



Agenda and Business Paper

Floodplain Risk Management Advisory Committee

To be held on
Thursday 17 September 2026
at 8:30 AM

Civic Centre cnr Baylis and Morrow Streets,
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FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE AGENDA AND BUSINESS PAPER

THURSDAY 17 SEPTEMBER 2026

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ACKNOWLEDGEMENT OF COUNTRY

APOLOGIES

CONFIRMATION OF MINUTES

**CM-1 CONFIRMATION OF MINUTES - FLOODPLAIN RISK MANAGEMENT
ADVISORY COMMITTEE - 2 JULY 2026**

Recommendation

That the Minutes of the proceedings of the Floodplain Risk Management Advisory Committee Meeting held on 2 July 2026 be confirmed as a true and accurate record, noting Council's adoption of these minutes at its meeting of 10 August 2026.

Attachments

1. [FRMAC Minutes - 2 July 2026](#) 76

DECLARATIONS OF INTEREST

REPORTS FROM STAFF

RP-1 2021-22-FM-0032 - URANQUINTY LEVEE UPGRADE - INVESTIGATION AND DESIGN

Author: Andrew Mason

Director: Henry Pavitt

Summary: | The project for the design of the levee upgrade has been
 | completed.

Recommendation

That the Floodplain Risk Management Advisory Committee receive and note the update provided in relation to the Uranquinty Levee Upgrade Project.

Report

The levee design and all of the associated reports are complete and have been provided to Council.

The deliverables include:

- IFC Design drawings
- Levee Design Report
- Utility Investigation Report
- Review Of Environmental Factors
- Levee Owners Manual
- Construction Methodology Report
- Safety By Design Report
- Specification Development
- Schedule of Quantities

The project has been finalised, all invoices from the consultant received and paid and milestone claims have been put into the DCCEEW Portal for closure. The final acquittal will be completed and input into the Portal and the project closed out.

Financial Implications

N/A

Policy and Legislation

N/A

Link to Strategic Plan

Regional Leadership

Ethical Leadership

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Risk Management Issues for Council

N/A

Internal / External Consultation

N/A

RP-2 2022-FMP-0103 HUMULA AND MANGOPLAH FLOOD STUDIES

Author: Andrew Mason

Director: Henry Pavitt

Summary: WMAWater have completed the Public Exhibition for the flood model and study for Humula and Mangoplah. The final project report has been provided to FRMAC for acceptance.

Recommendation

That the Floodplain Risk Management Advisory Committee receive and note the update provided in relation to the Humula and Mangoplah Flood Studies Project and accept the final model and report.

Report

Council engaged WMAWater in late September 2023, to undertake the Humula and Mangoplah Flood Study.

The Draft Flood Study report has been provided to Council and placed on Public Exhibition for the required 28 days. Community consultations were conducted in Mangoplah on 26 August and Humula on 28 August.

In response to the poor attendance at the first community session in 2023, the consultation meeting in Mangoplah was conducted in the local Hotel on a more suitable night. There were over 20 people in attendance and feedback was provided on the flood study and other issues in the village such as the flood model for the BESS development. The BESS development area is outside the scope of the Mangoplah flood model and while not a direct issue with the flood model, the concerns from the affected residents were noted and will be considered as part of the planning process.

The Humula consultation meeting was held in the Humula Citizens Sports Club with around 20 people in attendance. The feedback covered a wide range of information and issues and the response to the flood study was positive with no real concerns or issues being raised.

After receiving feedback from the community and Public Exhibition, WMA Water has finalised the update of the Flood Study and the report and WMAwater will be presenting the final report to this meeting.

A time extension until December 2026 has been requested by Council and approved by DCCEEW. This allows time for finalisation of the Public Exhibition, FRMAC meeting and presentation of the final model and report to a Council meeting.

Financial Implications

N/A

Policy and Legislation

N/A

Link to Strategic Plan

Regional Leadership

Ethical Leadership

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Risk Management Issues for Council

N/A

Internal / External Consultation

N/A

RP-3 17866 - LEVEE SYSTEM UPGRADE - NORTH WAGGA

Author: Dipu Kuriakose

Director: Fiona Piltz

Summary: The North Wagga Levee Upgrade Project is progressing through the detailed design phase, with the design currently approximately 50% complete. Supporting activities, including property mitigation and easement acquisition, utility relocation, helipad assessment and site-specific investigations, are progressing concurrently.

 The project will continue to progress through detailed design and associated investigations in preparation for the next stages of project delivery.

Recommendation

That the Floodplain Risk Management Advisory Committee:

- a receive and note the update to the Levee System Upgrade – North Wagga
- b consider the proposed helipad location at the intersection of East Street and Mill Street and provide a recommendation on the appropriate finished elevation of the helipad; and
- c support ongoing consultation with the NSW State Emergency Service and relevant technical specialists to confirm the required helipad elevation and associated operational requirements prior to finalisation of the detailed design

Report

The North Wagga Levee Upgrade Project continues to progress, with the focus currently on completing the detailed design and associated third-party impact mitigation measures.

NSW Public Works has been engaged as the design consultant for the North Wagga Levee Upgrade Project. Detailed design for the Mill Street and Hampden Avenue sections has reached approximately 50% completion, with design development and coordination continuing across the remaining project areas.

Detailed design for Wilks Park has also reached approximately 50% completion and is currently under review by NSW Public works. The review will inform the next stage of design development and progression towards detailed design completion.

An updated indicative timeline for the implementation of the raised levee and third-party mitigation options is provided below.

Project Phase/ Milestone	Start Date	End Date	Status
Initiation: Engage specialist design consultants to finalise design details and prepare construction specifications and tender documentation.	13/04/2026	13/11/2026	In progress
Planning / Design: Contractor engagement and completion of required approvals, including REF, permits, licences and works approvals.	14/11/2026	14/03/2027	Not due
Pre-construction: Finalise design and commence initial levee works, stormwater upgrades, property protection works, surveys and community consultation.	15/03/2027	15/09/2027	Not due
Construction / Delivery – 25% Completion: Complete 25% of construction works, including levee and stormwater works.	16/09/2027	16/09/2028	Not due
Construction / Delivery – 50% Completion: Complete 50% of construction works, including earthen levee works, stormwater upgrades and sheet piling.	17/09/2028	17/05/2029	Not due
Construction / Delivery – 75% Completion: Complete 75% of construction works and external building protection works.	18/05/2029	18/01/2030	Not due
Closure: Complete all construction works and final project reporting.	19/01/2030	19/04/2030	Not due

For the North Wagga Levee Upgrade, Council has received the following funding:

- \$6.1 million in Special Rate Variation (SRV) funding;
- \$1.1 million through the Commonwealth Development Grant (CDG); and
- \$9.1 million in Disaster Ready Fund (DRF) Round Three funding.

The CDG funding has been utilised for preliminary and enabling works associated with the North Wagga Levee Upgrade, including approximately 50% completion of the detailed design, environmental assessment, survey works, floodgate relining, procurement of penstocks and procurement of sheet piles.

The status of the project is:

- NSW Public Works Authority has been engaged as the design consultant for the North Wagga Levee Upgrade.

- Detailed design for the Mill Street and Hampden Avenue sections has reached approximately 50% completion. Design development and coordination are continuing across the remaining project areas.
- Detailed design for Wilks Park has reached approximately 50% completion and is currently under review by NSW Public works. Detailed investigations at Wilks Park are continuing, including drainage assessments, geotechnical investigations, utility coordination and the design of the bridge path connection.
- NSW Public works continues to coordinate with the NSW State Emergency Service regarding helipad requirements to ensure emergency access and operational capability are maintained following the levee upgrade.
- All residents outside the levee who may be adversely affected by the levee raising have been consulted, and detailed survey information has been obtained for affected properties.
- A property consultant has been engaged to support the easement acquisition process and liaise with affected landowners. Easement drawings have been finalised to support the acquisition process.
- The tender process for electrical works associated with the relocation of overhead powerlines has been completed, with the contract awarded to Inland Power. Council is currently coordinating project commencement with Inland Power.
- Procurement of selected penstocks has been completed to support the future construction program and minimise delays associated with long-lead items.
- Sheet piles for the North Wagga Levee Upgrade have been delivered and are being stored for future construction works.

Financial Implications

N/A

Policy and Legislation

Local Government Act
Development Control Plan 2010
Flood Risk Management Manual

Link to Strategic Plan

Regional Leadership

Ethical Leadership

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Risk Management Issues for Council

N/A

Internal / External Consultation

N/A

RP-4 WWCC MOFFS FFL AMENDMENT REVIEW

Author: Sam Robins

Director: Julie Costa

Summary: Council engaged GLN Planning and WMS Engineering to review the Flood Planning Area and the Finish Floor Level (FFL) in the MOFFs Study and Plan. The report has now been completed and the recommendations discussed below.

Recommendation

That the Floodplain Risk Management Advisory Committee:

- a receive and note a detailed report titled '*Wagga Wagga Major Overland Flow Flood Planning Level Review*' prepared by GLN and WMS
- b support the general principles behind refining the current flood planning area
- c note that Council will make the report recommendations available to any future consultant engaged to review and update the current Major Overland Flow Flooding modelling

Report

Background

As previously reported at April's meeting and updated at July's meeting, Council engaged GLN and WMS to review Councils 'Wagga Wagga Major Overland Flow Floodplain Risk Management Study and Plan 2021' (MOFFs) as follows:

MOFFs modelling

- Review with the intent of removing isolated areas of the FPA created by the level of accuracy within the modelling. Provide a report that justifies the areas to be removed and ensures the recommended changes to the defined FPA remain consistent with the NSW Flood Risk Management Manual.
- Provide Council with advice on whether the edges of the current modelling can be 'smoothed', and if so, what would be the cost and time frames involved in this process.
- Provide Council with any other options (excluding remodelling) for improving the accuracy of the modelling in terms of defining the FPA.

MOFFs Study and Plan

- Review recommended FFL with the intent of reducing the requirement for a freeboard in certain circumstances.
- Provide a report that either:
 - Supports the proposed amendment to the FFL recommendation and outlines the steps required to implement the amendment correctly, or
 - Disagrees with the position to amend the FFL and provides explanation as to why.
- Ensure any recommendation remains consistent with the NSW Flood Risk Management Manual and therefore provide Council the protection it requires under section 733 of the Local Government Act 1993.

Outcomes

The report made a number of conclusions, these have been summarised below:

MOFFs Modelling:

- Identified that the current modelling is broader than necessary and includes areas that do not always justify flood related development controls.
- Recommended a refined flood planning area defined using criteria consistent with approaches applied in other overland flow studies.
- Noted that the refined area would reduce the FPA from 25.8 square kilometres to 23.63 square kilometres and the number of properties (where dwellings are permissible) from 5,846 to 3,140.
- The refinement would better align with planning controls and flood risk, reduce unnecessary constraints and support housing and infill development objectives.

MOFFs Study and Plan

- Identified that the current freeboard approach is broadly consistent with the NSW flood risk management guidance.
- Does not recommend a general reduction in the current freeboard, as any lower freeboard standard would be difficult to justify and at best might only be justifiable in discrete locations.

Next Steps

MOFFs Modelling:

Council currently has a grant application lodged with DCCEEW to fund the review and update of the Wagga Wagga MOFFs model. It is therefore recommended that Council await the outcome of this application before deciding how to proceed with the model update.

If the grant application is successful, the recommendations outlined in this report should be considered when developing the scope of works and tender documentation for the model update.

MOFFs Study and Plan:

There are no further actions required with the outcomes from this section of the report. The DCP is currently being reviewed and updated and will address the issue of freeboard in MOFF events. This report gives weight to impose the freeboard requirement on certain developments impacted by MOFFs.

Financial Implications

Nil

Policy and Legislation

Environmental Planning and Assessment Act 1979
Local Government Act 1993

Link to Strategic Plan

Regional Leadership

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Risk Management Issues for Council

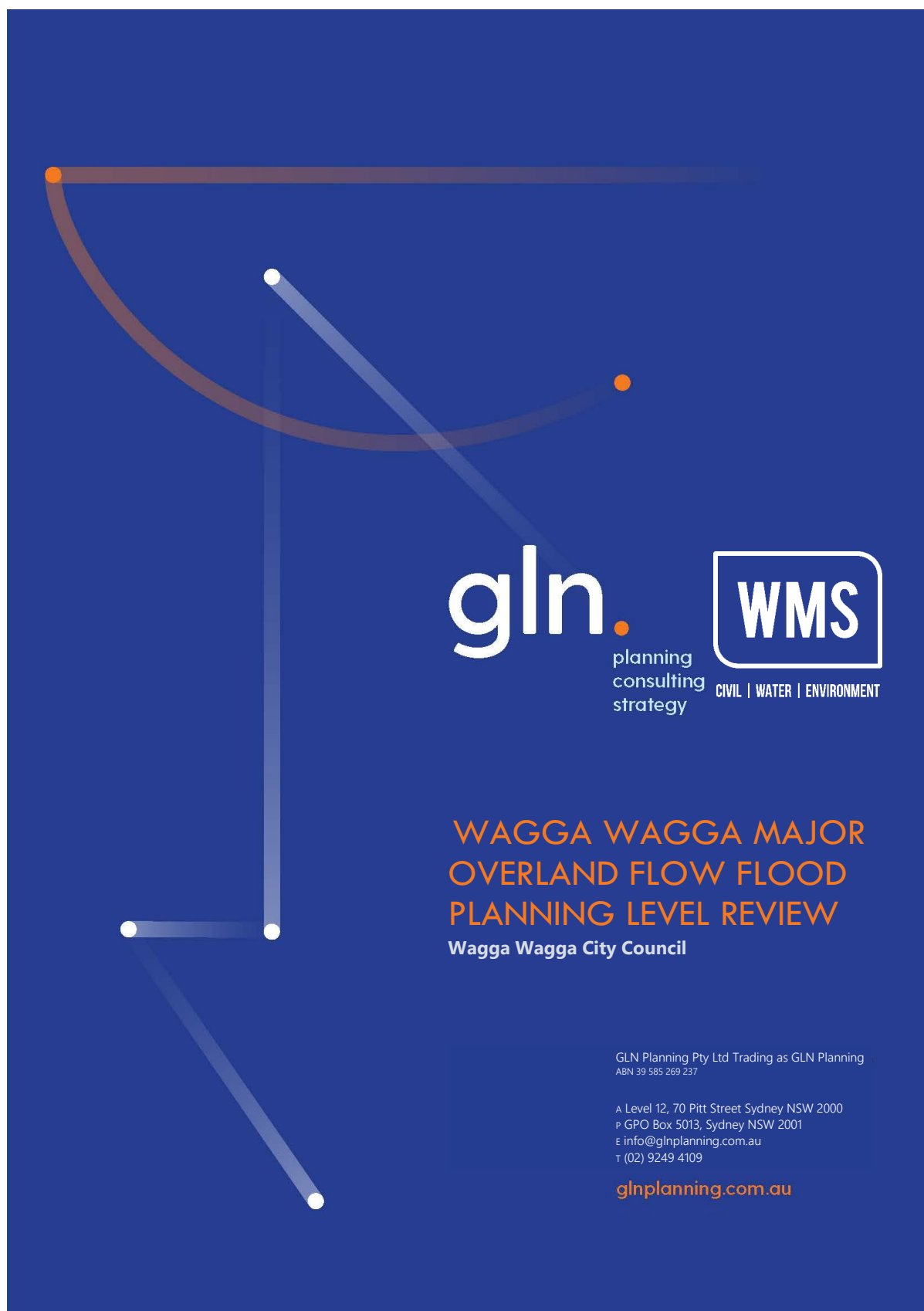
Ensure any recommendation remains consistent with the NSW Flood Risk Management Manual and therefore provide Council the protection it requires under section 733 of the Local Government Act 1993.

Internal / External Consultation

N/A

Attachments

- 1 [!\[\]\(e40bb48ad1470e3a14017c64c5673877_img.jpg\)](#). Wagga Wagga Major Overland Flow Flood Planning Level Review - Consultants Report



Wagga MOFFS FPL Review
Wagga Wagga City Council



Wagga MOFFs FPL Review

Prepared by GLN Planning & WMS Engineering

Prepared for
Wagga Wagga City Council



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Version	Issue To	Qty	Date	Prepared by	Reviewed by
V1 Draft	S Robins (WWCC)	1-e	13.07.2026	PG (GLN) AF/CW (WMS)	PG/CW
V2 Final	S Robins (WWCC)	1-e	27.08.2026	PG (GLN) AF/CW (WMS)	PG/CW
Final					

Wagga MOFFS FPL Review
Wagga Wagga City Council



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Appendix B: Existing and Proposed FPA Maps
Appendix C: Sample examples changes in FPA Maps

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Executive Summary

This report reviews the flood planning levels applied to development affected by major overland flow flooding in the Wagga Wagga urban area. It considers whether the current requirement for residential habitable floors to be set at the 1% AEP flood level plus 300mm freeboard remains appropriate, and whether the mapped flood planning area can be refined so that flood-related planning controls apply only where they are warranted.

