- ensuring there are at least 2 adequately trained Flood Wardens on site at all times.
- monitoring weather forecasts, flood warnings and AWS warnings through the Bureau of Meteorology website, BoM Weather app and the Hazards Near Me app every morning
- keeping soft and hard copies of the FERP on site and readily accessible to the Flood Wardens at all times,
- implementing this FERP in the event of a flood or delegating that task to an on-duty Flood Warden
- directing other staff to implement various aspects of this FERP, as required
- consulting with emergency service organisations and other external stakeholders, as required.
- reporting annually, and as requested, to the building owner on implementation and maintenance of the FERP.

The Chief Flood Warden may delegate the above tasks to others but bears ultimate responsibility for their implementation. If the Building Manager is not present on site a delegate from among the nominated Flood Wardens will take on the responsibilities of the Chief Flood Warden.

5.2.4 Flood Wardens

Flood Wardens should be selected from among the staff and residents. If expedient, Fire Wardens should also be appointed as Flood Wardens. All Flood Wardens will be responsible for:

- ensuring that they are aware of the flood emergency response procedures set out in this FERP.
- ensuring they know how to monitor rainfall forecasts, severe weather warnings, flood warnings and external water levels.
- ensuring a soft and hard copy of the FERP is on site and to report absences to the Chief Flood Warden
- implementing the procedures in this FERP during and after a flood.

Flood Wardens may delegate any of the actions set out in this FERP that need to be taken during or after a flood but bear ultimate responsibility for their implementation.

5.2.5 Residents and Visitors

Residents and visitors are to follow the directions of the Flood Wardens during a flood emergency.

5.3 Flood Emergency Response Triggers and Actions

Management actions which are applicable to the entire site are included in the following sections. **Appendix A summarises all of the following actions as a check list to be used before, during and after a flood**. Appendix C provides an emergency contact list to be completed and kept updated by the Chief Flood Warden.

The flood emergency response operations are divided into four phases:

- Prevent – this applies at all times.
- Prepare – this occurs when flooding of the site may be about to happen.
- Respond – this occurs when a flood of the site is ongoing.
- Recover – this occurs after a flood event.

5.3.1 Prevent: Before a Flood

TRIGGER FOR ACTION — Always

ACTIONS:

- The building owner will ensure all flood management features listed in section 4.4 of this report are implemented and are regularly assessed, serviced and repaired so that they remain fit for purpose at all times.
- The building owner the public address system is kept in working order and assessed annually.
- The building owner will ensure the Chief Flood Warden and Flood Wardens are familiar with this FERP.
- The building owner will ensure the FERP is reviewed and updated every 5 years, or following a flood that triggers sheltering in place.
- The building owner will ensure the FERP is kept up to date.
- The building owner will ensure Flood Wardens are appointed from among the staff and residents and are given flood risk management responsibilities and have sufficient training to implement this FERP.
- The building owner will ensure all staff are given induction and training into their responsibilities during a flood emergency
- The building owner will ensure all site occupants are informed of the site flood risks, this FERP and their responsibilities during a flood emergency (refer to Section 5.2.5) and are encouraged to keep non-perishable food and drinks in their dwellings
- The building owner will ensure flood signage is visible and legible.
- The building owner and Chief Flood Warden will ensure there are at least 2 adequately trained Flood Warden on site at all times.
- The building owner will support the Chief Flood Warden and Flood Wardens in their duties.
- The building owner will ensure an annual audit is undertaken of the resources necessary to implement the FERP.
- The Chief Flood Warden will ensure an annual drill is undertaken involving all staff and Flood Wardens nominated in the FERP.
- The building owner will ensure there are sufficient financial, human and other resources to maintain and implement the FERP.

