Our ref: 214198-WSP-SYD-CIV-LTR-02 Rev03

24 March 2025

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Mikhail Pachin
Homes NSW
4 Parramatta Square,
12 Darcy Street
Parramatta NSW 2150

Dear Mikhail

DPHI and CPHR RtS Response Letter

WSP have sought to amend the Stormwater Management and Flood Impact and Risk Assessment Report (214198-WSP-SYD-CIV-REP-01) in response to the Response to Submissions (RtS) provided by DPHI and CPHR (SSD-71687208 ref: DOC25/111734). Below responds to each of the concerns raised by DPHI with reference to the amended Stormwater Management and Flood Assessment Report.

Table 1: CPHR Response Table

Key Assessment Issues	***Response***
Inconsistency in provided documents CPHR notes that the landscape plans have been updated to show rip rap to the overland flow path. However, the landscape plans show a landscaped retaining wall across the flow path. The flood mapping appears to demonstrate a continuous gradient in this area and no drop pit has been provided in the stormwater pipeline to indicate a change in level. The RTS notes depths of 0.25 m at 2 m/s will flow in the overland flow path in an event as frequent as the 5% event which would be considered H5 hazard. This is not consistent with the provided flood mapping. Recommended action: • Check the FIRA and landscape plans for consistency and provide results in a manner which clearly describes expected flood behaviour and how this risk is managed. • Prepare landscape cross sections and long sections for the constrained overland flow path down the side of the building which can be modelled in the FIRA. This is requested to ensure that the same design criteria are applied to flood modelling, stormwater design and landscape/architectural design.	The landscaped swale long section and cross sections have been reviewed, and the model has been updated to more accurately reflect the overland flow path. This ensures alignment between the FIRA and landscape plans in demonstrating expected flood behaviour and risk management. Refer to Section 2.3.2 of the report for details on the updated modelling The landscape design of the swale has been incorporated and is provided in Appendix A The updated assessment confirms that the design results in no adverse impact on the adjacent properties.
Lack of comprehensive mapping for offsite afflux impacts A thorough flood impact assessment should consider potential effects beyond the immediate development site, including upstream and	Extended flood maps have now been included in the report as Figure 14 and Figure 17 noting the impact upstream and downstream is insignificant (less

downstream areas. However, the RTS has not provided flood maps at a sufficient scale to assess offsite afflux impacts. The FIRA does not demonstrate the impacts of the diversion of floodwaters on upstream properties. Furthermore, the RTS states that the development will result in changes to flood levels of up to 20 mm on surrounding streets. In principle, significant flood impacts are greater than 10 mm, which corresponds to the generally acknowledged level of accuracy of flood models to detect impacts. For extreme events, larger flood impacts may be acceptable on a merit basis, but any change in flood levels should be assessed alongside changes in hazard categorisation and therefore a thorough understanding of hazard afflux is in this instance also important. The newly provided climate change and Probable Maximum Flood (PMF) mapping indicate that the proposed mitigation strategies are not adequate to protect the adjacent property and unacceptable impacts occur. Mitigation of impacts on private property is not limited to those which occur in 1% or smaller Annual Exceedance Probability (AEP). For any locations where significant impacts are proposed, appropriate mitigation measures should be proposed to limit impacts. Recommended action: The FIRA should: • provide flood impact mapping that extends to both upstream and downstream areas to illustrate potential afflux effects and ensure that flood redistribution does not cause adverse impacts to neighbouring properties. • incorporate any necessary mitigation measures to prevent adverse effects ensuring these are included prior to determination rather than left to future stages.	than 10mm) in the areas not previously shown. Larger scale maps included in Appendix A do not extend beyond the extent of where offsite impacts are less than 10mm. Note the model has been prepared on a 2m grid as per industry standard practice. There is no negative impact on surrounding properties, with any negative impact limited to the public domain. Mapping shows a small positive impact on flood depth in Mowbray Road (approx. 15mm lower) and a small negative impact on Mindarie Street (up to 30mm deeper) during a 1% AEP event. While the increase exceeds the general 10mm threshold, the following merit-based considerations justify its acceptability: • Negative impacts are limited to the public domain • Mindarie Road is a local road with limited through traffic • The Hazard category of H2/H3 remains unchanged in the 1% AEP event. • Due to the nature of the catchment, the impact is only seen for a short period during the peak of storm events larger than the 5% AEP event. Following more accurate modelling of the western overland flow path in both existing and proposed conditions, it has been demonstrated that there is no significant impact on flooding on the adjacent property. Flood mapping extends upstream and downstream showing no significant impact beyond the site following the inclusion of mitigation measures. Mitigation measures are discussed in section 2.2.6 (pipe upgrade/diversion), 2.3.2 (overland flow route) and 3.2 (on-site detention)