The review finds that the current freeboard approach is broadly consistent with New South Wales flood risk management guidance. State guidance recognises that a lower freeboard may be suitable for shallow local overland flooding, and the comparison with other councils shows that 300mm is commonly used where overland flow flooding is treated differently from mainstream flooding. This report does not recommend a general reduction to the current freeboard, as any lower freeboard standard would be difficult to justify and at best might only be justifiable in discreet locations.

The report does, however, identify that the current flood planning area is broader than necessary. It includes shallow inundation, isolated ponding and disconnected floodway artefacts that do not always justify flood-related development controls. A refined flood planning area is proposed, using criteria consistent with approaches applied in other overland flow studies. This would reduce the mapped area from about 25.8 square kilometres to about 23.63 square kilometres, and reduce affected residential lots from 5,846 to 3,140.

The proposed refinement would better align planning controls with actual flood risk, reduce unnecessary constraints on low-risk land, support housing and infill development objectives, and lessen administrative burden for applicants and Council officers. The report recommends retaining the current flood planning level approach, adopting the refined flood planning area following review and consultation, documenting the change as an amendment or addendum to the adopted major overland flow flood risk management study and plan, and updating Council's development controls, flood information systems and assessment procedures accordingly.

1.2 Study Area

The study area is illustrated in Figure 1.

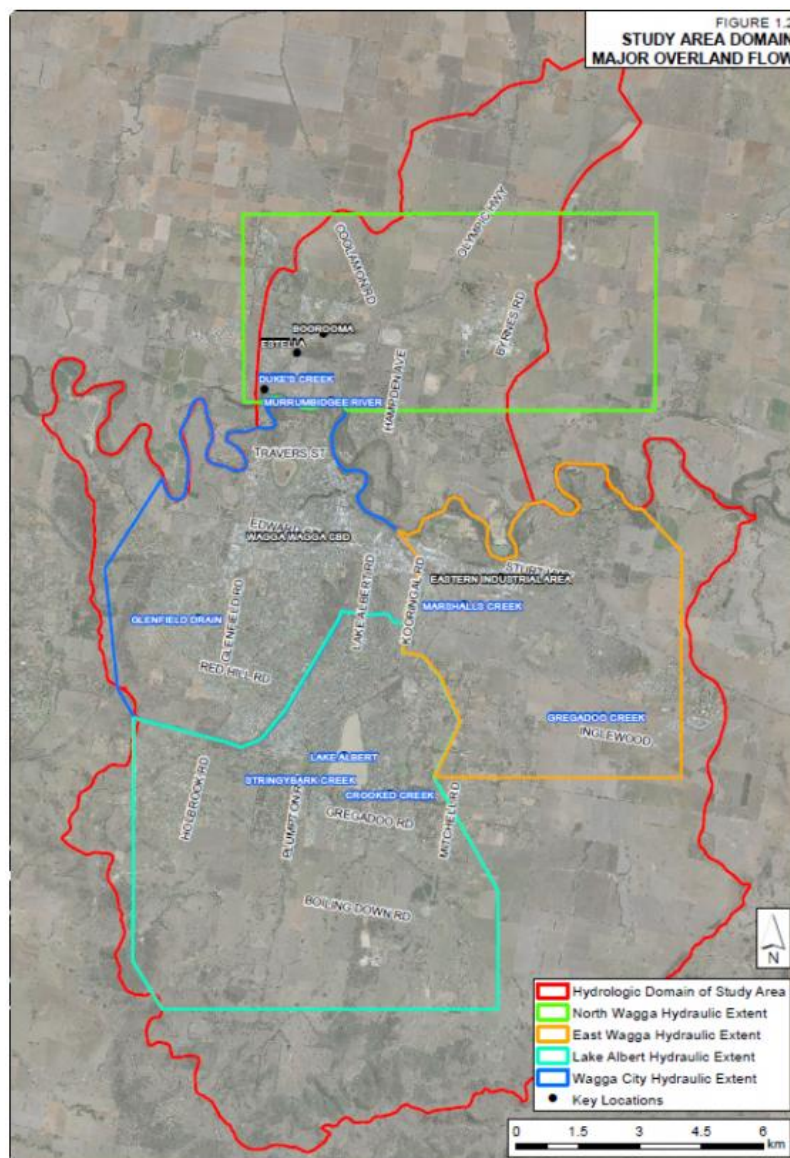


Figure 1 Study Area – Major Overland Flow (Source: Wagga Wagga City Council)

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1.3 Limitations

The review of the freeboard appropriateness has been based on a desktop analysis of relevant policies and an investigation of the practices of other Councils. No consultation with the community or state government agencies has been undertaken.

Review of and adjustments made to the Flood Planning Area have been based on the final GIS results only, directly adopted from the Wagga Wagga MOFF FRMSP. This investigation has not undertaken a detailed review of hydrologic nor hydraulic modelling that underpins the resulting flood mapping. WMS has not reviewed or updated the Floodway Definition Parameters defined in the Wagga Wagga MOFFRMS (WMAwater, 2021).

The advice provided in this report does not purport to constitute legal advice.

1.4 Key Terms & Abbreviations

Key terms and abbreviations used in this report are outline and explained (as necessary) in **Table 1**.

Table 1 Key Terms and Abbreviations

Abbreviation	Term	Notes/meaning
DCP	Development Control Plan	Provides details controls for consideration in the assessment of a development application that complements the requirement of the local environmental plan. In this case the relevant DCP provisions are contained in Section 4 Environmental Hazards and Management of the Wagga Wagga DCP 2010.
DFE	Defined flood event	The flood event selected as a general standard for the management of flooding to development
DPHI Guide	<i>Considering flooding in land use planning Guideline</i> (Department of Planning, Housing & infrastructure, July 2026)	Guideline issued by the Department with the Flood Prone Land Package in 2026.
EP&A Act	<i>NSW Environmental Planning & Assessment Act, 1979.</i>	
Floodway		Areas of the floodplain which generally convey a significant discharge of water during floods and are sensitive to changes that impact flow conveyance. They often align with naturally defined channels or form elsewhere in the floodplain.
FFL	Finished floor level	
FRM	Flood Risk Management	The management of flood risk to communities
FPA	Flood Planning Area	The area of land below the FPL The FPA is generally developed based on the FPL for typical residential

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Abbreviation	Term	Notes/meaning
		development. Different types of development may have different FPLs applied within the FPA. In addition development controls will vary across the FPA due to varying flood constraints
FPL	Flood Planning Level	The combination of flood levels and freeboards selected for planning purposes, as determined in Floodplain Management Studies and incorporated in Floodplain Management Plans.
Freeboard	A factor of safety typically used in relation to the setting of minimum floor levels or levee crest levels	Freeboard aims to provide reasonable certainty that the risk exposure selected in deciding on a specific event for development controls or mitigation works is achieved. Freeboards for development controls and mitigation works will differ. In addition freeboards for development control may vary with the type of flooding and with the type of development.
FRMSP	Flood Risk Management Study & Plan	A management study and plan developed in accordance with the principles in Flood Risk Management Manual and its supporting guidelines
LGA	Local Government Area	
LG Act	<i>Local Government Act, 1993</i>	
LEP	Local Environmental Plan	A Local Environmental Plan is a plan prepared in accordance with the <i>Environmental Planning and Assessment Act, 1979</i> , that defines zones, permissible uses within those zones and specifies development standards and other special matters for consideration with regard to the use or development of land.
MOFF	Major overland flow flooding	The path that floodwaters can follow if they leave the confines of the main flow channel, or in the upper areas of catchments, these are the paths that runoff takes on its way to pipes or watercourses such as channels, creeks and rivers. Overland flow paths can occur through private or public property including along roads. Waters travelling along overland flow paths, often referred to as 'overland flows', are usually on their way to a watercourse or pipe system, or in some cases, may be diversions from one watercourse or pipe system to another.
Risk	The effect of uncertainty on objectives' (ISO 31000:2018)	Risk is measured in terms of consequences and likelihood. In the context of floodplain management, it is the likelihood and consequences arising from the interaction of floods, communities and the environment. For example, the potential inundation of seniors housing presents a greater flood risk than the potential inundation of a sports ground amenities block (if both buildings were to experience the same type and probability of flooding). Reducing the probability of flooding reduces the risk, increasing the consequences increases risk.



2 Planning & Policy Context

2.1 NSW FRM Process

In 1984 the NSW State Flood Policy was introduced disbanding the mandatory application of a singular 100 year flood standard and required local Councils to prepare individual FRMPs based on a 'merit based approach'. The first Floodplain Development Manual (**Manual**) was published in 1986 to assist Councils in this task.

While the policy has evolved over time it has remained fundamentally the same, with the publication of new Manuals over time, with the current policy and Manual published and gazetted in 2023. The current Manual is accompanied with ten technical guides.

The Manual and Policy have changed over time but have retained the following key principles:

- Local Government is responsible for FRM in NSW with financial and technical support being provided by the State Government. The actions, decisions and information provided by Council and exercised in this duty are indemnified through the provisions of Section 733 of the *Local Government Act, 1993* (**LG Act**). Indemnity is provided where Council acts in good faith, which is deemed to be in accordance with the principles of the Manual unless proven otherwise.
- A merit approach is to be adopted for the purposes of formulating a FRMSP that provides a basis for decision making in the floodplain. This is in recognition that flood prone land is a valuable resource which should not be unnecessarily sterilised by the rigid application of prescriptive criteria, and to avoid the approval of inappropriate proposals. The merit approach is defined in the Manual as follows:

Weighs social, economic, ecological and cultural impacts of land-use options for different flood prone areas together with flood damage, hazard and behaviour implications, and environmental protection and wellbeing of the state's rivers and floodplains.¹

The level of flood risk acceptable to the community is to be determined through a process typically overseen by an advisory committee comprised of local elected representatives, community members and State and Local Government officials (including the SES). This process is shown in **Figure 2**. The ultimate intent is to prepare FRMSPs for individual floodplains that are adopted by Councils. FRMSPs should investigate and adopt an integrated mix of management measures that address existing, future and continuing risk.

The Manual and planning controls under the *Environmental Planning & Assessment Act, 1979* (**EP&A Act**) should not be considered as providing alternate approaches. The Flood Prone Lands Policy and Manual are separate to the principal planning legislation in NSW, being that contained within the EP&A Act and associated Regulations. Ultimately, the planning recommendations of a FRMSP may be reflected in planning instruments and policies brought into force in accordance with the EP&A Act.

¹ 2023 Manual, NSW Government, 2023, page 52.

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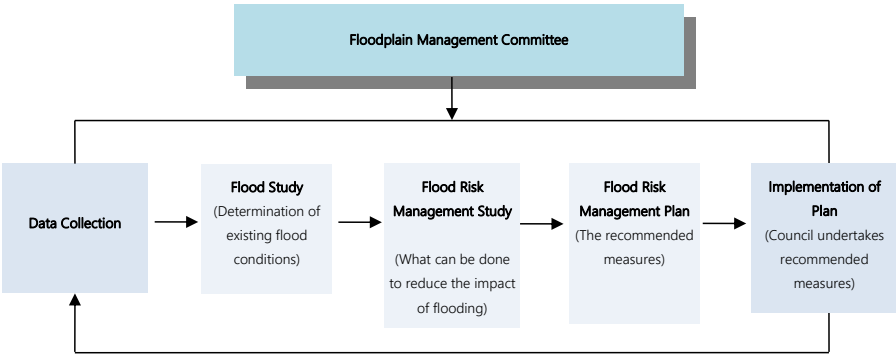


Figure 2: NSW FRM Process (Adapted from the Manual)

In the context of this review, the important consideration is the maintaining of the indemnity protection provided by s733 of the LG Act. Sections 733(1), (3), (4) and (5) of the LG Act, for matters including the determination of development applications, relevantly provide:

- (1) A council does not incur any liability in respect of—
 - (a) any advice furnished in good faith by the council relating to the likelihood of any land being flooded or the nature or extent of any such flooding, or
 - (b) anything done or omitted to be done in good faith by the council in so far as it relates to the likelihood of land being flooded or the nature or extent of any such flooding.
- (4) Without limiting any other circumstances in which a council may have acted in good faith, a council is, unless the contrary is proved, taken to have acted in good faith for the purposes of this section if the advice was furnished, or the thing was done or omitted to be done—
 - (a) substantially in accordance with the principles contained in the relevant manual most recently notified under subsection (5) at that time,

The current Manual, being that gazetted in 2023, is the first Manual to specify principles, headed as follows:

1. Establish sustainable governance arrangements
2. Think and plan strategically
3. Be consultative
4. Make flood information available
5. Understand flood behaviour and constraints
6. Understand flood risk and how it may change
7. Consider variability and uncertainty
8. Maintain natural flood functions

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- 9. Manage flood risk effectively
- 10. Continually improve the management of flood risk

While it is not necessary to undertake an FRMSP process to seek to maintain the indemnity provided by s733, the process provides a level of rigour that would be typically expected to substantiate a sound defence to any challenge that could be made of the freeboard, and consequently FPL, applied to development in the MOFF study area. This is important in the context of the MOFF freeboard which is being applied as a recommendation of an FRMPS, in which case there could be an expectation that any amendment to a recommendation of the FRMSP would follow an equivalent process. As outlined later, the MOFF FRMSP provides a relatively detailed assessment prior to recommending a freeboard, which imposes an even greater expectation for any deviation from that to be rigorously assessed.

In our experience, while an FRMSP process could be followed prior to deciding to adopt an amendment to the freeboard, this does not have to be as lengthy and involved as would be the case for the original FRMSP as such an amendment would focus on a single issue – the freeboard. This would be relevant only if Council decides to change the freeboard currently being applied.

2.2 Relevant FRM Technical Guidance

The current FRM Manual (DPE 2023, pg.50) provides the following definition and context for freeboard:

Term	Shortened form	Definition	Context for use/additional information
Freeboard		A factor of safety typically used in relation to the setting of minimum floor levels or levee crest levels	Freeboard aims to provide reasonable certainty that the risk exposure selected in deciding on a specific event for development controls or mitigation works is achieved. Freeboards for development controls and mitigation works will differ. In addition freeboards for development control may vary with the type of flooding and with the type of development

Principle 7 (*Consider variability and uncertainty*) of the FRM Manual (DPE 2023, pg.11) includes the following comment:

The FRM framework and FRM process provide the basis for understanding variability and uncertainty and considering these in decision-making. An example of accounting for uncertainty in management is the use of freeboard above the level of the defined flood event (DFE) or design flood. Freeboard provides more certainty that the desired reduction in frequency of exposure to flooding chosen by this selection of a DFE is achieved.

Clearly, the key FRM policy document in NSW encourages the application of a freeboard in the formulation of a FPL (or FPLs) as a means of ensuring that the level of immunity sought to be achieved by the application of standards will be achieved in all cases. This is important, because FRM standards are most commonly established through flood modelling and, like any modelling exercise, are unavoidably imperfect.

Section 3.4.3 of the *Understanding and managing flood risk* Guideline FB01 that supplements the FRM Manual (DPE 2023) outlines considerations relevant to the setting of freeboard for land use planning purposes. This is summarised in Table 11 of Guideline FB01 as shown below:

Importantly the Guideline (FB01, pg.40) states that "Freeboard should not be relied on to give protection beyond the DFE to which it is applied." That is, a level of precision is expected in the determination of freeboard that achieves a balance between over and under estimating the required factor of safety.

The typical freeboard used for flooding from waterways in New South Wales is 0.5 m. A freeboard higher than this may be necessary in some cases. This may be due to particular local circumstances, such as where estimated DFE levels are particularly sensitive to modelling assumptions or other local factors that significantly influence flood behaviour. For example, properties around a lake foreshore may be exposed to wind wave attack during a flood and a higher freeboard may be warranted to reduce the additional potential for above floor level flooding and associated impacts in areas exposed to these conditions.

A lower level of freeboard, 0.3 m, is generally only considered acceptable where there is very shallow water and where the influence of the factors identified in Table 11 is limited. This is generally limited to some areas affected by local overland flooding.