- The Chief Flood Warden will ensure they are familiar with all flood emergency management procedures set out in this document, with BoM warnings, NSW SES warnings and rainfall data.
- The Chief Flood Warden will ensure all staff and Flood Wardens are aware of the flood emergency response procedures set out in Chapter 5 and Appendix A of this FERP.
- The Chief Flood Warden will subscribe themselves and Flood Wardens to the BOM Weather App and the Hazards Near Me App to receive severe weather warnings, flood watches, flood warnings, rainfall notifications and AWS warnings direct to their mobile devices
- The Chief Flood Warden will ensure all Flood Wardens know how to monitor flood forecasts and external water levels.
- The Chief Flood Warden will organise training for themselves and Flood Wardens in the implementation of the flood emergency management procedures set out in Chapter 5 and Appendix A of this FERP.
- The Chief Flood Warden will keep a fully charged and functional mobile phone/laptop/tablet with 4G/5G internet access and at least 24 hours of battery charge on site at all times.
- The Chief Flood Warden will monitor weather forecasts, flood warnings and AWS warnings through the Bureau of Meteorology website, BoM Weather app and the Hazards Near Me app every morning
- The Chief Flood Warden will keep soft and hard copies of the FERP on site and readily accessible to the Flood Wardens at all times.
- Flood Wardens will report absences of the FERP to the Chief Flood Warden
- The Chief Flood Warden will direct other staff to implement various aspects of this FERP, as required.
- The Chief Flood Warden will consult with emergency service organisations and other external stakeholders, as required.
- The Chief Flood Warden will report annually, and as requested, to the building owner on implementation and maintenance of the FERP.
- Flood Wardens will ensure they are aware of the flood emergency response procedures set out in this FERP.
- Flood Wardens will ensure they know how to monitor rainfall forecasts, severe weather warnings, flood warnings and external water levels

5.3.2 Prepare: When a Flood is Possible

TRIGGER FOR ACTION:

BoM issues a Severe Weather or Thunderstorm Warning for the Sydney area

OR

Intense rainfall is observed on site

ACTIONS:

- If it is raining the Chief Flood Warden or delegate will visually monitor the adjacent roads for floodwaters every **2 hours.**
- If intense rainfall is observed at the site, the Chief Flood Warden or delegate will visually monitor the adjacent roads for floodwaters every **20 minutes.**
- The Chief Flood Warden or delegate will monitor the Bureau of Meteorology rainfall forecasts and rainfall gauge levels, the NSW SES website, and Hazards Near Me app every **hour** and tune into ABC Radio 702
- The Chief Flood Warden will notify the Flood Wardens of the possibility of flooding and remind them of actions and procedures to follow should evacuation be required.

TRIGGER FOR ACTION:

If the BoM Weather App indicates there is a rainfall event expected with at least 44.5mm total storm depth or greater within a 3-hour window.

OR

NSW SES Hazard Watch Map/Hazards Near Me App issues a Watch and Act for flooding applicable to the site

ACTIONS:

- The Chief Flood Warden or delegate will announce via the PA system:
  - Flooding in local roads is possible.
  - Where possible please remain in your home and avoid unnecessary off-site travel.
  - Please prepare any essential items you may require if the site becomes temporarily isolated by floodwaters, such as food, water, medications or charging any phones or other devices.
  - Please do not use the landscaped area along Lindfield Avenue.
  - It is never safe to walk or drive through floodwaters of any depth.

  The announcement is to be repeated several times per day until the triggers above have subsided.
- The Chief Flood Warden or delegate will check to ensure that nobody is in the landscaped area along Lindfield Avenue

During the relevant 3-hour period the Chief Flood Warden or delegate will visually monitor the adjacent roads for floodwaters every **20 minutes**.

5.3.3 Respond: During a Flood

TRIGGER FOR ACTION:

Floodwaters are observed entering the site from Reid Street, ponding or accumulating adjacent to the buildings or on Woodside Avenue in front of the driveway

OR

NSW SES issues an Emergency Warning – Shelter Now

ACTIONS:

