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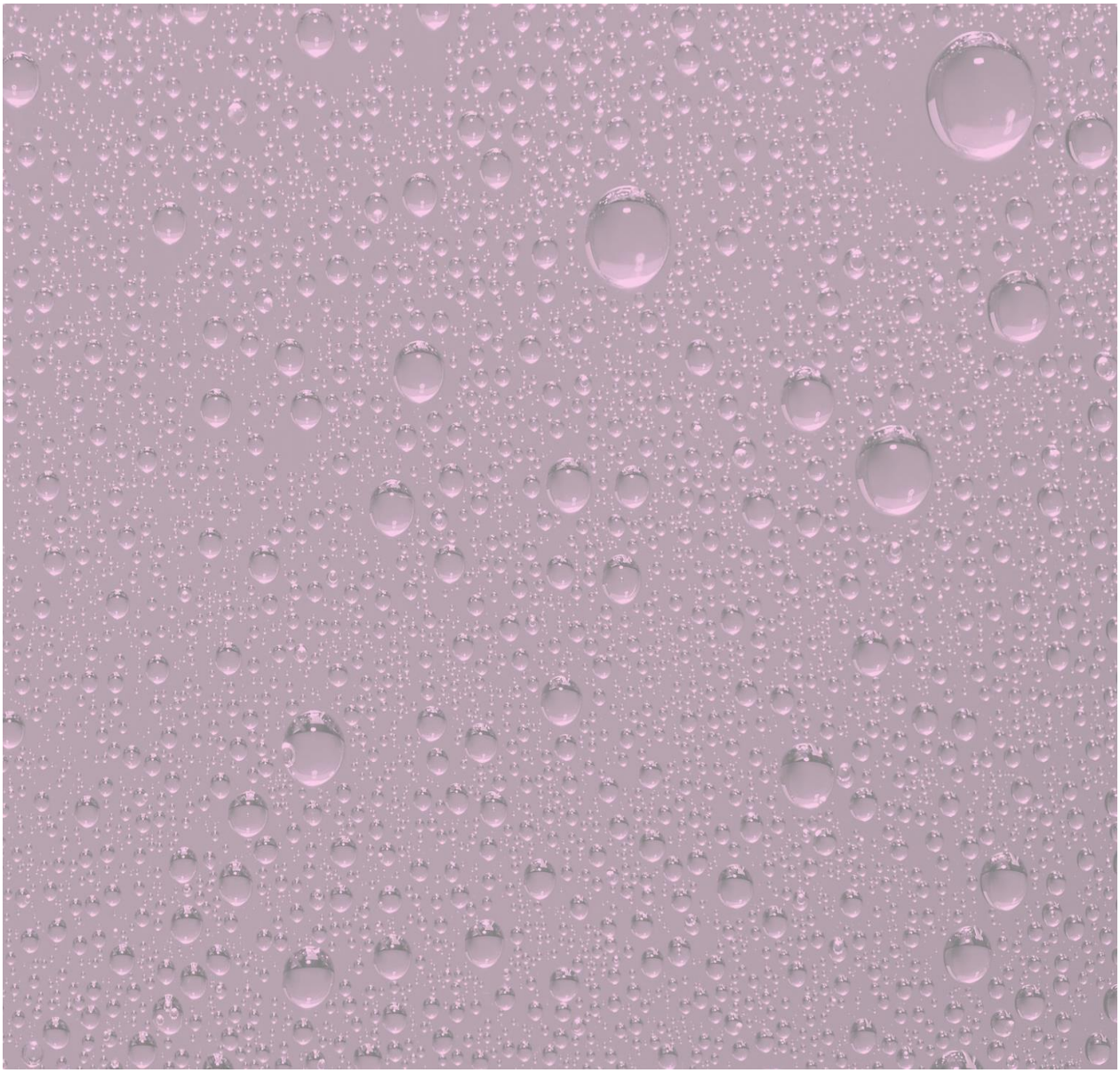
Flood Risk Management Report

Proposed Development at 8 Noonan Road, Ingleburn



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Overland Flow Assessment

Proposed commercial development at 8 Noonan Road, Ingleburn NSW

Prepared for our clients:

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Quality Information

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Revision History

Revision	Date	Details	Authorised	
			Name/Position	Signature
0	10.07.2024	DA RFI Submission	Logan English-Smith Senior Engineer	
2	15.10.2024	DA RFI Submission	Tyler Karvinen Senior Engineer	T. Karvinen

1.0 Executive Summary

Stellen Consulting was engaged to assess the proposed development at 8 Noonan Road, Ingleburn NSW in reference to potential impacts arising from overland flow affecting the site. This report provides a detailed assessment of the flooding information specific to the site and supports the proposed development.