While not mandatory, the Guide provides some direction that a 0.3m freeboard is appropriate for MOFF areas and that this is considered a reduction from the otherwise more commonly accepted freeboard standard of 0.5m.

In addition to the Manual and associated Guides, the Department of Planning, Housing & Infrastructure (**DPHI**) has published the recently updated *Considering flooding in land use planning Guideline* (**DPHI Guide** - July 2021). Relevant guidance provided by this document (pg.5) includes:

The typical freeboard for residential development due to flooding from waterways, such as rivers or creeks, is 0.5m. A lower freeboard, or an alternative approach, may be used where the consequences to people and property of low probability flood events are assessed as minor through the FRM process. Climate change impacts should also be considered when setting the FPL, and councils should follow the existing FRM process and associated



guidance from the DCCEE and DPHI on selecting climate change scenarios when including climate change in the FPL..

While this guide is less prescriptive as to what lower freeboard might be applied to FPLs used in non-mainstream situations, it does reinforce that the appropriate mechanism for determining such standards is through the NSW FRM process.

2.3 Relevant Planning Policies and Strategies

The Wagga Wagga Local Strategic Planning Statement (the **LSPS**) provides strategic planning direction for Wagga Wagga to the year 2040. The LSPS envisages that the population of the LGA will grow from 68,562 in 2020 to over 100,000 people by 2040. This will require substantial growth in housing and consequently there is a focus on ensuring that the FRM standards imposed on housing are not unnecessarily onerous but at the same time does expose residents to unacceptable risks.

The LSPS (pgs.23 and 25) provides a commitment to managing flood risks relating to both mainstream and overland flow flooding, and to take into consideration climate change effects.

Council's policy direction is essentially reliant on FRMSPs prepared through the NSW RMS process with assistance of its Floodplain Risk Management Advisory Committee (**FRMAC**).

As part of the service provided by Council, "Property Flood Information" can be obtained for individual properties. Examples have been briefed to us. The information outlines both MOFF and mainstream flooding affecting a property and the source of information that is based on, which would include the MOFF FRMSP if relevant. While briefed to us, this information does not refer to applicable freeboards and has limited relevance to this review.

2.4 Existing FRM Planning Controls

The Wagga Wagga LEP adopts the optional standard *Special flood considerations* clause 5.22 in addition to the mandatory *Flood Planning* clause 5.21. These clauses refer back to the definitions provided in the 2021 DPHI Guide.

The DPHI Guide (pg.3) specifies that the terms in that guideline "...have the same meaning as those in the standard instrument prescribed by the *Standard Instrument (Local Environmental Plans) Order 2006 (Standard Instrument)* or the manual, unless otherwise defined at the end of this guideline." Relevantly the DPHI Guide provides a definition for DFE and FPL that is effectively the same as that provided in the Manual.

Section 4.2 of the Wagga Wagga DCP provides FRM controls. The DCP refers specifically to Wagga Wagga FRMSP 2009 (which relates to mainstream flooding) and includes the following note:

Where the word "freeboard" is used it means a minimum of 500mm above the relevant flood planning level.

We understand from our brief that Council is currently updating the FRM DCP provisions and in the interim relies on the recommendations of the MOFF FRMSP and applies a 0.3m freeboard for the MOFF Study Area. Under the DCP, freeboard is applied to determine a range of FPLs relating to floor

levels, evacuation and management and design considerations, for different land uses and for different floodplains in the LGA. The primary concern relevant to this review is the application of freeboard to residential floor levels, for which the DFE used is the 1% AEP flood.

2.5 Analysis & Recommendations of MOFF FRMSP

The freeboard standard in question has been derived from the MOFF FRMSP (WMA Water 2021) prepared for Council. The recommended options of the MOFF FRMSP (pg.d) include the following (Option P02) as having high priority:

Adopt the Overland Flow (Residential) Flood Planning Level developed in the FRMS&P defined as the 1% AEP level plus 0.3 m freeboard. Modify the Wagga Wagga LEP to contain the definition consistent with Reference 7

The LEP no longer requires amendment to implement this recommendation as the standard mandatory clause 5.21 now in the LEP, and associated guidelines, allows for FPLs to be separately adopted by Council.

Section 11.5.3.1 and Appendix E of the MOFF FRMPS provides the justification for the recommended 0.3m freeboard. Appendix E provides that the assessed components making up the recommended freeboard were as follows:

Component	Allowance (m)	Probability	Final Component (m)
Uncertainties in Estimated Flood Levels	0.15	1	0.15
Local Water Surge	0.10	0.5	0.05
Wave Action	0.02	0.5	0.01
Climate Change	0.10	1	0.1
Total Freeboard Allowance			0.3

A detailed explanation is provided in Appendix E to support the above component allowances that make up the total freeboard. While these allowances have a degree of generalisation, they are substantiated by detailed assessment. Accordingly, in our view any amendment to the recommended freeboard would need to focus on situations where the recommended freeboard would be inappropriate due to the particular circumstances in discreet locations. This may be a tedious task with minimal benefit given that an opportunity would always exist for applicants to seek a variation to the freeboard standard for individual development applications.

Alternatively, it could be more effective for Council to simply identify the objectives and/or performance criteria that would need to be satisfied should applicants seek a variation from the applicable FPL, and specifically the freeboard component. While appropriate objectives and/or performance criteria will need to be prepared as part of the DCP preparation process, those relating to freeboard could for example include:

- Objective: To provide an appropriate factor of safety to ensure that flood immunity envisaged by the applicable FPL is achieved.
- Performance criteria: The freeboard component of an FPL must ensure that:
 - Flood level estimates are based on accurate survey information.

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- The potential for local surges in flood levels and increases due to wave action due to the natural or built environment, is factored in.
- An allowance is included for the potential effects of climate change that has regard to the expected life of the proposed development.

While the above alternative is identified for consideration, we acknowledge that the assessment of variations that would be required would be difficult and administratively burdensome, and for that reason might not be favoured by Council.

2.6 Approaches undertaken in other Jurisdictions

Freeboard related policies, as embodied within the planning controls or FRMSPs of all Councils in NSW have been reviewed. The key provisions of these policies are summarised within **Appendix A**.

Figure 2 depicts the freeboard that has been identified as applicable to MOFF situations for 127 Councils in NSW (excluding Wagga Wagga).

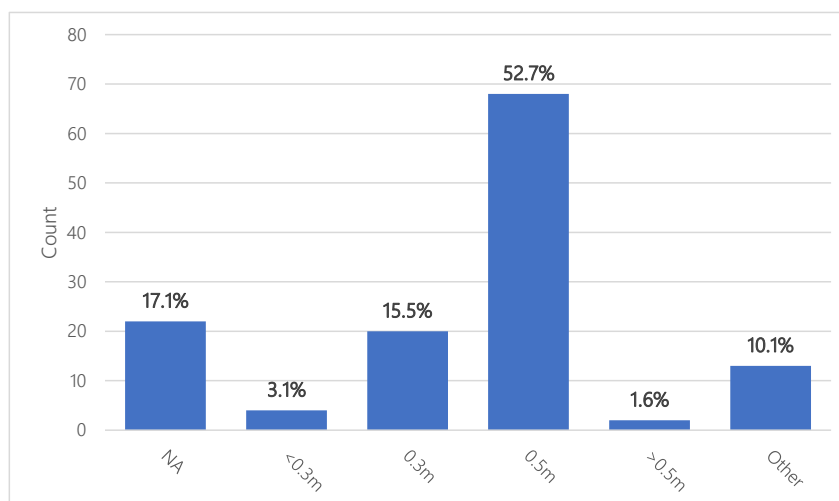


Figure 3 Freeboards adopted by NSW Councils

Notes

- *Research targeted DCPs or related policies. Where these did not provide any relevant controls, or cross-referenced FRMSPs, then FRMSPs were sourced to determine the FPL and freeboard standards that the Council could be assumed to apply.*
- *The information tabulated relates to the requirement for the habitable floors of standard residential development, whether or not it also applies to other land uses and building elements.*
- *Where more than one FPL applies in an LGA, all have been recorded.*
- *NA (not available) indicates that no explicit standard or information was able to be located or the information was unclear.*

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- In some cases, while a definitive standard was identified the controls provide that flexibility could be applied to determine the freeboard, FPL or both, subject to justification.*

The most commonly applied freeboard is 0.5m. This is substantially because the majority of planning controls in other LGAs do not differentiate FPLs for mainstream flooding and MOFF. This is illustrated by **Figure 3**. Despite this, a detail review of the data shows that where Council's do differentiate between mainstream flooding and MOFF 0.3m is often applied. This would be consistent with anecdotal evidence that most Overland flow flooding Studies and FRMSPs being recently undertaken recommend a 0.3m freeboard and that NSW Council DCPs are slowly being updated to differentiate between mainstream flooding and MOFF with differentiated freeboards.

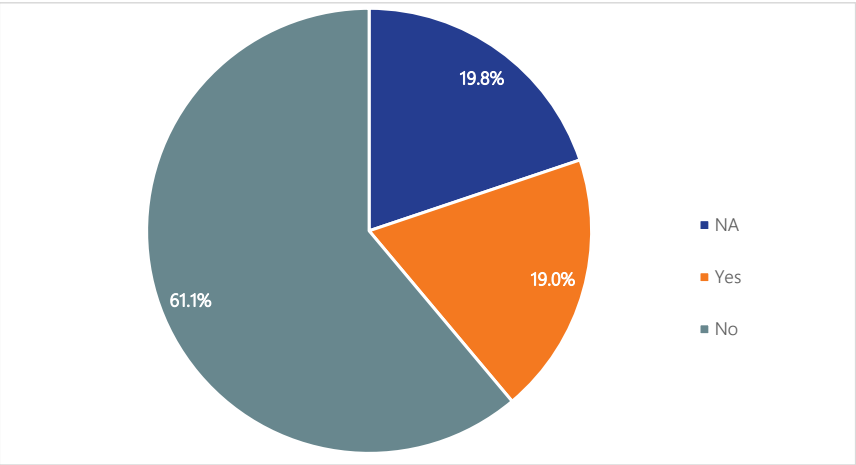


Figure 4 Differentiation between Mainstream and MOFF

About 17% of Councils did not have any relevant FRM related planning controls that were able to be identified, and about 10% had a freeboard that was not a simple additional height. For example the City of Sydney and Randwick Councils apply an FPL (for habitable floors of standard residential development) based on the higher of twice the depth of flow in a 1% AEP flood or 0.3m above ground level.

Consistent with historical practice and the recommendation of the Manual, and as a likely consequence of not differentiating between mainstream flooding and MOFF, the most commonly adopted DFE is the 1% AEP (see **Figure 4**).

We note that the majority of DCPs adopt a range of FPLs that vary depending on the vulnerability of land use or the element of the development for which it is to be applied to. For example sensitive uses such as seniors housing or child care centres are typically subject to higher FPLs such as the PMF. Additionally, controls often (but not always) differentiate and apply a lower FPL for non-habitable floors as opposed to habitable floors (see **Figure 5**), and this can be by either adopting a lower DFE or freeboard.

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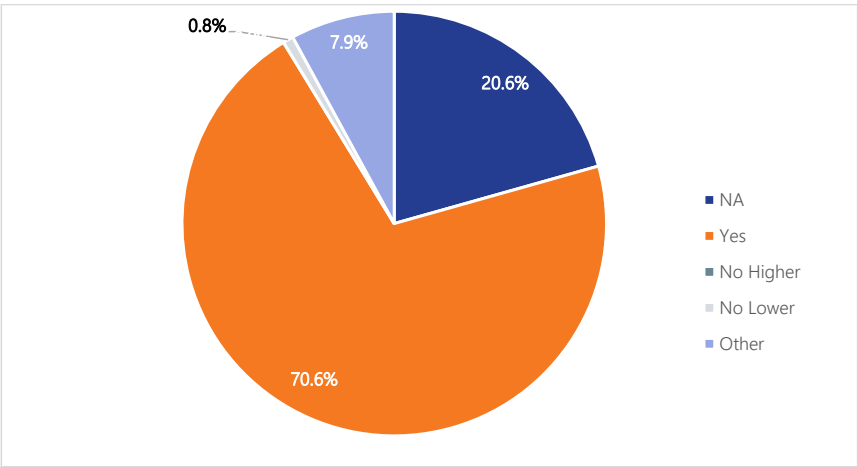


Figure 5 Adoption of 1% AEP for the DFE

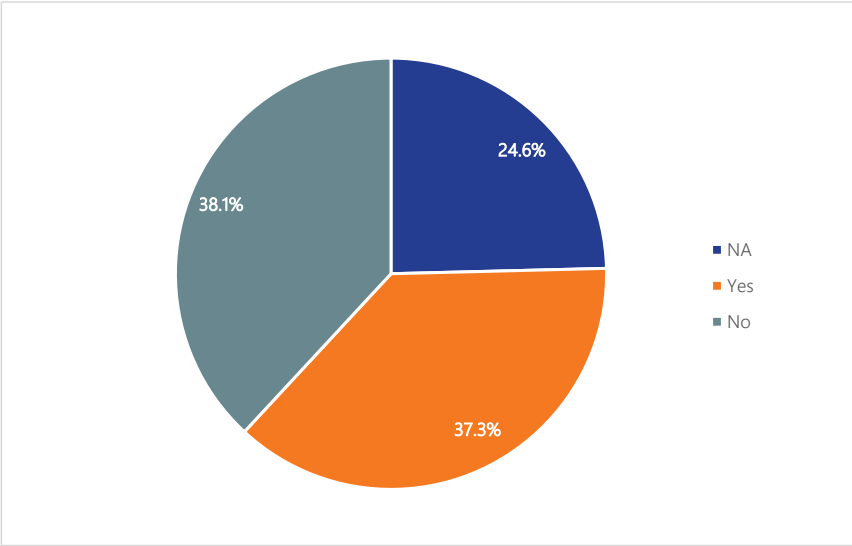


Figure 6 Differentiation between habitable & non-habitable floors

We note that while the focus of our review is in regard to the quantum of freeboard, ultimately it is the combination of the freeboard and DFE to produce the FPL that will have implications for development. In some cases the DFE applied by some Councils factor in climate change and sometimes not. This can have implications for the overall FPL, as does the quantum of freeboard.

The research undertaken indicates that for almost half of Councils in NSW it is unclear within the planning controls as to whether climate change has been factored into the DFE (see **Figure 6**). About 9% of Councils clearly articulated within their planning controls that climate change has been factored in. Despite the lack of clarity and consistency across NSW Councils, it is expected that over time it will become common practice for all Councils to incorporate climate change into their FRM planning controls. Consequently, consideration should be given to not lowering the freeboard allowance now, even if justified, as raising the overall FPL in the future might be required to factor in climate change effects, which would be difficult from a lowered base.

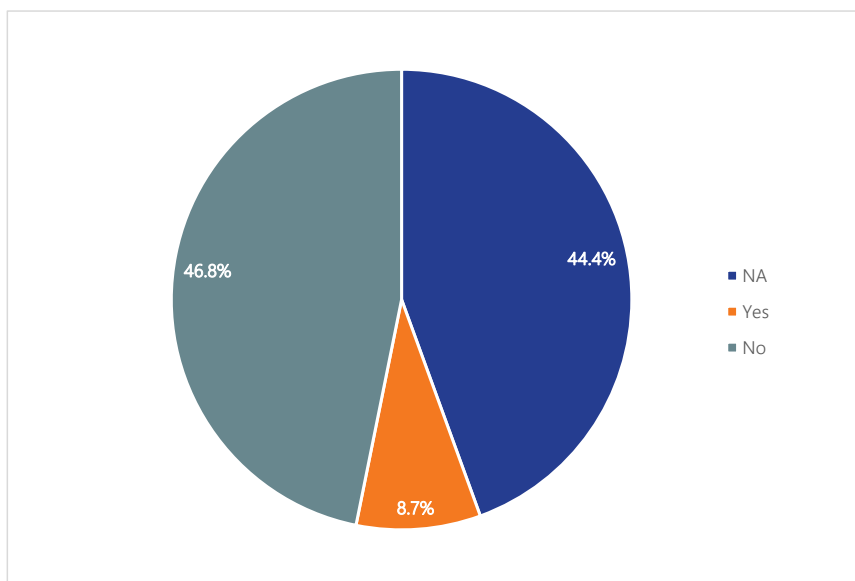


Figure 7 FPL Factors in Climate Change

As noted above, the planning controls in other jurisdictions sometimes allow for variations where justified by a site specific assessment. Regardless of whether stated in the DCP, this is a relevant statutory consideration as required by s4.55(3A) of the EP&A Act. Accordingly, should an amendment to the freeboard currently applied not be made, there could be situations associated with individual DAs where a variation could be justified having regard to the circumstances of the case. In such situations the justification would need to demonstrate that the objectives of the freeboard are satisfied despite a non-compliance with the numerical standard.