- The Chief Flood Warden or delegate will initiate sheltering on site
- The Chief Flood Warden or delegate will announce via the PA system:
  - Local flooding is impacting local streets.
  - The site is now isolated by floodwaters.
  - It is no longer safe to leave the site.
  - Everyone should stay in the building on the ground floor and above. Residents, please remain in your units
  - The basement car park has been closed, and vehicles are not to leave the site. Vehicles will be protected from flood waters
  - If you are currently in the basement, please follow the flood evacuation arrows to make your way upstairs via Stair 4
  - Please do not use the lifts
  - The site is not anticipated to remain isolated for very long; we will let you know when it is safe to leave
  - Remember it is never safe to walk or drive through floodwaters.
- Flood Wardens will close the lobby and building entrances.
- Flood Wardens will close the barrier across the driveway
- If safe to do so, the Flood Wardens will sweep the basement to ensure no one remains on this lower level
- There should be at least one Flood Warden sheltering in each building

TRIGGER FOR ACTION (precautionary measure only):

A flood deflection wall is observed to fail or be overtopped by flooding

OR

Floodwaters are observed entering the ground floor or the basement

ACTIONS:

- The Chief Flood Warden or delegate will announce via the PA system:
  - It is possible floodwaters may enter the ground floor
  - Anybody currently on the ground floor or in the basement must immediately make their way upstairs to Level 1 or above via the stairs
  - Please do not use the lifts
  - If you are currently in the basement, please follow the flood evacuation arrows to make your way upstairs via Stair 4

5.3.4 Recover: After a Flood

TRIGGER FOR ACTION:

Emergency Services give the all-clear.

ACTIONS:

- The Chief Flood Warden will advise those sheltering on site it is safe to leave.
- The Chief Flood Warden will ensure that no visitors or patrons return to the site while flooding is still occurring or recently occurred.
- Visitors can return to site only after the all-clear has been given by emergency services. The Chief Flood Warden will ensure they do not return to site until that time.
- If there are any concerns regarding the structural stability of the buildings, the building owners will organise for a structural engineer to assess any damage and the structural integrity of the building
- A hazard assessment will be undertaken by the Chief Flood Warden for the clean-up. Safe work methods statements will be prepared and personal protective equipment supplied consistent with the known hazards which can be associated with floods:
  - Slips, trips and falls,
  - Sharp debris,
  - Venomous animals,
  - Contaminated water and sediments.
- Plumbing and gas to be checked by licensed plumber and defects rectified
- Electrical to be checked by licensed electrician and defects rectified.
- Before the re-commencement of site activities, a de-brief will be held with the building owners, the Chief Flood Warden and key persons and may involve NSW SES flood personnel/volunteers. The flood event and response, including the use of this FERP and any emergency procedures will be reviewed.
- Changes may be made to this FERP and the requirements for future emergency response should the review identify any improvements which may be made.

6 SUMMARY

6.1 Project Summary

The Flood Emergency Response Plan (FERP) has been developed to support the proposed residential development at 2-4 Woodside Avenue and 1-3 Reid Street, Lindfield, building on HYDRACOR's Flood Impact and Risk Assessment. While the site is not subject to mainstream flooding from Gordon Creek due to its upstream location, it is affected by overland flow that can occur rapidly and may temporarily isolate the site and surrounding roads. Previous assessments identified that extreme events could impact lower levels and require evacuation.

Based on additional modelling, the introduction of a levee designed above the Probable Maximum Flood level is expected to prevent inundation of the ground floor. As a result, the primary emergency response strategy has been refined to a shelter-in-place approach for all residents, with vertical evacuation to upper levels only required as a contingency in the unlikely event of levee failure. This approach aligns with relevant guidelines and has been formalised to address regulatory feedback and strengthen the site's flood risk management and emergency preparedness.

6.2 FERP Overview

The Flood Emergency Response Plan (FERP) outlines a structured four-phase framework: Prevent, Prepare, Respond, and Recover, to effectively manage flood risk across the site. The plan ensures continuous preparedness, a transparent escalation pathway based on forecast warnings and observed conditions, a coordinated on-site response prioritising life safety, and a controlled, risk-managed recovery following emergency service clearance.