Incomplete flood hazard and hydraulic categorisation mapping A robust flood risk analysis requires a comparison between existing and post-development conditions to assess any changes in flood hazard levels. However, the revised FIRA has only provided flood hazard mapping for post-development conditions in the PMF event, without including a baseline for comparison. Post development flood hazard results indicate H5 and H6 hazard levels encompass the development site, raising concerns about flood safety. The revised FIRA does not include flood hydraulic categorisation maps, which are critical for assessing flood risk, despite previous requests for the flood assessment to be amended in accordance with the Flood Impact and Risk Assessment Guideline LU01. Recommended action: The FIRA should include: • flood hazard mapping for existing conditions for all the modelled events to provide a clear baseline for comparison • flood hydraulic categorisation maps, to comply with Appendix A of the Flood Impact and Risk Assessment Guideline and ensure that categorisation is provided for all flooding scenarios modelled up to the PMF.	Additional maps have now been included in the report in Appendix A containing hazard maps for all events pre and post development in accordance with the Flood Impact and Risk Assessment Guideline LU01. Comparing hazard maps in Appendix A, the proposed development has minimal impact on flood hazard in the surrounding area. Post development flood hazard mapping shows most of the overland flow on site is H1 hazard level for a 5% AEP storm event, with parts of the flow path on the western boundary up to H5 hazard level during the peak of a 1% AEP. During a PMF, the overland flow path and surrounding streets contain H5 and H6 flood hazard level during the peak of the storm.
Incomplete high hazard conditions on roadways and emergency management strategies The flood hazard assessment indicates that road conditions will be classified as H4 to H5 hazards, signifying a high danger to people, vehicles, and emergency responders. CPHR has previously recommended consultation with the State Emergency Service (SES) regarding emergency management strategies. This has not been addressed in the revised submission. Section 2.6 of the FIRA (Flood Emergency Response Strategies) does not adequately address the emergency management constraints of the site requirements. Emergency Management for the site should align with the Flood Risk Management Manual, specifically referencing the 2023 Flood Risk Management Guideline EM01 – Support for Emergency Management Planning, which provides principles for effective emergency management. Recommended action: • Consult with the SES to develop an appropriate emergency management strategy tailored to the site's flood constraints, ensuring alignment with Flood Risk Management Manual requirements. • Incorporate emergency management strategies that prioritise safe evacuation and accessibility during flood events, including the provision of evacuation maps at an appropriate scale showing flood-free access up to the PMF level.	Consultation with SES has begun, with revision 04 of the report issued to SES for review on 6/03/2025 (ID 2963). No response has been received at this stage beyond the acknowledgement of the referral. Correspondence has been attached to this letter and in the Stormwater Management and Flood Impact and Risk Assessment Report Appendix D. Revision 08 will be issued for review. SES will provide their response is due course and their response may require adjustments to the emergency management strategy. The SES consultation will inform the finalisation of the recommended Flood Emergency Response Strategy outlined in Section 2.6 of the report. Section 2.6 of the report has been updated to provide further information on emergency management. Table 3 in Section 2.6 of the report responds to the principals outlined in 2023 Flood Risk Management Guideline EM01 – Support for Emergency Management Planning.