2.7 Social, Economic & Environmental Context of Study Area

A key basis for the NSW FRM process is that the standard of immunity applied in the management of flood risk is determined in accordance with the “merit approach” which has regard to the social, economic and environmental context of individual communities. While in practice such standards are commonly based on relatively firm direction provided through the FRM Manual and associated Guides, and commonly accepted best practice, it is valid in our view to examine the particular context of the Study Area.

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The Study Area, as outlined in the MOFF FRMSP, incorporates a hydraulic modelling extent of 167km² both south and north of the Murrumbidgee River (see Figure 1) which effectively encapsulates the urban area of the City of Wagga and substantial surrounding hinterland. Consequently, the study area is generally representative of the whole of the LGA and land uses vary considerably.

The MOFF FRMSP describes the land uses and environment within the Study Area and provides a general analysis of the demographic profile based on 2016 Census statistics. We have reviewed the latest available census data for Wagga Wagga (**LGA**) and note the following relevant key characteristics:

- 4.8 % of the population is aged 65 years and over compared to 6.55 across NSW and 5.9% for Australia as a whole. Accordingly, the population is relatively younger and with proportionally less people with issues self-evacuating.
- Despite the above approximately 6% of the population have activity limitations and require assistance with day to day activities. While this does represent a substantial number of persons that could have added difficulties during a flood emergency, it is equivalent to the proportion of the population across Australia.
- Median personal and family incomes are marginally higher than for NSW and Australia while median household incomes are marginally lower. Median weekly rents and monthly mortgage payments are lower than those in NSW and Australia. This suggests that generally the capacity for the community to financially deal with economic losses caused by flooding is on par with the average across other areas.
- The majority of housing (91.1%) is in the form of detached houses, semi -detached houses, terraces or town houses, while 8.2 % are apartments. This is materially more than for NSW or Australia. The balance (0.5%) is "other". This importantly reflects that the majority of housing is low rise and therefore more susceptible to issues associated with building above existing ground levels, particularly as slab on ground is typically a preferred form of construction. This can consequently impact on housing affordability.

Overall, we anticipate the most significant contextual issue relates to the need to construct at a height above existing ground levels that precludes or substantially constrains the ability to construct new dwellings with a slab on ground. Additionally this could have implications in commercial areas where entrances to shops would require elevating above street footpath levels.

While these factors might have short term impacts on housing affordability or require more refined design solutions, this needs to be balanced with the economic costs to individuals and the community associated with damages caused by flooding in the future. The MOFF FRMSP (pg.b) identified 1962 properties impacted by flooding over floor and annual average damages for residential and commercial/industrial properties was found to be \$16.09M.



3 Review of Flood Planning Area

3.1 Findings of Modelling Review

The approach to defining the FPA in the MOFF FRMSP is map an envelope comprising:

- the 1% AEP design flood extent excluding areas with depths of less than 150 mm
- 1% AEP Floodway (including areas with depths less than 150 mm), and
- 1% AEP H5 and H6 Hazard Classification (including areas with depths less than 150 mm).

The current FPA covers a total area of 25.83 km² and 5,998 residential lots. For the purposes of this assessment, lots were classified as residential if they were shown to be within the following LEP 2010 land use zones that are within the 1% AEP extent – B1 Neighbourhood Centre, B2 Local Centre, B3 Commercial Core, E4 Environmental Living, R5 Large Lot Residential, R3 Medium Density Residential, R1 General Residential, RE2 Private Recreation, RU6 Transition, RU4 Primary Production Small Lots, RU2 Rural Landscape and RU1 Primary Production, as these permit residential uses with consent.

Council has identified that the current FPA encapsulates land subject to very shallow flooding, and disconnected pockets of localised inundation, where the application of flood related development controls may not be warranted. Some examples are provided in **Figure 8** and **Figure 9** below.

Retaining the current FPA would impose more onerous planning controls on proposed development, resulting in increased requirements for applicants, higher construction costs and increased workload for Council development assessors.



Figure 8 Example Current FPA Coverage

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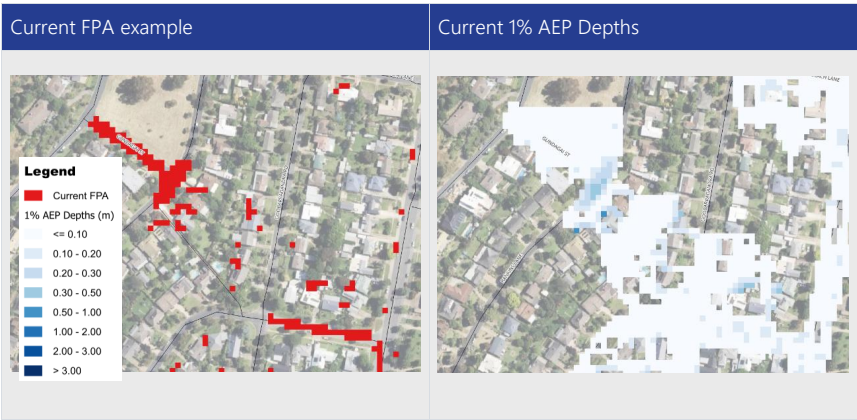


Figure 9 Example Current FPA Coverage

WMS also reviewed the Hydraulic Categories (also referred to as Flood Function) defined in the MOFF FRMSP. Floodways are generally areas which convey a significant portion of water during floods and are particularly sensitive to changes that impact flow conveyance. They often align with naturally defined channels (*NSW Flood Risk Management Guideline FB02*).

Following the application of depth, velocity, and depth x velocity product thresholds, the resulting Floodway GIS layer should be reviewed and “cleaned up” to ensure that floodways are continuous flowpaths, and that disconnected pockets of ‘floodway’ are recategorized to either flood storage or flood fringe as appropriate. From a review of the adopted hydraulic categories developed in the FRMSP, it appears that the floodway layer was not adjusted to remove disconnected pockets, and these have carried through to the FPA definition. Some examples are shown in **Figure 10**. WMS has removed areas of disconnected “Floodway” 500m² or less for the purposes of this exercise.

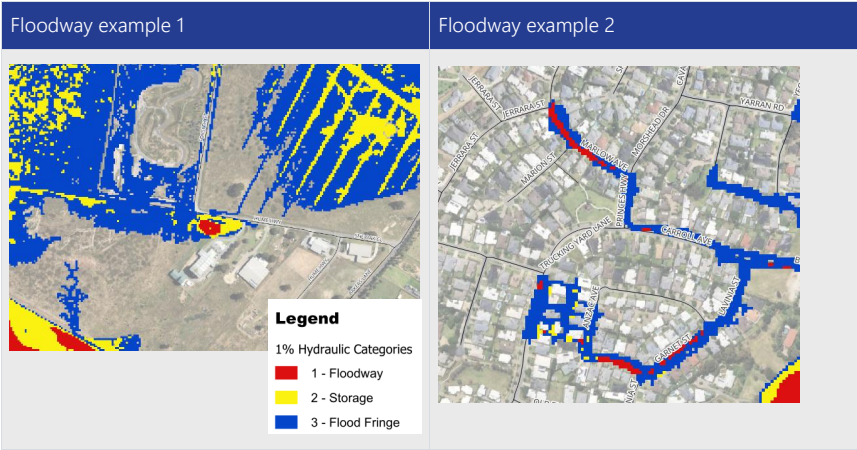


Figure 10 Examples with Removal of Disconnected Floodways



3.2 Overland Flow FPA – Industry Approaches

WMS reviewed methods used to produce FPA mapping in various Overland Flow studies across NSW, with findings summarised in **Table 2**. and have identified the typical approaches below:

- Removing or “trimming” shallow depths (less than up to 0.15m) – this accounts for very shallow flow that would typically be classified as runoff and associated with local drainage considerations rather than flooding. Further, the Building Code of *Australia National Construction Code 2022* (Part 3.3 Drainage) requires minimum slab thicknesses of 100mm in low rainfall intensity areas or 150 mm in any other case.
- Removing localised, disconnected ‘puddles’ or ‘pockets’ of inundation – this accounts for artifacts that have resulted from localised depressions in the model DEM and the direct rainfall approach;
- Retention of areas with hazard classifications of H5 and H6, regardless of depth;
- Retention of floodways;
- Adoption of the 1% AEP as the Defined Flood Event in most cases;
- Use of a rarer event to define the extent of the FPA, for example the trimmed 0.2% AEP event was adopted as the interim FPA in the Leeton Flood Study (WMS, 2025).

Table 2 Summary of Overland FPA Approaches

Location	FPA approach (screening criteria)
Current Wagga MOF FPA WMAwater, 2021	• 1% AEP extents were trimmed to exclude depths less than 150mm • Floodways were maintained
Tarcutta, Ladysmith & Uranquinty GRC Hydro, 2021	• Areas of 1% AEP flooding outside the mainstream flood extent, that have greater than 0.15 m depth included • Included all areas of H5 and H6 hazard, regardless of depth. • Floodways were maintained
Leeton Interim FPA WMS Engineering (2025)	• Used 0.2% AEP result extents • Trimmed to exclude depths less than 100mm • Removed isolated flood islands smaller than 100 m² in urban areas, and less than 200 m² in regional areas.
Overland Flow FRMSP for Hurstville, Mortdale and Peakhurst Wards. WMAwater, 2023	• Depths less than 150mm were removed from the 1% AEP flood extent • Isolated puddles less than 50m² were removed from the flood extent Lot tagging: • Lots were then selected where more than 10% of the lot was inundated by the filtered flood extent, • In addition to the above, lots where less than 10% of the lot experienced flood affectation but were located adjacent to a major overland flowpath or floodway or depressed low point or flood storage area, were also selected.

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Location	FPA approach (screening criteria)
Waverley LGA Flood Study KBR/ WMS Eng 2022	• Areas where depth does not exceed 0.15m were removed from design flood events • Areas where the velocity depth product (i.e. $V \times D$) exceeds $0.1 \text{ m}^2/\text{s}$ were reinstated • Flood islands with an area of less than 200 m^2 were removed.
Sutherland Shire, BMT, 2023	• Land below FPL
Narrabeen Lagoon Cardno, 2019	• Land below FPL

3.3 Proposed FPA

WMS applied an iterative approach to develop a proposed criteria for the Wagga Wagga Overland Flow FPA. The proposed FPA was created by the following method:

- Depths less than 0.154 m in the 1% AEP event extents were removed (effectively removing depths less than or equal to 0.15 m , taking modelling precision into account),
- Islands under 1001 m^2 were removed,
- The floodway (after floodway has had islands under 501 m^2 removed)* was retained,

This approach reduces the total FPA area from 25.8 km^2 to 23.6 km^2 , and reduces the number of residential lots within the FPA from 5998 to 3140. The distribution of the FPA coverage across the four modelled domains is shown in **Table 3** below, and changes to number of residential lots in **Table 4**. *Note – a manual process is recommended to ‘clean up’ the floodway, as there may be areas where small patches of ‘floodway’ should be manually joined to form a continuous floodway, rather than removing these patches. The 501 m^2 threshold was determined to strike a good balance of removing model artefacts/noise, whilst retaining areas that are likely to be true floodways.

Table 3 Area Covered by the Current FPA Compared to the Proposed FPA

	North (km^2)	City (km^2)	Lake Albert (km^2)	East (km^2)	Total (km^2)
Current FPA	3.96	4.90	8.42	8.54	25.83
New Proposed FPA	3.81	4.14	7.27	8.41	23.63

Table 4 Number of Residential Lots within the Current FPA Compared to the Proposed FPA

	North	City	Lake Albert	East	Total
Current FPA	190	3633	1825	198	5846
Proposed FPA	144	1828	987	181	3140

Appendix B shows the proposed FPA for the four different hydraulic model extents and **Appendix C** shows side by side comparisons of specific areas that in particular show the impacts of the proposed FPA adjustments, as do the below screenshots (**Figure 11**).

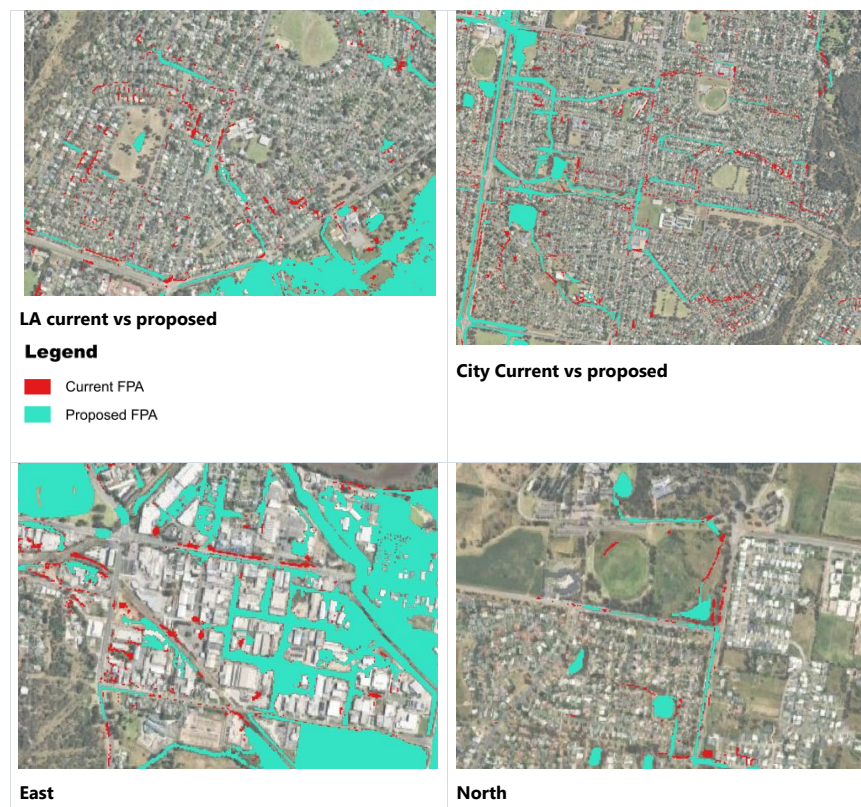


Figure 11 Screenshot Examples of Changes to FPA

3.4 Implementation Process

In order to implement any adopted recommendations of this review it would be desirable for Council to adopt a process akin to that specified by the FRM Manual. This would be likely to provide a defensible position that any changes have been made in a way that is consistent with the principles of the FRM Manual.

While the full FRM process involves a comprehensive sequence of detailed studies (ie flood study, FRMS and FRMP), the recommendations of this review relate to discrete refinements of existing studies and plans. Consequently, in our view a completely new FRM process is not required but a

- oversight being provided by FRMAC
- fit for purpose documentation that outlines the technical assessment undertaken
- community consultation
- reporting to Council for adoption of preferred options.

Accordingly, a further report would need to be prepared that refers to this report, outlines the process that Council has followed including referral to FRMAC and the public consultation undertaken and the results of that. It is expected that this further report would be a report prepared by Council officers.



4 Conclusion & Recommendations

This review has considered whether the FPLs currently being applied to development affected by major overland flow flooding in the Wagga Wagga urban area remain appropriate, and whether the mapped FPA can be refined to better target land where flood-related development controls are warranted. The review has been undertaken in the context of the NSW Flood Risk Management framework, current State guidance, Council’s adopted MOFF FRMSP, approaches adopted by other NSW councils, and the social, economic and development context of Wagga Wagga.

The review confirms that the current practice of applying a FPL based on the 1% AEP flood level plus 0.3 m freeboard for residential development affected by major overland flow flooding is broadly consistent with the NSW FRM Manual and associated technical guidance. State guidance recognises that a 0.3 m freeboard may be appropriate in shallow local overland flooding circumstances where the relevant uncertainty factors are limited. The review of other NSW council approaches also indicates that, while many councils continue to apply a 0.5 m freeboard because they do not distinguish between mainstream and overland flooding, a 0.3 m freeboard is commonly adopted where a distinction is made for overland flow conditions.

On this basis, there is not considered to be sufficient justification to recommend a broad reduction to the 0.3 m freeboard currently applied to standard residential habitable floor levels in the MOFF study area. Reducing the freeboard further would require a detailed technical and risk-based justification that demonstrates how uncertainty in flood levels, local hydraulic effects, wave action, blockage, climate change and the intended life of development would continue to be appropriately accounted for. Such a change would also need to be carefully considered through a process consistent with the principles of the NSW Flood Risk Management Manual to maintain a defensible position for Council. In our view, further technical analysis is not warranted as variations from the 0.3m freeboard might only be justifiable in discreet locations.