Architectural drawings (Appendix A) were used in conjunction with council supplied flooding information (Appendix B) to determine flooding extents and impacts and to assess associated risks to the development and surrounding properties.

Based on the evaluations of the proposed design using the council provided flood information for the site:

- Key measures include reducing the external storage area and ensuring all storage containers are anchored and located outside the 1% AEP overland flow path preventing pollutant release during floods.
- The design maintains natural flood patterns and the recession of floodwaters, with the storage area strategically located outside the 1% AEP overland flow path.
- Material storage in the floodway is to follow recommendations in the Floodwater Contamination Letter by Benbow Environmental (Aug 2024) in Appendix C.

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2.0 Information Relied Upon

The following documentation has been used in the preparation of this overland flow assessment report:

- Survey and architectural drawings listed in Appendix A
- Council supplied flood information for the site provided in Appendix B
- Campbelltown (Sustainable City) Development Control Plan 2015
- Campbelltown City Council Engineering Design for Development – June 2009
- Campbelltown Local Environmental Plan 2015 (Section 5.21 Flood Planning)
- Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan 2019

3.0 Site Description

The existing development is located on Lot 25 DP 809258 (8 Noonan Road, Ingleburn NSW 2565) which has an approximate area of 2,772m^2. The existing site is a waste management facility and is zoned as E4 General Industrial. The site features an existing brick industrial building with a metal awning at the rear. Inside, there is a 430.87m² warehouse space and a 116.6m² adjacent office area. The warehouse includes a mezzanine level housing two storage rooms (28.36m AHD) and an office located at level 1 (28.59m AHD). Presently, the site operates as a scrap metal yard, with an external storage area located at the western side of 89m^2 and piles of scrap metal located along the southeastern boundary of the development with an external storage area of 870m^2.

The site is bordered by Bunbury Curran Creek at the rear and surrounded by industrial buildings on both sides. The land slopes downward from the western corner to the eastern corner. The Project Site is within the catchment of Bunbury Curran Creek, a tributary of the Georges River.

There is a 4m wide drainage easement located along the northeastern side boundary of the site that traverses from Noonam Road to Bunbury Curran Creek (refer to Survey Appendix B).

Figure 1 : Location of the Subject Site Extracted from Six Maps

4.0 Proposed Development

The development includes the addition of a new 252m² storage shed along the southeastern boundary of the site and the creation of new parking areas on the southern and western sides.

The proposed development is shown in the attached architectural plans prepared by Smith + Tracey Architects (Appendix A).

5.0 Existing Flood Behaviour

Based on Council flood information (Appendix B), the subject property is identified as being in the H1-H3 (low to medium hazard). Figure 2 shows 1% AEP flood depths at and around the subject site. The southwestern and northeastern parts of the site are inundated during the 1% AEP flood event. The site also affected by the PMF event further discussion and associated risks is discussed in section 6.0 of this report. The flood characteristics for the site are summarised in Table 1.

Figure 2 – 1% AEP Flood Depth Map

Based on this information:

- The subject site is affected by the overland flooding during the 1% AEP flooding and is within the Flood Planning Area (FPA).
- The preliminary 1% Annual Exceedance Probability (AEP) levels for the subject property are 25.29 to 25.72m AHD).
- During a 1% Annual Exceedance Probability (AEP) event, Noonan Road is flooded and has depths of 0.3m to 0.5m.

6.0 Flood Assessment of the Proposed Development

The proposed works would be located on land that is mapped as a low to medium hazard. The site survey indicates that the existing ground floor level is at 25.70m AHD, and at the front, it is 750mm above the relevant finished ground level of 24.95m AHD and at the rear is 70mm below the finished ground level of 25.77m AHD. The proposed design proposes retaining the existing floor levels.

It is noted that the Council recommends that the habitable floor level be a minimum of 500 mm above finished ground levels.