The Key parts of the FERP are noted below:

- Prevent (ongoing preparedness and risk reduction), Prepare (activation in response to formal warnings), Respond (management during active flooding), and Recover (post-event restoration and review).
- Activation occurs following a Bureau of Meteorology (BoM) Severe Weather Warning for possible flooding, or the observation of intense rainfall on site. During this phase, the Chief Flood Warden undertakes regular monitoring of forecasts, rainfall, and alerts (including ABC Radio 702).
- Well-defined roles and responsibilities for the building owner, Chief Flood Warden, and Flood Wardens, supported by training programs, regular drills, and regular plan reviews.
- Emphasis on shelter-in-place protocols, controlled building closure and strict prohibition of entering floodwaters once conditions become unsafe.

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APPENDIX A
FLOOD EMERGENCY RESPONSE PLAN ACTION CHECKLIST

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
Before a flood	Always	The building owner will ensure all flood management features listed in section 4.4 of this report are implemented and are regularly assessed, serviced and repaired so that they remain fit for purpose at all times.	Building Owner	Flood Emergency Response Plan
		The building owner the public address system is kept in working order and assessed annually.	Building Owner	Flood Emergency Response Plan
		The building owner will ensure the Chief Flood Warden and Flood Wardens are familiar with this FERP.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The building owner will ensure the FERP is reviewed and updated every 5 years, or following a flood that triggers sheltering in place.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The building owner will ensure the FERP is kept up to date.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The building owner will ensure Flood Wardens are appointed from among the staff and residents and are given flood risk management responsibilities and have sufficient training to implement this FERP.	Building Owner /Chief Flood Warden	N/A
		The building owner will ensure all staff are given induction and training into their responsibilities during a flood emergency	Building Owner /Chief Flood Warden	Public address system, boom gates
		The building owner will ensure all site occupants are informed of the site flood risks, this FERP and their responsibilities during a flood emergency (refer to Section 5.2.5) and are encouraged to keep non-perishable food and drinks in their dwellings	Building Owner /Chief Flood Warden	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The building owner will ensure flood signage is visible and legible.	Building Owner /Chief Flood Warden	Signage
		The building owner and Chief Flood Warden will ensure there are at least 2 adequately trained Flood Warden on site at all times.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
		The building owner will support the Chief Flood Warden and Flood Wardens in their duties.	Building Owner /Chief Flood Warden	N/A
		The building owner will ensure an annual audit is undertaken of the resources necessary to implement the FERP.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will ensure an annual drill is undertaken involving all staff and Flood Wardens nominated in the FERP.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The building owner will ensure there are sufficient financial, human and other resources to maintain and implement the FERP.	Building Owner /Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will ensure they are familiar with all flood emergency management procedures set out in this document, with BoM warnings, NSW SES warnings and rainfall data.	Chief Flood Warden	Flood Emergency Response Plan (Chapter 5 and Appendix A), BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will ensure all staff and Flood Wardens are aware of the flood emergency response procedures set out in Chapter 5 and Appendix A of this FERP.	Chief Flood Warden	Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will subscribe themselves and Flood Wardens to the BOM Weather App and the Hazards Near Me App to receive severe weather warnings, flood watches, flood warnings, rainfall notifications and AWS warnings direct to their mobile devices	Chief Flood Warden	Flood Emergency Response Plan (Chapter 5 and Appendix A), BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will ensure all Flood Wardens know how to monitor flood forecasts and external water levels.	Chief Flood Warden	Flood Emergency Response Plan (Chapter 5 and Appendix A), BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
		The Chief Flood Warden will organise training for themselves and Flood Wardens in the implementation of the flood emergency management procedures set out in Chapter 5 and Appendix A of this FERP.	Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will keep a fully charged and functional mobile phone/laptop/tablet with 4G/5G internet access and at least 24 hours of battery charge on site at all times.	Chief Flood Warden	Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will monitor weather forecasts, flood warnings and AWS warnings through the Bureau of Meteorology website, BoM Weather app and the Hazards Near Me app every morning	Chief Flood Warden	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will keep soft and hard copies of the FERP on site and readily accessible to the Flood Wardens at all times.	Chief Flood Warden	Flood Emergency Response Plan
		Flood Wardens will report absences of the FERP to the Chief Flood Warden	Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will direct other staff to implement various aspects of this FERP, as required.	Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will consult with emergency service organisations and other external stakeholders, as required.	Chief Flood Warden	Flood Emergency Response Plan
		The Chief Flood Warden will report annually, and as requested, to the building owner on implementation and maintenance of the FERP.	Chief Flood Warden	Flood Emergency Response Plan
		Flood Wardens will ensure they are aware of the flood emergency response procedures set out in this FERP.	Chief Flood Warden/ Flood Wardens	Flood Emergency Response Plan
		Flood Wardens will ensure they know how to monitor rainfall forecasts, severe weather warnings, flood warnings and external water levels	Chief Flood Warden/ Flood Wardens	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
When a flood is possible	**BoM issues a Severe Weather or Thunderstorm Warning for the Sydney area** **OR** **If the BoM Weather App indicates there is a rainfall event expected with at least 44.5mm total storm depth or greater within a 3-hour window** **OR** **NSW SES Hazard Watch Map/Hazards Near Me App issues a Watch and Act for flooding applicable to the site**	If it is raining the Chief Flood Warden or delegate will visually monitor the adjacent roads for floodwaters every 2 hours.	Chief Flood Warden/Delegate	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		If intense rainfall is observed at the site, the Chief Flood Warden or delegate will visually monitor the adjacent roads for floodwaters every 20 minutes.	Chief Flood Warden/Delegate	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden or delegate will monitor the Bureau of Meteorology rainfall forecasts and rainfall gauge levels, the NSW SES website, and Hazards Near Me app every hour and tune into ABC Radio 702	Chief Flood Warden/Delegate	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden will notify the Flood Wardens of the possibility of flooding and remind them of actions and procedures to follow should evacuation be required.	Chief Flood Warden	N/A
		The Chief Flood Warden or delegate will announce via the PA system:	Chief Flood Warden/Delegate	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet
		The Chief Flood Warden or delegate will check to ensure that nobody is in the landscaped area along Lindfield Avenue	Chief Flood Warden/Delegate	N/A