The review has, however, identified that the extent of the current Flood Planning Area can be refined in a technically supportable way. The existing FPA includes shallow inundation areas, localised disconnected pockets of ponding and disconnected floodway artefacts that do not necessarily warrant the application of flood-related development controls. Refining the FPA provides a more targeted and proportionate planning response without changing the underlying flood planning level standard for land that remains materially affected by major overland flow flooding.

The proposed FPA refinement applies criteria that are consistent with approaches used in other overland flow studies, including the removal of shallow depths, removal of small, isolated flood islands, retention of floodway areas after removal of small, disconnected artefacts, and exclusion of areas classified as H1 hazard in the 0.2% AEP event. This approach reduces the total mapped FPA from approximately 25.83 km² to 23.63 km² and reduces the number of residential lots identified within the FPA from 5,846 to 3,140. This represents a substantial reduction in the number of properties subject to flood-related planning controls while retaining controls over areas where the flood risk remains material.

The proposed refinement would assist Council to better align development assessment requirements with actual flood risk, reduce unnecessary development constraints on low-risk land, and support housing and infill development objectives without compromising the integrity of Council’s flood risk management framework. It would also reduce administrative burden for applicants and Council assessment staff by limiting the need for flood-related controls and supporting documentation in locations where the flood affectation is minor, localised or not hydraulically significant.

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Prior to proceeding with any formal amendments to Council endorsed flood maps, further refinement of the FPA could be undertaken with a more manual approach, applying engineering judgement to remove areas where the flood risk does not warrant the application of flood related development controls.

Any implementation of the proposed changes should be undertaken in a transparent and defensible manner. Although a complete new flood study or full FRMSP process is not considered necessary for these discrete refinements, Council should adopt a process that reflects the essential elements of the NSW flood risk management framework, including review by FRMAC, community consultation, clear documentation of the technical basis for the changes, and formal adoption by Council.

The recommendations below are intended to provide Council with a practical pathway for implementing the findings of this review while maintaining consistency with the adopted MOFF FRMSP, the NSW Flood Risk Management Manual, the DPHI land use planning guidance, and the good faith protections available under section 733 of the Local Government Act 1993.

1. Retain the current flood planning level for standard residential habitable floor levels affected by major overland flow flooding as the 1% AEP flood level plus 0.3 m freeboard.
2. Do not pursue a broad reduction to the 0.3 m freeboard at this time, as the current standard is consistent with State guidance for shallow overland flooding and is supported by the adopted MOFF FRMSP and comparative review of other NSW council approaches.
3. Adopt the proposed refined Flood Planning Area as the preferred planning control mapping for major overland flow flooding, subject to completion of Council's review, consultation and adoption process.
4. Use the proposed FPA criteria as the technical basis for the revised mapping, including removal of shallow inundation below the adopted depth threshold, removal of small, isolated flood islands, retention of meaningful floodway areas, and removal of H1 hazard areas in the 0.2% AEP event where appropriate.
5. Document the proposed FPA refinement as an amendment or addendum to the adopted MOFF FRMSP, rather than as a standalone informal mapping update, so that the rationale, criteria and implications of the change are clear and defensible.
6. Refer the proposed FPA refinement and any associated implementation documents to Council's FRMAC for review before exhibition or adoption.
7. Undertake community consultation on the proposed FPA refinement, including clear explanation of the implications for properties that are removed from, remain within, or are newly identified within the revised FPA.
8. Report the outcomes of the technical review, FRMAC consideration and community consultation to Council, and seek formal adoption of the revised FPA and associated implementation approach.
9. Update Council's flood-related development control provisions to reflect the adopted MOFF FPA and FPL approach, including clear controls for residential habitable floors, non-habitable floors, commercial and industrial development, sensitive and vulnerable uses, and basement or below-ground entries where relevant. It is understood that Council is undertaking that process at the moment with a review of the DCP FRM controls.
10. Include objectives and performance criteria in the new DCP to guide any requested variation to the freeboard component of an FPL, requiring applicants to demonstrate that the proposed level

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appropriately addresses flood level uncertainty, survey accuracy, local hydraulic effects, blockage, wave or surge effects, climate change and the expected life of the development.

- 11. Be aware of the ability for applicants to seek a merit-based variation to the numerical freeboard standard where supported by site-specific technical assessment, but ensure that any variation satisfies the objectives of the flood planning controls and does not increase risk to people, property or flood behaviour.
- 12. Ensure that Council's Property Flood Information, GIS layers and internal development assessment procedures are updated following adoption of the revised FPA so that flood advice and development assessment practice are consistent.
- 13. Prepare clear explanatory material for applicants and landowners that distinguishes between mainstream flooding and major overland flow flooding, explains the adopted freeboard approach, and outlines when a flood impact assessment or site-specific flood advice will be required.
- 14. Review the adopted MOFF FPA and associated planning controls when new flood modelling, updated climate change guidance, substantial catchment changes or future updates to the NSW Flood Risk Management framework become available.
- 15. Consider preparing a consolidated amended MOFF FRMP following adoption of the refined mapping and planning recommendations, to assist Council, State agencies, applicants and the community in understanding the current adopted flood risk management position for major overland flow flooding.

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APPENDIX A: REVIEW OF OTHER
COUNCIL FREEBOARD POLICIES

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Council	Freeboard Used	Comment
Albury Cit C	Generally 500mm above the 1 in 100 year flood level. For areas North of the levee bank system, and between Macauley Street and the Railway Drain and between Nurigong Street and Hume Street, the minimum floor level of a new building is to be at least 300mm above the 1 in 100 year flood level.	DCP cl.6.2.1.
Armidale RC	General reference to the FPL being the 1% AEP plus 0.5 metres freeboard. For local flooding "Floor levels are elevated above surrounding finished ground levels; where practical, by a minimum of 450mm above the ground level surrounding the sewer gully riser or by 300mm in other cases, with the adjacent ground surface graded to allow effective drainage of surface water away from the building."	DCP cl.2.2
Ballina SC	Varies per use and development component: - Residential: Habitable floor levels to be no lower than 100 Yr ARI with CC + 0.5m and non-habitable is 50 Yr ARI with CC + 0.2m - Commercial Industrial: The level of habitable and non-habitable floor areas to be equal to or greater than 50 Yr ARI with CC + 0.2m - Non-habitable floor levels to be equal to or greater than 50 Yr ARI with CC [no freeboard]. - The minimum surface level of open car parking spaces or carports shall be as high as practical, and not below: 100 Yr ARI with CC [no freeboard]. - Garages capable of accommodating more than 3 motor vehicles on land zoned for urban purposes, or enclosed car parking, must be protected from inundation by flood waters up to 100 Yr ARI with CC [no freeboard].	DCP Ch.2b
Balranald SC	NA	No FRM controls identified on website
Bathurst CC	0.5 metres above the designated flood level	Bathurst Region DCP 2014 cl.9.6
Bayside C	Rockdale FRM Policy -Freeboard is usually 0.5m above a flood level. Botany Bay Part 10 Stormwater Management Technical Guidelines minimum 500mm (habitable buildings/structures) and 300mm (non-habitable buildings/structures, such as garages, ramps to the basement car parking area) above the estimated 1% AEP flood level.	

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Council	Freeboard Used	Comment
	- For a site that falls toward the streets and not affected by overland flow path and flooding, the finished floor level of the habitable area shall be minimum 300mm above the top of kerb fronting the site. - For site falls to the rear and not affected by overland flow path and flooding, the finished floor level of the habitable area shall be minimum 300mm above the highest natural surface RL directly adjoining the proposed floor.	
Bega Valley SC	- Floor levels will be set no lower than the 5% AEP + 0.3m Freeboard or a minimum 2m AHD whichever is higher, - residential in FPCC1 & Recreation/non-urban use. - Floor levels will be set no lower than the DFE + 0.5m Freeboard (FPL) - Residential - Floor levels will be set no lower than the DFE + 0.5m Freeboard or PMF, whichever is higher – critical and sensitive uses. - Floor levels to be as close to the DFE + 0.3m Freeboard as practical, but no lower than the 5% AEP + 0.3m Freeboard or 2m AHD (whichever is higher) – commercial/industrial.	DCP cl.5.8
Bellingen SC	The freeboard shall be 0.5 metres unless noted otherwise below: 1.0 metre for the Upper Bellinger River from Thora Bridge to the Dardanelles in the area covered by Council's adopted Preliminary Flood Assessment, Upper Bellinger River 2005. 0.75 metre for the Never Never River upstream of Buffer Creek in the area covered by Council's adopted Preliminary Flood Assessment, Upper Bellinger River 2005. 0.75 metre for the Fitzroy Street catchment in Urunga	DCP Ch.8
Berrigan SC	The FPL is the level 500mm above a 1% AEP or 1 in 100 Year ARI flood event.	
Blacktown CC	Floodplain divided into Riverine high, medium and low and Overland Flow high medium and low precincts (FRPs). Variable FPLs in matrix. Residential is shown as undesirable in all High FRPs and no controls apply in low FRP. In Medium FRP for both Riverine and overland Flow, Residential requires: Habitable floor levels to be equal to or greater than the Flood Planning Level or a minimum of 225mm above finished ground (whichever is higher)	Blacktown DCP Part A Ch.10.

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Council	Freeboard Used	Comment
	- Garage floor level to be equal to or greater than 100mm above the 1% Annual Exceedance Probability flood level. - Driveway level to basement access must have a crest level no lower than the Flood Planning Level. DFE is 1% AEP and freeboard is 500mm for mainstream and 300mm for overland flow flooding.	
Bland SC	NA	Bland DCP 2012
Blayney SC	NA	DCP 2018
Blue Mountains CC	Habitable - 1% AEP + 0.5m Freeboard Non-habitable - 1% AEP but not less than 0.15m above surrounding ground level Critical facilities - PMF + 0.5m Freeboard	DCP cl.C6.4
Boggan SC	NA	DCP 2012
Bourke SC	NA	
Brewarrina SC	NA	
Broken Hill CC	Where the proposed development site is adjacent to a major overland flow path or creek as defined by this report, floor levels must be a minimum of 300 mm above the 100 year ARI flood level.	DCP 2016, Cl.3.1
Burwood C	NA	DCP cl.6.4
Byron SC	FPL is 1% AEP + 0.5m freeboard. Also refers to projected 2050 and 2100 FPLs but retains 0.5m freeboard. FPL for critical facilities is PMF. These FPLs are imposed in the planning matrix format.	DCP 2014 Ch.C2
Cabonne SC	Not specified for all areas. Interim guidelines for Eugowra requires a range of .3m, 0.4m and 0.5m above the 1% for different land uses and areas.	DCP 16
Camden C	Upper South Creek - Freeboard means 500 mm above the 1% AEP flood level for the mainstream Low to High Flood Risk Precincts and 300 mm for the Overland Flow Precinct.	Camden DCP s2.8 defers to Flood Risk Management Policy P1.0046.2

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Council	Freeboard Used	Comment																																			
	Nepean River – Freeboard is 500mm for mainstream and overland flow flooding in all FRPs																																				
Campbelltown CC	Table 2.8.1 Floor Level Requirements <table><tr><th>Development Criteria</th><th>Where the depth of flow is:</th><th>Minimum Freeboard above the predicted 100yr ARI Flood level</th></tr><tr><td rowspan="2">Floor Level for any dwelling room* including all commercial or industrial areas</td><td>< 300mm</td><td>300mm</td></tr><tr><td>> 300mm</td><td>500mm</td></tr><tr><td>Floor Level in relation to any creek or major stormwater line including detention basins for any dwelling room# including all commercial or industrial areas</td><td>Any depth</td><td>500mm</td></tr><tr><td rowspan="2">Garage or shed Floor Level**</td><td><300mm</td><td>100mm</td></tr><tr><td>>300mm</td><td>300mm</td></tr><tr><td>Underside of solid fencing where overland flow is to be accommodated</td><td>Any depth</td><td>100mm (min)</td></tr></table>	Development Criteria	Where the depth of flow is:	Minimum Freeboard above the predicted 100yr ARI Flood level	Floor Level for any dwelling room* including all commercial or industrial areas	< 300mm	300mm	> 300mm	500mm	Floor Level in relation to any creek or major stormwater line including detention basins for any dwelling room# including all commercial or industrial areas	Any depth	500mm	Garage or shed Floor Level**	<300mm	100mm	>300mm	300mm	Underside of solid fencing where overland flow is to be accommodated	Any depth	100mm (min)	DCP 2015																
Development Criteria	Where the depth of flow is:	Minimum Freeboard above the predicted 100yr ARI Flood level																																			
Floor Level for any dwelling room* including all commercial or industrial areas	< 300mm	300mm																																			
	> 300mm	500mm																																			
Floor Level in relation to any creek or major stormwater line including detention basins for any dwelling room# including all commercial or industrial areas	Any depth	500mm																																			
Garage or shed Floor Level**	<300mm	100mm																																			
	>300mm	300mm																																			
Underside of solid fencing where overland flow is to be accommodated	Any depth	100mm (min)																																			
Canada Bay C	Freeboard requirements above 1% AEP water surface level <table><tr><th>Finished Floor Level (B)</th><th>Adopted Flood planning area</th><th>Overland flow path identified by Council as "Minor"***</th><th>Overland flow paths other than ones identified by Council as "Minor"</th><th>Mainstream flooding</th></tr><tr><td>Residential – Habitable rooms</td><td>As per the adopted Plan</td><td>300mm</td><td>500mm</td><td>500mm</td></tr><tr><td>Residential – Non-habitable rooms</td><td>As per the adopted Plan</td><td>300mm</td><td>300mm</td><td>500mm</td></tr><tr><td>Commercial or Industrial – All internal areas</td><td>As per the adopted Plan</td><td>300mm</td><td>500mm</td><td>500mm</td></tr><tr><td>Carport open on 3 or 4 sides (At Ground Level)</td><td>As per the adopted Plan</td><td>150mm*</td><td>150mm</td><td>300mm</td></tr><tr><td>Entrance to Basement</td><td>As per the adopted Plan</td><td>150mm to 300mm*</td><td>500mm and/or the PMF Level, whichever is greater</td><td>500mm and/or the PMF Level, whichever is greater</td></tr><tr><td>Critical Infrastructure</td><td>As per the adopted Plan</td><td>300mm</td><td>500mm and/or the PMF Level, whichever is greater</td><td>500mm and/or the PMF Level, whichever is greater</td></tr></table> NOTE * At Council's discretion, may be reduced ** Average depth of flow path affecting the subject property is less than 100mm	Finished Floor Level (B)	Adopted Flood planning area	Overland flow path identified by Council as "Minor"***	Overland flow paths other than ones identified by Council as "Minor"	Mainstream flooding	Residential – Habitable rooms	As per the adopted Plan	300mm	500mm	500mm	Residential – Non-habitable rooms	As per the adopted Plan	300mm	300mm	500mm	Commercial or Industrial – All internal areas	As per the adopted Plan	300mm	500mm	500mm	Carport open on 3 or 4 sides (At Ground Level)	As per the adopted Plan	150mm*	150mm	300mm	Entrance to Basement	As per the adopted Plan	150mm to 300mm*	500mm and/or the PMF Level, whichever is greater	500mm and/or the PMF Level, whichever is greater	Critical Infrastructure	As per the adopted Plan	300mm	500mm and/or the PMF Level, whichever is greater	500mm and/or the PMF Level, whichever is greater	DCP sB8 -refers to Appendix 2 Eng Specifications
Finished Floor Level (B)	Adopted Flood planning area	Overland flow path identified by Council as "Minor"***	Overland flow paths other than ones identified by Council as "Minor"	Mainstream flooding																																	
Residential – Habitable rooms	As per the adopted Plan	300mm	500mm	500mm																																	
Residential – Non-habitable rooms	As per the adopted Plan	300mm	300mm	500mm																																	
Commercial or Industrial – All internal areas	As per the adopted Plan	300mm	500mm	500mm																																	
Carport open on 3 or 4 sides (At Ground Level)	As per the adopted Plan	150mm*	150mm	300mm																																	
Entrance to Basement	As per the adopted Plan	150mm to 300mm*	500mm and/or the PMF Level, whichever is greater	500mm and/or the PMF Level, whichever is greater																																	
Critical Infrastructure	As per the adopted Plan	300mm	500mm and/or the PMF Level, whichever is greater	500mm and/or the PMF Level, whichever is greater																																	
Canterbury Bankstown C	500m freeboard for Georges River and catchments affected by stormwater flooding. Note DFE varies for different land uses/development components.	DCP 2023 Ch.2.2																																			
Carrathool SC	400 mm above surrounding natural ground level	Building Finished Floor Levels Policy																																			
Central Coast C	Minimum Habitable Floor Levels = 1% AEP flood level plus 500mm freeboard Minimum Non-Habitable Floor Levels and Minimum levels of open car parking spaces, carports and driveways = 5% AEP flood level [no freeboard]	DCP 2022																																			