An exception to the floor level requirement is sought and is considered acceptable for the following reasons:

- The development has proposed no demolition or construction of the existing building. The proposed addition of a 252m² shed to the existing building footprint on the south side is intended for storage.
- This addition has been designed with careful consideration of the site's flood risk and mitigation measures.
- The proposed storage shed shall increase the availability of overland flow path as it is reducing the total external storage area of 959m^2 to 252m^2.
- The storage area contains shipping containers or steel bins (Refer to waste management plan section 3.6.1 for more information).
- The proposed works do not change the current flood risk profile of the site.

7.0 Addressing the State Environmental Planning Policy (Biodiversity and Conservation) 2021 Controls

7.1 Impact on Periodic Flooding Benefiting Wetlands and Riverine Ecosystems

In deciding whether to grant development consent to development on land in a regulated catchment, the consent authority must consider the likely impact of the development on periodic flooding that benefits wetlands and other riverine ecosystems.

Consideration of Impact: The proposed development has been designed to align with the flood hazard of the land and relevant flood-related development controls. By reducing the external storage area and ensuring that storage bins and containers are located outside the 1% AEP overland flow path, the development aims to maintain natural flood patterns without significantly altering the flow into adjacent wetlands and riverine ecosystems.

7.2 Conditions for Development on Flood Liable Land

Development consent must not be granted unless the consent authority is satisfied that the development will not: (a) if there is a flood, result in a release of pollutants that may have an adverse impact on the water quality of a natural water body, or (b) have an adverse impact on the natural recession of floodwaters into wetlands and other riverine ecosystems.

(a) Release of Pollutants:

Assessment and Mitigation: Materials stored in the floodway are to follow recommendations in the Floodwater Contamination Letter by Benbow Environmental (Aug 2024) in Appendix C. Lead acid batteries and car parts with oily residues are not to be stored in the laydown area, and materials in the laydown area are to be enclosed by a permeable perimeter fence that will prevent them from being washed away in the flood waters but will not prevent the movement of the water.

(b) Impact on the Natural Recession of Floodwaters:

Natural Recession of Floodwaters: The design of the proposed development reduces the footprint of the external storage area, which increases the available overland flow path. This alteration is expected to enhance the natural recession of floodwaters, thereby avoiding adverse impacts on wetlands and other riverine ecosystems. The storage area shall be located outside of the 1% AEP overland flow path, ensuring the natural recession of floodwaters is maintained.

8.0 Conclusion

Council provided flood information and site-specific information has been used to assess the proposed development against the relevant flood related development controls contained in State Environmental Planning Policy (Biodiversity and Conservation) 2021.The proposed development at 8 Noonan Road, Ingleburn, complies with the flood-related requirements for granting development consent:

Impact on Periodic Flooding: The impact on periodic flooding benefiting wetlands and riverine ecosystems has been duly considered, and measures are in place to minimize any adverse effects.

Pollution Prevention: Pollution prevention measures, such as anchored storage containers, ensure no release of pollutants during floods.

Natural Recession of Floodwaters: The natural recession of floodwaters is maintained by the proposed design, which reduces the external storage area and enhances overland flow paths. The storage area shall be located outside of the 1% AEP overland flow path.

Material storage: Materials stored in the floodway are to follow recommendations in the Floodwater Contamination Letter by Benbow Environmental (Aug 2024) in Appendix C.

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Appendix A – Architectural plans

Architectural Plans by Smit + Tracey Architects (all dated: 13.12.2023)

DA 0100 LOCATION PLAN + SITE ANALYSIS
DA 0101 SITE PLAN EXISTING
DA 0102 SITE PLAN PROPOSED
DA 0200 EXISTING GROUND FLOOR
DA 0201 EXISTING L1/ MEZZANINE
DA 0202 EXISTING ROOF PLAN
DA 0225 EXISTING GROUND FLOOR FIRE SCHEDULE
DA 0226 EXISTING L1/ MEZZANINE FIRE SCHEDULE
DA 0250 EXISTING ELEVATION
DA 0275 EXISTING SECTION
DA 0276 EXISTING SECTION
DA 0500 WASTE MANAGEMENT PLAN
DA 3000 SECTIONS

Survey by Burton & Field Survey & Land Development dated 29.03.2019

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Appendix B – Council supplied flood information

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Appendix C – Floodwater Contamination Letter by Benbow Environmental (Aug 2024)