Additionally, the report includes an update to address comments received in a RTS from Department of Planning, Housing and Infrastructure (DPHI) dated 03/03/2025:

Table 2: DPHI Response Table

Key Assessment Issues	***Response***
1. Flooding Provide a revised Stormwater Management, and Flood Impact and Risk Assessment report that addresses the following: (a) Clarify how the entry points to the upper ground level, ground level and lower ground level of the development are protected up to the flood planning level, when the finished floor levels for entry points 5, 7, 8 and 12 are below the flood planning levels (as identified in Table 2 of the report). Include Figure 20, which is missing from the current report.	Table 2 has been updated to clarify the flood protection, and the missing figure has been inserted as Figure 21. Point 5 is the driveway entry, where stormwater is contained within the road kerbs and does not enter the driveway Points 7 and 12 will achieve flood protection via landscaping treatments included in the revised landscape design. Note that with the updated flood modelling, the 1% AEP level at entry point 8 is 100mm lower at RL42.30. The FFL is suitable at the FPL.

Please do not hesitate to contact the undersigned if further detail is required for the progress of this application.

Yours sincerely

Phillip Lambley
Director

Subject: ACK ID 2963 RE: 618-624 Mowbray Road, Lane Cove North (SSD-71687208)
Sent: 6/03/2025, 3:46:59 PM
From: NSW SES Risk Reduction<rra@ses.nsw.gov.au>
To: Henderson, Tim
Cc: Lambley, Phillip; NSW SES Risk Reduction

Good afternoon Tim,
Thank you for the above referral which has been registered as ID 2963. Please quote this ID on any related future correspondence.
The referral will be assessed and if deemed applicable, a response will be forthcoming in due course.
Please note that staff may be involved in NSW SES Operations which could result in a delay in response times.
Kind regards.
Daniela

Daniela Mitreski
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OUR VISION: A TRUSTED VOLUNTEER-BASED EMERGENCY SERVICE, WORKING TOGETHER TO DELIVER EXCELLENCE IN COMMUNITY PREPAREDNESS AND EMERGENCY RESPONSE.

FOR EMERGENCY HELP IN FLOODS, STORMS AND TSUNAMI CALL THE NSW SES ON 132 500

The NSW SES acknowledges the traditional custodians of the lands on which we walk, work and live. We recognise their continuing connection to land, waters and culture and pay respect to Elders, past and present.

From: Henderson, Tim <Tim.Henderson@wsp.com>
Sent: Thursday, 6 March 2025 3:13 PM
To: NSW SES Risk Reduction <rra@ses.nsw.gov.au>
Cc: Lambley, Phillip <Phillip.Lambley@wsp.com>
Subject: 618-624 Mowbray Road, Lane Cove North (SSD-71687208)

Good afternoon,

We are in the process of preparing a design for affordable housing in Lane Cove North, at 618-624 Mowbray Road. I have attached some architectural plans to show the site location and concept design, as well as the Stormwater Management, and Flood Impact and Risk Assessment.

250306 - 618 Mowbray Road Lane Cove

We have considered flooding in the concept design, with a part of the site and surrounding roads impacted by flooding/overland flow during a 5% AEP event. Flood modelling has been undertaken to understand the impact of flooding on the site, and to understand any impacts on the surrounding area.

We expect a short period of shelter in place period will be required for these private residences as part of the flood emergency management strategy.

Please let me know if you require any further information. We welcome feedback from the SES with respect to flood planning and emergency management.

Kind regards,

Tim Henderson
Associate Director

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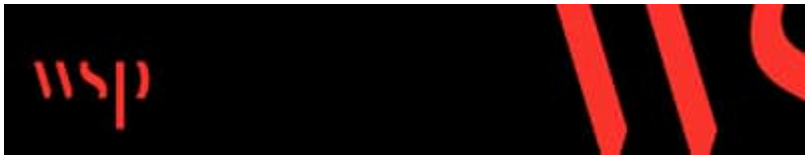

WSP acknowledges that every project we work on takes place on First Peoples lands. We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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