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Central Darling SC	500mm freeboard	DCP 2024
Cessnock CC	FPL is defined as the 1% AEP + 0.5m freeboard unless an alternative definition is provided. For properties impacted by low risk overland flooding, the flood planning level is the defined flood event plus 0.3 metre freeboard, or 0.6 metre freeboard if the Cessnock City Wide Flood Study applies to the land. Note: Any applications that seek to vary the 0.3 metre freeboard must be accompanied by a FAR. Basement or below ground car parks will only be supported where all potential water entry points are at or above the flood planning level. The floor level of car parks are to be no lower than the 5% AEP flood level	DCP 2010 Part C9
Clarence Valley C	1% AEP plus 500mm freeboard (note for most areas this includes CC)	Residential DCP Part D
Cobar SC	NA	
Coffs Harbour CC	Residential - The finished floor level of all habitable room(s) is to be at or above the height of the 1% Annual Exceedance Probability flood level plus 0.5 metre freeboard. - The finished floor level of all non-habitable room(s) is to be at or above the height of the 1% Annual Exceedance Probability flood level. [no freeboard]. - Car parking areas are not to be lower than 300mm below the 1% Annual Exceedance Probability level or the 5% Annual Exceedance Probability level, whichever is higher Basement car parking areas must have weir protection from the 1% Annual Exceedance Probability flood level plus 300mm freeboard Same for commercial/industrial but FPL for vulnerable uses is 0.2% Annual Exceedance Probability flood level plus 0.5 metre freeboard.	DCP 2015 Part E4
Coolamon SC	NA	
Coonamble SC	NA	

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Council	Freeboard Used	Comment								
Cootamundra Gundagai RC	500mm above the known 1: 100 ARI flood height AHD	DCP s6.2								
Cowra C	Floor levels of all habitable rooms or rooms with connection to sewer infrastructure should not be less than the Flood Planning Level (which means the level of a 1:100 ARI flood even plus a 0.5m freeboard).	DCP 2021 s.O.1.9								
Cumberland CC	Generally 0.5m freeboard above 100 year ARI for habitable floor levels for most uses. 20 year ARI plus free board for open car parking PMF plus freeboard for critical uses	DCP Part G s2.6 refers to Council's Flood Risk Management Policy								
Dubbo RC	Flood planning level means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 m freeboard.	DCP 2013								
Dungog SC	<table><tr><th>Location</th><th>Flood Planning Level</th></tr><tr><td>Dungog Tailwater area</td><td>0.2% AEP level plus 500mm freeboard</td></tr><tr><td>All other Flood plains</td><td>1% AEP level plus 500mm freeboard</td></tr><tr><td>Stormwater and Overland Flow paths throughout Dungog Shire</td><td>1% AEP Level plus 500mm Freeboard Note: A lesser Freeboard may be applied where appropriate technical justification is provided by a suitably qualified professional.</td></tr></table>	Location	Flood Planning Level	Dungog Tailwater area	0.2% AEP level plus 500mm freeboard	All other Flood plains	1% AEP level plus 500mm freeboard	Stormwater and Overland Flow paths throughout Dungog Shire	1% AEP Level plus 500mm Freeboard Note: A lesser Freeboard may be applied where appropriate technical justification is provided by a suitably qualified professional.	DCP 1 C.8
Location	Flood Planning Level									
Dungog Tailwater area	0.2% AEP level plus 500mm freeboard									
All other Flood plains	1% AEP level plus 500mm freeboard									
Stormwater and Overland Flow paths throughout Dungog Shire	1% AEP Level plus 500mm Freeboard Note: A lesser Freeboard may be applied where appropriate technical justification is provided by a suitably qualified professional.									
Edward River Council	500 mm in floodway areas; 300 mm outside floodway areas	Flood Planning Levels Policy								
Eurobodalla SC	All residential development must have a FPL of 500mm above 1% AEP All commercial development must have a FPL 300mm above 5%AEP	Residential DCP refers to Moruya Floodplain Code								
Fairfield CC	FPL varies per land use and development component Freeboard equals an additional height of 500mm.	City Wide DCP Ch.11								
Federation Council	<u>Corowa DCP</u> FPL varies per land use and development component Freeboard equals an additional height of 500mm. <u>Urana DCP</u> The floor level of all habitable rooms of any dwelling in rural or village zones shall be in accordance with the flood planning level (i.e. 500mm freeboard above the 1:100 ARI). Industrial development on flood prone land will be treated on its merits.	Corowa DCP cl.11.6 Urana DCP F1								

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Council	Freeboard Used	Comment
Forbes SC	Habitable floor levels to be equal to or greater than the Adopted Flood level plus 0.5m freeboard	DCP 2013 Ch.4
Georges River C	FPL varies per land use and development component Generally freeboard equals an additional height of 500mm If a qualified stormwater engineer provides evidence to the satisfaction of Council's development engineers that in the 1% AEP flood the maximum depth of flooding does not exceed 150mm, and the hydraulic hazard determined in accordance with Figure 1 is low: (i) Habitable floor levels are to be equal to or greater than the 1% AEP flood level plus 300mm freeboard; and (ii) Non-habitable floor levels should be no lower than 150mm above the 1% AEP flood level.	DCP refers to Stormwater Management Policy s6.
Gilgandra SC	Minimum floor level for a building that is based on 500mm freeboard level above the 1% AEP flood	DCP 2011
Glenn Innes Severn C	FFL shall be 500mm above the 1% FHL. Where a flood study has not been completed the FFL shall be 500mm above the highest known flood	DCP 2014 s3.16
Goulburn Mulwaree Council	Freeboard: a factor of safety expressed typically used in relation to the setting of minimum floor levels which is: • 0.8m above the 1% AEP event in the Goulburn Floodplain Risk Management Study and Plan 2022 for riverine and major tributary flooding. • 0.5m above the 1% AEP event in the Marulan Floodplain Risk Management Study and Plan 2025 for riparian flood and in some locations 0.3m for overland flooding. • an assumed 0.5m above the 1% AEP event elsewhere, including Goulburn for overland flood affected areas outside of the 0.8m area identified in the Goulburn Floodplain Risk Management Study and Plan 2022.	DCP 2009s 3.8
Griffith CC	The finished floor levels of habitable rooms shall be at least equal to the FPL where known, or where not known, 500mm above the 100 year ARI flood level.	Residential DCP refers to Flood Liable Lands Policy
Gunnedah SC	1% AEP + 0.5m freeboard for habitable floor levels, 1% AEP [no freeboard] for garages where practical	DCP 2025
Gwydir SC	NA	
Hawkesbury CC	H1 – 0.3m below 1:100 Year FL. H2 – 0.5m below 1:100 Year FL. H3 – 1.2m below 1:100 Year FL.	Schedule of Flood Related Development Controls July 2021

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Council	Freeboard Used	Comment
	H4 – 2.0m below 1:100 Year FL. H5 & H6 – 3.0m below 1:100 Year FL.	
Hay SC	NA	
Hilltops C	NA	
Hornsby SC	habitable floor levels - 0.5m above the 1:100 ARI Flood Level garages or basement ramps - 0.3 metres above the 1:100 ARI Flood level Includes future sea level rise where adjacent tidal areas	DCP 2024 Part 1, s1.3.3.2
Hunters Hill C	NA	Consolidated DCP 2013
Inner West C	Former Ashfield & Marrickville LGAs - Floor levels of habitable rooms must be a minimum of 0.5m above the 1% AEP flood level at that location. For areas of minor overland flow (a flood depth of 300mm or less or overland flow of 2cum/sec or less) a lower freeboard of 300mm may be considered on its merits. Former Leichhardt LGA – 1% AEP + 500mm freeboard (flexibility for freeboard for commercial/industrial).	DCP 2016 & 2011 DCP 2013
Inverell SC	<u>Residential Development</u> The habitable floor level must be no lower than a level equal to the 1991 flood level plus 1m. The floor level of any garages and/or sheds must be no lower than a level equal to the 1976 flood level plus 300mm. <u>New Commercial and Industrial Development</u> - The floor level of any new building shall be no lower than a level equal to the 1976 flood level plus 300mm.	DCP 2013
Junee SC	Take into account modelled flood planning levels, where available, and provide developments with Finished Floor Levels (FFL) that includes 100mm freeboard.	DCP 2021 G4.3
Kempsey SC	500mm above the 1% AEP flood level	DCP 2013 Ch.B7
Kiama MC	All new buildings shall be constructed to the 1% AEP flood level + 0.50m freeboard. Flexibility for minor additions.	DCP 2020 Topic 2.5
Ku-ring-gai C	<u>E.g. Blackbutt Ck FRMSP</u> Floor level controls are in place for new structures such that: Where peak flow rates in the Design Flood Standard are less than 20m³/s or are identified on the Flood Planning Area Map, the minimum floor level of all	DCP s24D.2 defers to council Flood Studies.

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Council	Freeboard Used	Comment
	enclosed areas and structures must be the greater of either 300 mm above the design flood standard level 300 mm above the highest existing ground level along the associated flow path - Except in the case of garages, where the minimum height must be 150 mm instead of 300 mm, and swimming pools to which other development controls apply - Where the design flood standard exceeds 20m³/s, or as identified as mainstream flow on the Flood Planning Area Map, the minimum floor level for all enclosed areas, including all habitable floor areas, must be 500 mm above the design flood standard level, except in the case of garages, where the minimum height must be 300 mm, and in-ground swimming pools, to which other development controls apply.	
Kyogle C	<u>Residential</u> - floor level of the development achieves a height of at least the level of a 100 year ARI flood event plus 0.5 metres freeboard. <u>Industrial</u> - floor level of the development achieves a height of at least the level of a 100 year ARI flood	DCP 2014 Ch.3 A16.2 and Ch.7 A20.2
Lachlan SC	Floor levels of all habitable rooms or rooms with connection to sewer infrastructure should not be less than 500mm (freeboard) above the Flood Planning Level	DCP 2018, s3.7.2
Lake Macquarie CC	<u>Catchment Flooding</u> Habitable – 1 in 100 year + 500mm freeboard Non-habitable – 1 in 20 Year flood <u>Lake Flooding</u> Dwellings Habitable - 1 in 100 year probable flood level for 2050 (2100 for higher densities) + 500mm Non-habitable - 1 in 20 year probable flood level for 2050 (2100 for higher densities) Sensitive uses – PMF for 2100	DCP 2014
Lane Cove MC	Where it is proposed to build in an area known to be affected by overland flow, all spaces are to have a minimum freeboard of 300mm (except parking and storage areas which are to have a freeboard of 150mm), above the calculated top water level for the 1 in 100 year ARI storm event.	DCP Part O s10.5

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Council	Freeboard Used	Comment
	Freeboard may need to be increased to 500mm or greater where there are high flowrates, high flow depths or low confidence in the accuracy of the flood model.	
Leeton SC	1:100 ARI (average recurrent interval) flood event plus 0.3 metre freeboard).	DCP 2022 Part K
Lismore CC	Residential - 1% AEP + 500mm Freeboard Commercial – 25% GFA above % AEP + 500mm Freeboard Industrial - 1% AEP + 500mm Freeboard preferred	DCP Ch.8
Lithgow CC	FPL is the 1% AEP plus 500mm freeboard for mainstream flooding. For other areas the same FPL may need to be determined by a Flood Study.	DCP 2021 Ch.3.5
Liverpool CC	Residential/commercial/industrial habitable - 1% AEP plus 0.5m (riverine) and 0.3m (overland low) for freeboard. Non habitable floor levels to be as high as practical but no less than the 5% AEP flood level. Sensitive and hazardous uses - PMF	DCP 2024 Part 1 s9
Liverpool Plains SC	Residential (habitable rooms with sewer connection) - 1% AEP + 500mm freeboard. Other - flexible	DCP 2012Residentias.4.1.1.4 -4.1.1.6
Lockhart SC	- Lockhart, 300mm above the 1:100 ARI - The Rock, a freeboard of 300mm for Flood Planning Areas subject to overland flow, 500mm for all remaining areas.	DCP 2016, pg.32
Maitland CC	All habitable finished floors shall be no lower than 1:100 ARI (average recurrent interval) flood event plus a 0.5m freeboard.	DCP 2011 Part B.3
MidCoast C	Great Lakes Region - New buildings are to be designed with habitable floor levels above the 2100 1% AEP + 0.5m Freeboard (inferred). Gloucester Region – 1% AEP + 0.5m freeboard Manning Region - Habitable floor levels (residential/ commercial /industrial/tourist) are to be no lower than 2100 1% AEP + 0.5m Freeboard. Non-habitable floor levels are to be equal to or greater than 2100 1% AEP + 0.5m Freeboard where possible, or otherwise no lower than 5% AEP unless justified by a site specific assessment.	DCP -s4 DCP S4.10 cl.5.6 Greater Taree DCP Part E

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Council	Freeboard Used	Comment
Mid-Western RC	Generally 0.5m freeboard above 100 year ARI for habitable floor levels for most uses. 20 year ARI plus free board for Recreation & Agriculture PMF plus freeboard for critical uses	DCP Appendix A
Moree Plains SC	1% AEP = 0.5m Freeboard for most uses 1% AEP + 0.15m for commercial, industrial, tourist, recreational, agriculture PMF – sensitive uses and critical facilities	DCP 2013 – Flood Chapter 2024
Mosman C	NA	
Murray River Council	500 mm above the 1% AEP. Flexibility for non-habitable and minor development.	DCP 2012
Murrumbidgee C	NA	
Muswellbrook SC	1% + 0.5m Freeboard for habitable floors 5% AEP for non-habitable floors and garages 1% AEP - Commercial, Retail, Industrial, Service Station, Mining and Quarry related development, recreation and emergency facilities buildings and habitable rooms in caravan parks PMF – sensitive uses	DCP S13
Nambucca	1% + 0.5m Freeboard for habitable floors for south Macksville otherwise defers to FRMPs	DCP 2016 J3.1
Narrabri SC	NA	
Narrandera SC	NA	
Narromine SC	Residential and sensitive uses (habitable) - 1% AEP flood event plus 0.5m freeboard, Commercial and industrial (habitable) - as close to the 1% AEP flood level plus 0.5m freeboard as practical, but no lower than the 2% (1 in 20) AEP flood level plus 0.5m freeboard.	Flood Policy (Narromine FRMP Update 2021)
Newcastle CC	1% 2050 AEP flood, and the freeboard is generally 500mm	DCP 2023 Part B, SB1

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Council	Freeboard Used	Comment
North Sydney C	Habitable Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.3m Non habitable - Minimum of 1% AEP flood level Critical facilities - Minimum of: • 1% AEP flood level + 0.5m, OR • the PMF (whichever is higher)	Floodplain Management Policy (interim) 2022, s4.4
Northern Beaches C	Most uses - 1% AEP + 500m Freeboard. A reduced freeboard will be considered on its merits for properties impacted by peak flood depths less than 0.3m and velocity depths less than 0.3m ² /s. Vulnerable uses – PMF	Warringah DCP 2011 Part E11 Pittwater DCP, Part B3.11
Oberon C	NA	
Orange CC	Mainstream Flooding: Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.5m Overland flow flooding: Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.3m (=0.5m for essential facilities)	DCP 2004 Part4A
Parkes SC	<u>Mainstream Flooding:</u> Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.5m (PMF for essential facilities) Commercial and industrial - as close to the 1% AEP flood level plus 0.5m freeboard as practical, but no lower than the 5% PMF for essential facilities <u>Overland flow flooding:</u> Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.3m (PMF for essential facilities) Commercial and industrial - as close to the 1% AEP flood level plus 0.3m freeboard as practical, but no lower than the 5% PMF for essential facilities	Bogan Gate FRMP Cookamidgera FRMP
Parramatta CC	Residential, Commercial/industrial - Minimum of 1% AEP flood level + 0.5m (PMF for Critical Uses & Facilities). Applies to both riverine and overland flow flooding	DCP 2023 s5.1.1
Penrith CC	<u>Residential</u> Floor levels of habitable rooms shall be at least 0.5m above the 1% AEP (100 year ARI) flood; i.e. the flood planning level.	DCP 2014 Part C3 s3.5