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
During a flood	**Floodwaters are observed entering the site from Reid Street, ponding or accumulating adjacent to the buildings or on Woodside Avenue in front of the driveway** **OR** **NSW SES issues an Emergency Warning – Shelter Now** **OR**	The Chief Flood Warden or delegate will initiate sheltering on site	Chief Flood Warden/Delegate	N/A
		The Chief Flood Warden or delegate will announce via the PA system: ■ Local flooding is impacting local streets. ■ The site is now isolated by floodwaters. ■ It is no longer safe to leave the site. ■ Everyone should stay in the building on the ground floor and above. Residents, please remain in your units ■ The basement car park has been closed, and vehicles are not to leave the site. Vehicles will be protected from flood waters ■ If you are currently in the basement, please follow the flood evacuation arrows to make your way upstairs via Stair 4 ■ Please do not use the lifts ■ The site is not anticipated to remain isolated for very long; we will let you know when it is safe to leave ■ Remember it is never safe to walk or drive through floodwaters.	Chief Flood Warden/Delegate	Public Address System
		Flood Wardens will close the lobby and building entrances.	Flood Wardens	N/A
		Flood Wardens will close the barrier across the driveway	Flood Wardens	N/A
		If safe to do so, the Flood Wardens will sweep the basement to ensure no one remains on this lower level	Flood Wardens	N/A
		There should be at least one Flood Warden sheltering in each building	Chief Flood Warden/Delegate	BoM Weather app, Hazards Near Me app, Mobile phones / Computers with 4g/5g internet