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Council	Freeboard Used	Comment
	The lowest floor level of habitable rooms shall be not more than 3.0m above ground level. <u>Industrial/Commercial</u> Floor levels shall be at least 0.5m above the 1% AEP (100 year ARI) flood or the buildings shall be flood-proofed to a least 0.5m above the 1% AEP (100 year ARI) flood.	
Port Macquarie Hastings C	<u>Residential</u> Habitable – 100 year ARI Flood level + Climate Change Allowance + 500mm Freeboard Non-habitable - 20 year ARI Flood level (No allowance for Climate Change, No Freeboard) <u>Commercial/Industrial</u> At least 25% of the ground floor - 100 year ARI Flood level + Climate Change Allowance + 500mm Freeboard. Balance - 100 year ARI Flood level + Climate Change Allowance (No Freeboard) <u>Critical Facilities</u> - PMF	Flood Policy 2018
Port Stephens C	<u>Residential, Commercial & Industrial</u> Habitable floor - 1% AEP in the year 2100 plus 0.5 metre freeboard, except for overland flooding areas where a freeboard of 0.3 metre is applied. Non-habitable – Variable Garages/parking – current day 1% AEP	DCP 2025, Part B4 & Floodplain Risk Management Policy
Queanbeyan-Palerang RC	<u>Queanbeyan DCP</u> Residential 500 mm above the 1% AEP Commercial/Industrial – not more than 2m below 500 mm above the 1% AEP <u>Palerang DCP</u> Residential 500 mm above the 1% AEP Commercial/Industrial – at least flood proofed to 500 mm above the 1% AEP	Queanbeyan DCP 2012 Palerang DCP 2015, Part B9

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Council	Freeboard Used	Comment																																			
Randwick CC	<table><thead><tr><th>Scenario</th><th>Floor level</th></tr></thead><tbody><tr><td colspan="2">Habitable Floors - all development (excluding critical facilities)</td></tr><tr><td>Inundated by flooding</td><td>1% AEP + 0.5m freeboard</td></tr><tr><td>Inundated by overland flow path</td><td>Two times the depth of flow in the 1% AEP flood with a minimum of 0.3m above the surrounding surface</td></tr><tr><td colspan="2">Habitable floors - Critical facilities</td></tr><tr><td>Inundated by flooding</td><td>PMF + 0.5m freeboard</td></tr><tr><td>Inundated by overland flow path</td><td>Two times the depth of flow in the PMF with a minimum of 0.3m above the surrounding surface</td></tr><tr><td colspan="2">Non-habitable floors – residential outbuildings (excluding garages) *</td></tr><tr><td>Gross floor area less than or equal to 10 square metres.</td><td>1% AEP but not less than 0.15m above surrounding ground level</td></tr><tr><td>Gross floor area greater than 10 square meters.</td><td>The applicable habitable floor level</td></tr><tr><td colspan="2">Non-habitable floors – Industrial and commercial</td></tr><tr><td>Located on flooding or overland flow path</td><td>1% AEP but not less than 0.15m above surrounding ground level</td></tr><tr><td colspan="2">Material storage locations – all development</td></tr><tr><td>Materials sensitive to flood damage, or which may cause pollution or be potentially hazardous during flooding</td><td>1% AEP + 0.5m freeboard</td></tr></tbody></table>	Scenario	Floor level	Habitable Floors - all development (excluding critical facilities)		Inundated by flooding	1% AEP + 0.5m freeboard	Inundated by overland flow path	Two times the depth of flow in the 1% AEP flood with a minimum of 0.3m above the surrounding surface	Habitable floors - Critical facilities		Inundated by flooding	PMF + 0.5m freeboard	Inundated by overland flow path	Two times the depth of flow in the PMF with a minimum of 0.3m above the surrounding surface	Non-habitable floors – residential outbuildings (excluding garages) *		Gross floor area less than or equal to 10 square metres.	1% AEP but not less than 0.15m above surrounding ground level	Gross floor area greater than 10 square meters.	The applicable habitable floor level	Non-habitable floors – Industrial and commercial		Located on flooding or overland flow path	1% AEP but not less than 0.15m above surrounding ground level	Material storage locations – all development		Materials sensitive to flood damage, or which may cause pollution or be potentially hazardous during flooding	1% AEP + 0.5m freeboard	DCP 2013 Part B8 s5							
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Richmond Valley C	<u>Residential</u> - habitable floors – 1%AEP + 0.5m freeboard <u>Commercial/Industrial</u> – 5% AEP and 1% AEP depending on FRMP	DCP 2021 Part H-1																																			
Ryde CC	<u>Freeboard above 1% DFE</u> <table><thead><tr><th rowspan="2">Drainage System/ Overland Flow</th><th colspan="3">Residential</th><th colspan="2">Industrial/ Commercial</th></tr><tr><th>Land Level ^(b)</th><th>Habitable Floor Level</th><th>Non-Habitable Level ^(c)</th><th>Land Level ^(b)</th><th>Floor Level</th></tr></thead><tbody><tr><td>Surface Drainage/ adjoining ground level ^(d)</td><td>-</td><td>.15m</td><td>-</td><td>-</td><td>.15m</td></tr><tr><td>Public drainage infrastructure, creeks and open channels</td><td>0.5m</td><td>0.5m</td><td>0.1m</td><td>0.3m</td><td>0.3m</td></tr><tr><td>Flooding and Overland Flow (Overland Flow Precincts and Low Risk)</td><td>N/A</td><td>0.3m</td><td>0.15m</td><td>N/A</td><td>0.3m</td></tr><tr><td>Flooding and Overland Flow (Medium Risk and greater)</td><td>N/A</td><td>0.5m</td><td>0.3m</td><td>N/A</td><td>-</td></tr></tbody></table>	Drainage System/ Overland Flow	Residential			Industrial/ Commercial		Land Level ^(b)	Habitable Floor Level	Non-Habitable Level ^(c)	Land Level ^(b)	Floor Level	Surface Drainage/ adjoining ground level ^(d)	-	.15m	-	-	.15m	Public drainage infrastructure, creeks and open channels	0.5m	0.5m	0.1m	0.3m	0.3m	Flooding and Overland Flow (Overland Flow Precincts and Low Risk)	N/A	0.3m	0.15m	N/A	0.3m	Flooding and Overland Flow (Medium Risk and greater)	N/A	0.5m	0.3m	N/A	-	DCP 2014 Part 8.2, s4.0, Refers to Technical Manual, s2.
Drainage System/ Overland Flow	Residential			Industrial/ Commercial																																	
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Shellharbour CC	<u>Residential, Commercial, Industrial (Habitable)</u> - 500 mm above the 1% AEP flood level. Less for non-habitable.	DCP Part 3, Appendix 9, Schedules 1 and 2.																																			
Shoalhaven City Council	500 mm above the 1% AEP flood level	DCP Ch.G9																																			
Singleton C	NA	DCP 2014																																			

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Council	Freeboard Used	Comment																																						
Snowy Monaro RC	Residential - Habitable floor levels to be equal to or greater than the 1:100 Annual Exceedance Probability flood plus 500mm metres (freeboard). Commercial/Industrial - All floor levels to be equal to or greater than the 1:20 Annual Exceedance Probability flood plus 0.3 metres (freeboard). Sensitive and hazardous uses - All floor levels to be equal to or greater than the possible maximum flood.	DCP 2013 Ch.2																																						
Snowy Valleys C	NA	DCP 2024 s 3.2.10																																						
Strathfield C	Habitable floors – 1% AEP + 0.5m Non- Habitable floors – 1% AEP	Interim Flood Prone Land Policy 1999																																						
Sutherland SC	Habitable floors – 1% AEP + 0.5m + sea level rise Non- Habitable floors – 1% AEP+ sea level rise	DCP 2015 Ch.40, Part C																																						
Sydney CC	<table border="1"> <thead> <tr> <th>Development</th><th>Type of flooding</th><th>Flood Planning Level</th></tr> </thead> <tbody> <tr> <td rowspan="3">Residential</td><td>Habitable rooms</td><td>Mainstream flooding Local drainage flooding (Refer to Note 2)</td></tr> <tr> <td></td><td>1% AEP flood level + 0.5 m</td></tr> <tr> <td></td><td>1% AEP flood level + 0.5 m or Two times the depth of flow with a minimum of 0.3 m above the surrounding surface if the depth of flow in the 1% AEP flood is less than 0.25 m</td></tr> <tr> <td rowspan="3">Non-habitable rooms such as a laundry or garage (excluding below-ground car parks)</td><td>Outside floodplain</td><td>0.3 m above surrounding ground</td></tr> <tr> <td>Mainstream or local drainage flooding</td><td>1% AEP flood level</td></tr> <tr> <td></td><td></td></tr> <tr> <td rowspan="7">Industrial or Commercial</td><td>Business</td><td>Mainstream or local drainage flooding</td></tr> <tr> <td></td><td>Merits approach presented by the applicant with a minimum of the 1% AEP flood level</td></tr> <tr> <td>Schools and child care facilities</td><td>Mainstream or local drainage flooding</td></tr> <tr> <td></td><td>Merits approach presented by the applicant with a minimum of the 1% AEP flood level + 0.5m</td></tr> <tr> <td>Residential floors within tourist establishments</td><td>Mainstream or local drainage flooding</td></tr> <tr> <td>Housing for older people or people with disabilities</td><td>Mainstream or local drainage flooding</td></tr> <tr> <td>On-site sewer management (sewer mining)</td><td>1% AEP flood level</td></tr> <tr> <td></td><td>Retail Floor Levels</td><td>Mainstream or local drainage flooding</td></tr> <tr> <td></td><td></td><td>Merits approach presented by the applicant with a minimum of the 1% AEP flood. The proposal must demonstrate a reasonable balance between flood protection and urban design outcomes for street level activation.</td></tr> </tbody> </table>	Development	Type of flooding	Flood Planning Level	Residential	Habitable rooms	Mainstream flooding Local drainage flooding (Refer to Note 2)		1% AEP flood level + 0.5 m		1% AEP flood level + 0.5 m or Two times the depth of flow with a minimum of 0.3 m above the surrounding surface if the depth of flow in the 1% AEP flood is less than 0.25 m	Non-habitable rooms such as a laundry or garage (excluding below-ground car parks)	Outside floodplain	0.3 m above surrounding ground	Mainstream or local drainage flooding	1% AEP flood level			Industrial or Commercial	Business	Mainstream or local drainage flooding		Merits approach presented by the applicant with a minimum of the 1% AEP flood level	Schools and child care facilities	Mainstream or local drainage flooding		Merits approach presented by the applicant with a minimum of the 1% AEP flood level + 0.5m	Residential floors within tourist establishments	Mainstream or local drainage flooding	Housing for older people or people with disabilities	Mainstream or local drainage flooding	On-site sewer management (sewer mining)	1% AEP flood level		Retail Floor Levels	Mainstream or local drainage flooding			Merits approach presented by the applicant with a minimum of the 1% AEP flood. The proposal must demonstrate a reasonable balance between flood protection and urban design outcomes for street level activation.	Interim Floodplain Management Policy
Development	Type of flooding	Flood Planning Level																																						
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Tamworth RC	Residential 500 mm above the 1% AEP Commercial/Industrial – at least flood proofed to 500 mm above the 1% AEP	DCP 2010, from pg.57																																						
Temora SC	NA	DCP																																						

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Council	Freeboard Used	Comment
Tenterfield SC	NA	DCP 2014
The Hills SC	Habitable floors – 1% AEP + 0.5m Non- Habitable floors – 5% AEP Recreation & Non-urban – 1% AEP Sensitive Uses - PMF	DCP Part C, S.6
Tweed SC	Residential Habitable floors – 1% AEP + 0.5m (includes CC) Commercial/industrial - 1% AEP + 0.5m (includes CC) where possible	DCP, S.A3
Upper Hunter SC	Minimum Habitable Floor Levels = 1% AEP flood level plus 500mm freeboard (Flood Planning Level) Minimum Non-Habitable Floor Levels = 5% AEP flood level plus 500mm freeboard.	DCP 2023, Part 10a
Upper Lachlan SC	100 year ARI + 500mm (riverine) or 300mm (Overland flow)	FRMSP 2017
Uralla SC	1% AEP flood event plus 0.5 metres freeboard	DCP 2011
Wagga Wagga CC		
Walcha C	<u>Residential</u> Minimum finished floor level (FFL) for habitable rooms is to be at the height of the 100-year Average Recurrence Interval flood level plus 0.5 metre freeboard. The minimum FFL of all non-habitable room(s) is to be at the height of the 100-year Average Recurrence Interval flood level. <u>Rural</u> Site specific assessment	DCP 2019
Walgett SC	500mm above the historical flood peak for the site	DCP 2016, s3.2.1
Warren SC	the finished floor level of the proposed dwelling house is to be at a height equivalent to or above the flood planning level (1:200 ARI).	DCP 2013, cl.16c
Warrumbungle SC	<u>Residential and Commercial/Industrial</u> : Floor levels to be 500mm above 1% AEP or highest known flood. Any part of the dwelling which is non-habitable and below the flood level shall be constructed of non-compatible materials. New development not suitable in high hazard floodway areas.	DCP 2015 (from pg.68)

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Council	Freeboard Used	Comment
Waverley C	Freeboard is 300mm except if subject to oceanic influences then 500mm. DFE varies but is mostly 1% AEP for habitable floors and PMF for sensitive uses.	DCP 2022, s5.2
Weddin SC	Residential – 1% AEP + 500mm Freeboard. Same for Commercial/industrial but will be flexible	DCP 2014, Ch.4
Wentworth SC	All uses - 1% AEP + 750mm Freeboard	DCP 2011, Ch.4
Willoughby CC	Mainstream Flooding a. minimum floor level for buildings = 1% AEP water level + 500mm b. minimum garage floor level including parking spaces within buildings = 1% AEP water level + 300mm. c. minimum crest level for driveway to basement parking and all access points to basements – PMF water level or 1%AEP water level +500mm, whichever is higher d. minimum floor level for carport = 1% AEP water level + 100mm e. underside of any structure to be 300mm above 1% AEP flood level f. flood evacuation route at the PMF level to be provided for sensitive developments, including hospitals, aged care, childcare and seniors living g. flood evacuation route at 1% AEP +500mm level for all development other than sensitive developments h. flood study required. <u>Overland flow flooding</u> Same as above except c. is: construct on high side of property.	DCP Part I: Stormwater Management 2023, Attachment 2 – Floodplain Management, s5.1.1 and s5.1.2
Wingecarribee SC	Habitable floors – 1% AEP + 0.5m Non- Habitable floors – Minimum 20% AEP but higher if possible Recreation & Non-urban – 20% AEP Sensitive Uses - PMF	Typical DCP
Wollondilly SC	<u>Residential</u> Habitable – 100 year ARI Flood level + 500mm Freeboard <u>Commercial/Industrial</u> Assess flood damages if below 100 year ARI Flood level + 500mm Freeboard. Balance - 100 year ARI Flood level + Climate Change Allowance (No Freeboard)	DCP 2016, Vol.1, Part 8

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Council	Freeboard Used	Comment														
	<u>Critical Facilities & Essential Facilities</u> - PMF															
Wollongong CC	<u>Residential</u> Habitable – 1% AEP + 500mm Freeboard <u>Commercial/Industrial</u> Habitable – 1% AEP + 500mm Freeboard but flexible <u>Critical Facilities</u> - PMF	DCP 2009 Ch.E13														
Woollahra MC	<table><thead><tr><th>Development type</th><th>Flood (and estuary) planning level</th></tr></thead><tbody><tr><td>Habitable floor areas</td><td>100 Year ARI flood level plus 0.5m freeboard</td></tr><tr><td>Non-habitable floor areas</td><td>100 Year ARI flood level plus 0.3m freeboard</td></tr><tr><td>Habitable floor areas for foreshore developments subject to coastal inundation</td><td>The highest RL, calculated from the following: ▶ 100 Year ARI flood level plus 0.5m freeboard; or ▶ still water level plus 100 Year ARI wave run-up plus 0.3m freeboard</td></tr><tr><td>Ground level, open car parking spaces</td><td>20 Year ARI flood level plus 0.3m freeboard</td></tr><tr><td>Enclosed car parking spaces, three or fewer vehicles</td><td>20 Year ARI flood level plus 0.3m freeboard</td></tr><tr><td>Enclosed car parking spaces, more than three vehicles</td><td>100 Year ARI flood level plus 0.3m freeboard</td></tr></tbody></table>	Development type	Flood (and estuary) planning level	Habitable floor areas	100 Year ARI flood level plus 0.5m freeboard	Non-habitable floor areas	100 Year ARI flood level plus 0.3m freeboard	Habitable floor areas for foreshore developments subject to coastal inundation	The highest RL, calculated from the following: ▶ 100 Year ARI flood level plus 0.5m freeboard; or ▶ still water level plus 100 Year ARI wave run-up plus 0.3m freeboard	Ground level, open car parking spaces	20 Year ARI flood level plus 0.3m freeboard	Enclosed car parking spaces, three or fewer vehicles	20 Year ARI flood level plus 0.3m freeboard	Enclosed car parking spaces, more than three vehicles	100 Year ARI flood level plus 0.3m freeboard	DCP 2015 Ch.E2
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Enclosed car parking spaces, more than three vehicles	100 Year ARI flood level plus 0.3m freeboard															
Yass Valley C	Addition of freeboard to the DFE (1% AEP for standard residential) required but quantum of freeboard not specified in DCP. The Yass FRMSP (Lyall & Associates 2021) recommends a 0.5m freeboard for mainstream flooding and 0.3m freeboard for overland flow flooding. Note this FRMSP (pg.s-3) outlines that "In areas subject to Major Overland Flow, the FPA is defined as the extent of areas which act as a floodway, as well as areas where depths of inundation exceed 0.1 m in a 1% AEP event."	DCP 2024, Part H1														