Stage	Trigger for Action	Action	Who is Responsible	What is Needed
After a flood	**Emergency Services give the all-clear**	The Chief Flood Warden will advise those sheltering on site it is safe to leave	Chief Flood Warden	Public address system
		The Chief Flood Warden will ensure that no visitors or patrons return to the site while flooding is still occurring or recently occurred	Chief Flood Warden	N/A
		Visitors can return to site only after the all-clear has been given by emergency services. The Chief Flood Warden will ensure they do not return to site until that time	Chief Flood Warden	N/A
		If there are any concerns regarding the structural stability of the buildings, the building owners will organise for a structural engineer to assess any damage and the structural integrity of the building	Building Owner	Flood Emergency Contact List (Appendix C)
		A hazard assessment will be undertaken by the Chief Flood Warden for the clean-up. Safe work methods statements will be prepared and personal protective equipment supplied consistent with the known hazards which can be associated with floods: ■ Slips, trips and falls, ■ Sharp debris, ■ Venomous animals, ■ Contaminated water and sediments.	Chief Flood Warden	N/A
		Before the re-commencement of site activities, a de-brief will be held with the building owners, the Chief Flood Warden and key persons and may involve NSW SES flood personnel/volunteers. The flood event and response, including the use of this FERP and any emergency procedures will be reviewed.	Chief Flood Warden/Building Owners	Flood Emergency Response Plan
		Changes may be made to this FERP and the requirements for future emergency response should the review identify any improvements which may be made	Chief Flood Warden/Building Owners	Flood Emergency Response Plan
		Plumbing and gas to be checked by licensed plumber and defects rectified	Building Owner	Flood Emergency Contact List (Appendix C)
		Electrical to be checked by licensed electrician and defects rectified.	Building Owner	Flood Emergency Contact List (Appendix C)

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APPENDIX B
FLOOD EMERGENCY ITEMS

Item	Date Checked
Fully charged mobile phone, tablet or laptop with 4G/5G internet access capabilities and at least 24 hours of independent power supply (battery capacity or portable power bank)	
Soft and hard copies of up-to-date primary contact lists	
Flood Emergency Kit - a plastic container clearly marked including: ■ Printed copy of the latest version of this FERP ■ Battery operated torches with in-date batteries in each and a set of in-date spare batteries for each ■ A battery-operated portable radio to listen to ABC radio (702 AM) for flood and other warning broadcasts. This must have in-date batteries and a set of in-date spare batteries. ■ First aid kit	

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APPENDIX C
FLOOD EMERGENCY CONTACT LIST

Name	Organisation	Role	Contact Details
		Chief Flood Warden	
		Flood Warden	
		Flood Warden… (as required)	
	Emergency Services	Fire/ ambulance/ police	000
	State Emergency Service	SES Local Controller	132 500
	Ku-ring-gai Council	Customer Service Centre	02 9424 0000
	Royal North Shore Hospital	Medical	02 9926 7111
		Electricity Supplier	
		Gas Supplier	
	Sydney Water	Water and Sewage Supplier	132090
		Telecommunications	
		Waste Collection	
		Water Pumping Services	

This list is to be completed and kept updated by the Chief Flood Warden at all times once operational.

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Melbourne
15 Business Park Drive
Notting Hill VIC 3168

Melbourne – CBD
Suite 904, Carlow House, 289 Flinders Lane
Melbourne VIC 3000

Brisbane
Level 5, 43 Peel Street
South Brisbane QLD 4101

Brisbane – Camp Hill
2a/4 Newman Avenue
Camp Hill QLD 4152

Sydney
Suite 3, Level 1, 20 Wentworth Street
Parramatta NSW 2150

Ballina
Unit 1b/1 Hogan Street
Ballina NSW 2478

Adelaide
2/39-40 Greenhill Road
Wayville SA 5034

Perth
Level 1, 21 Adelaide Street
Fremantle WA 6160

New Zealand
4 Williamson Avenue
Ponsonby New Zealand 1021

Wangaratta
First Floor, 40 Rowan Street
Wangaratta VIC 3677

Geelong
1/5 Bridge Street
Newtown VIC 3220

Wimmera
597 Joel South Road
Stawell VIC 3380

Gold Coast
Suite 37, Level 4, 194 Varsity Parade
Varsity Lakes QLD 4227

Darwin
Unit 40/29 Woods Street
Darwin City NT 0800

Sunshine Coast
4C ‘Regatta Corporate’, 2 Innovation Parkway
Birtinya QLD 4575

1300 198 413

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