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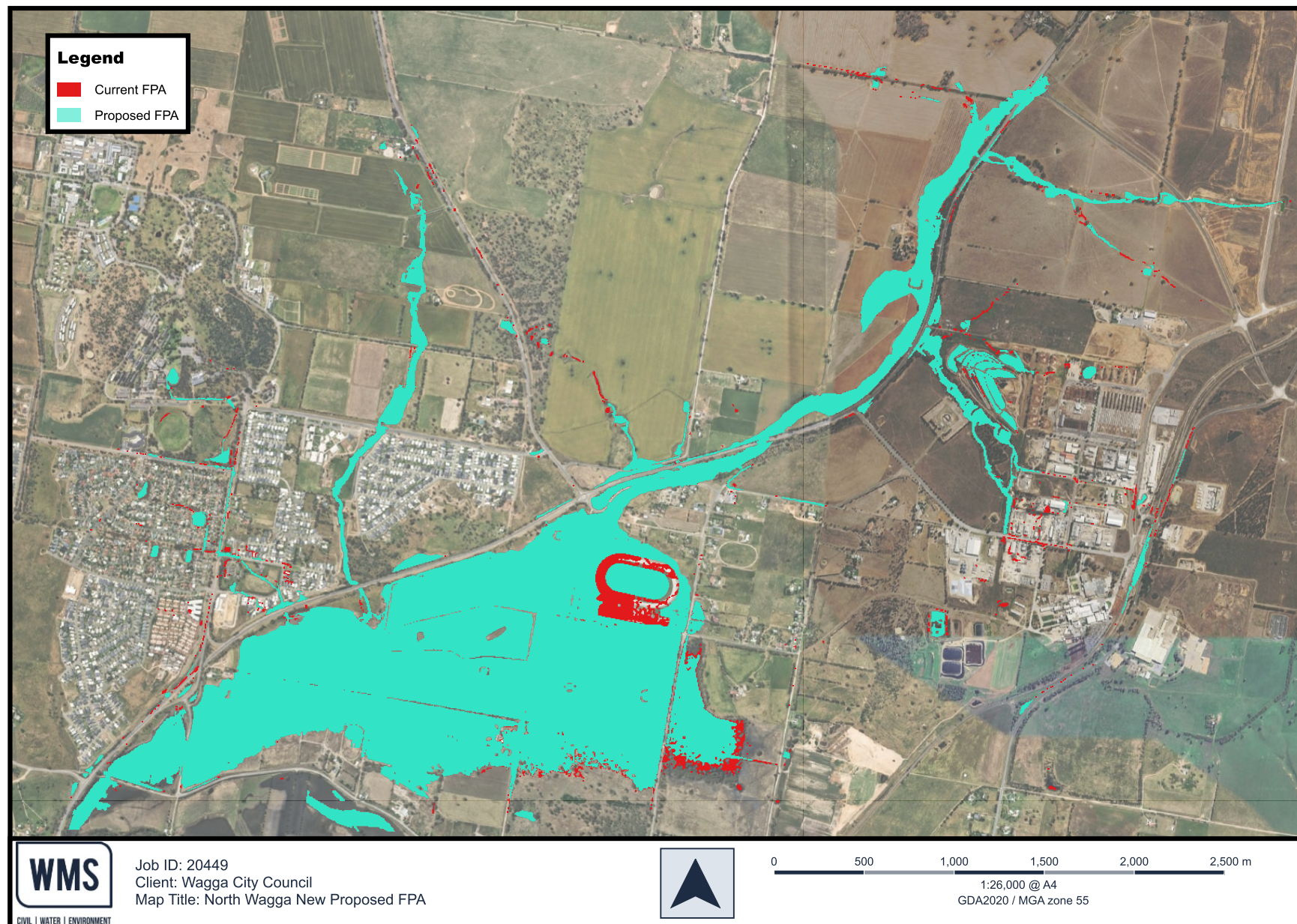
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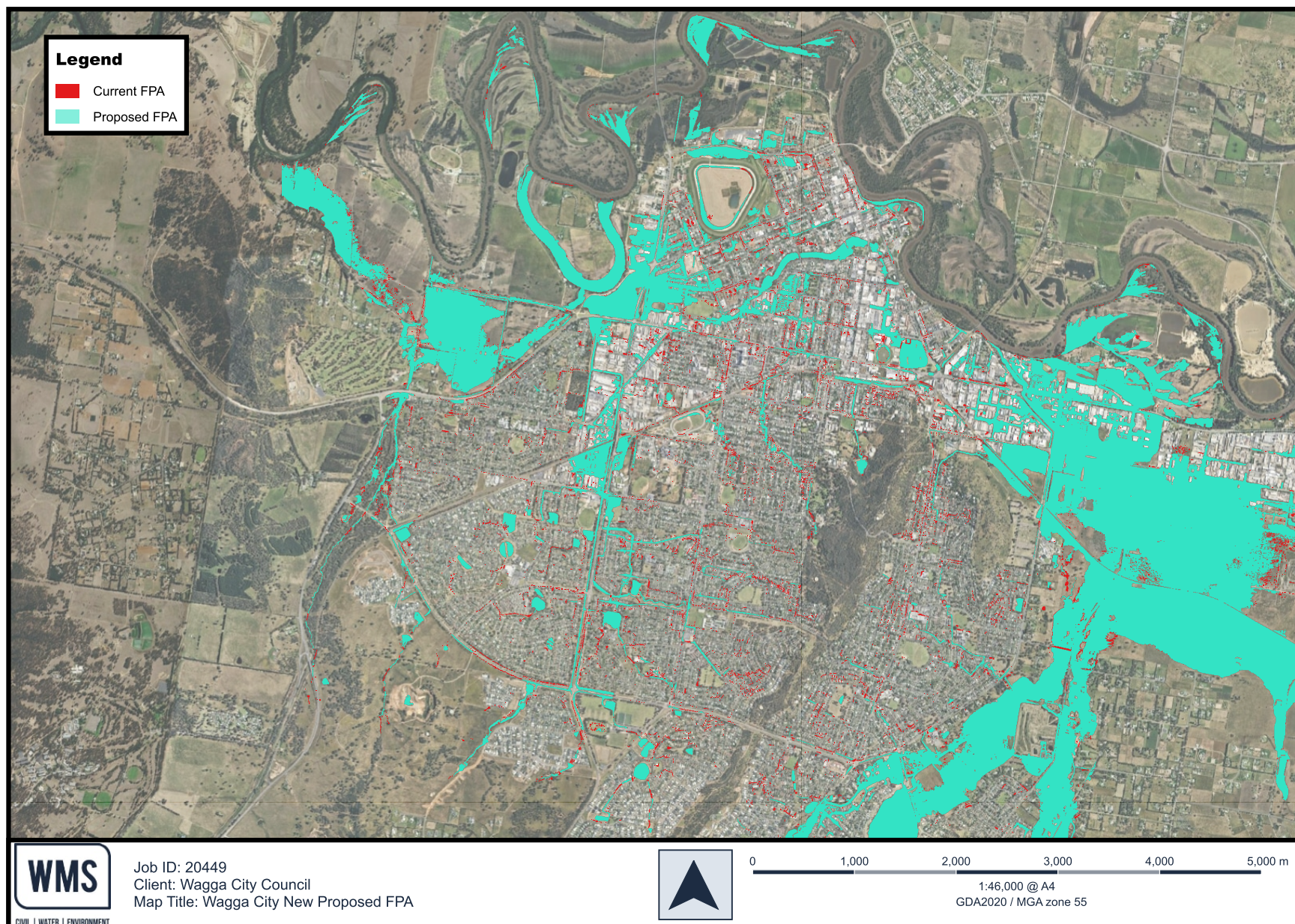


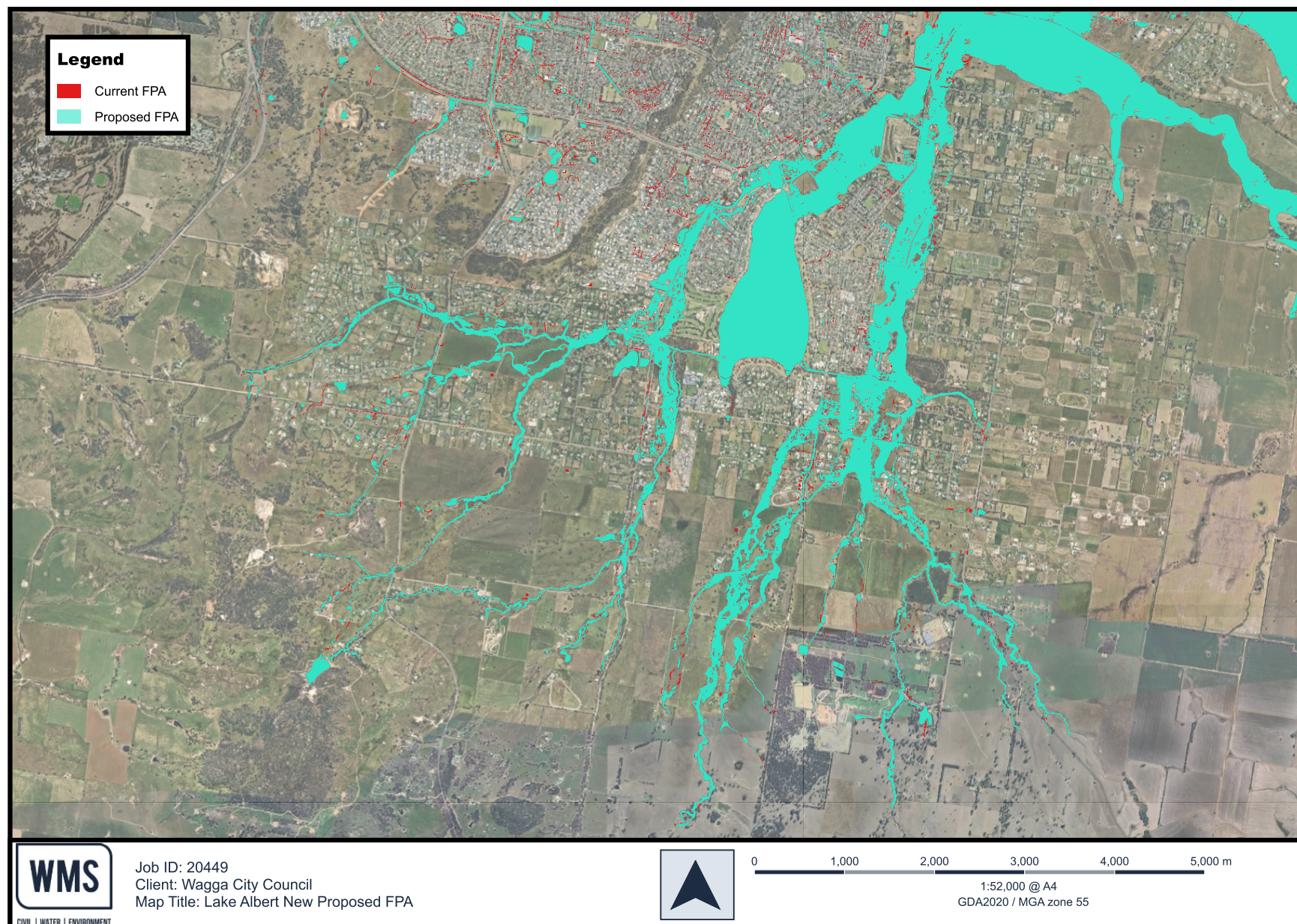
APPENDIX B: CURRENT & PROPOSED
FPA MAPS

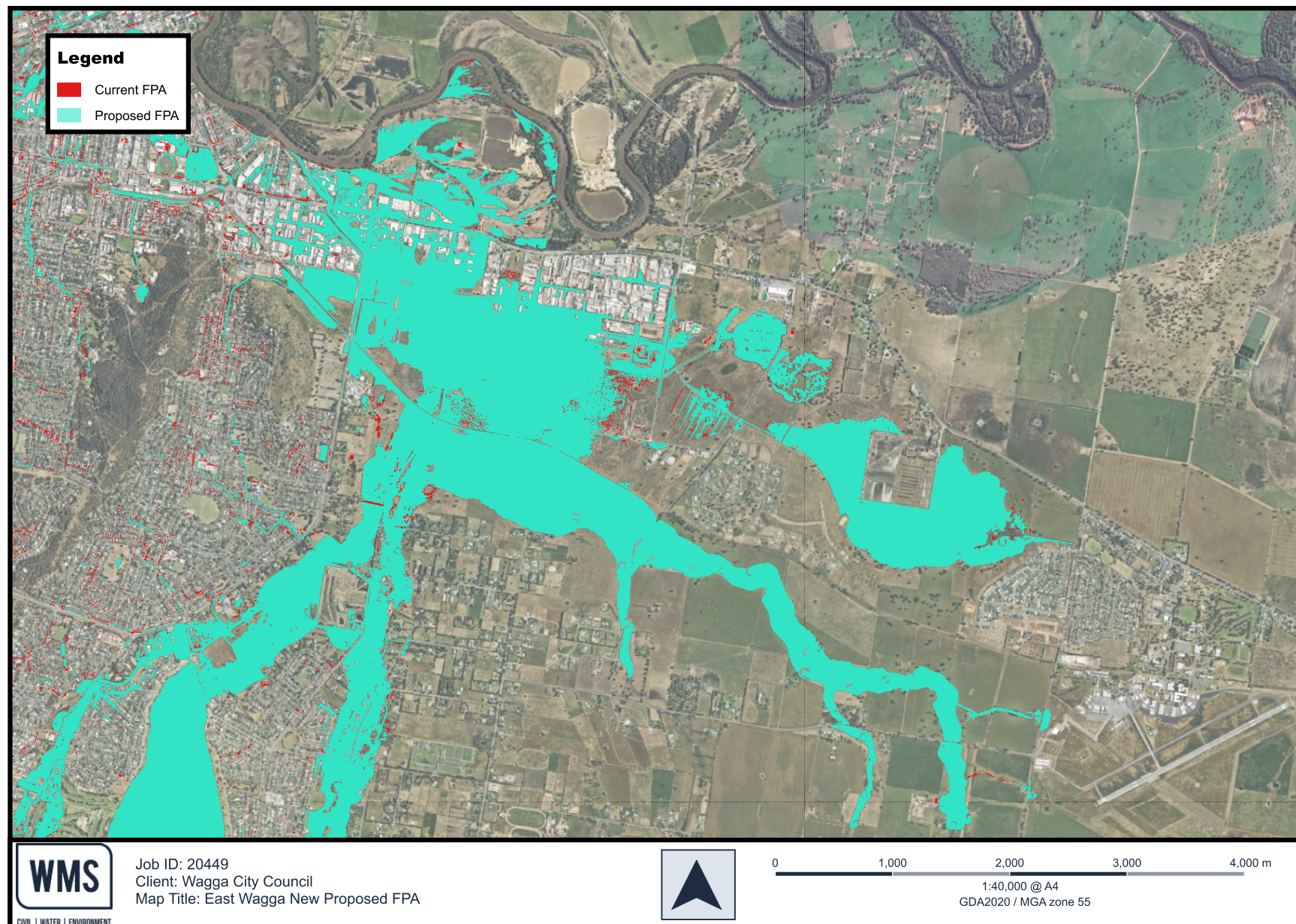
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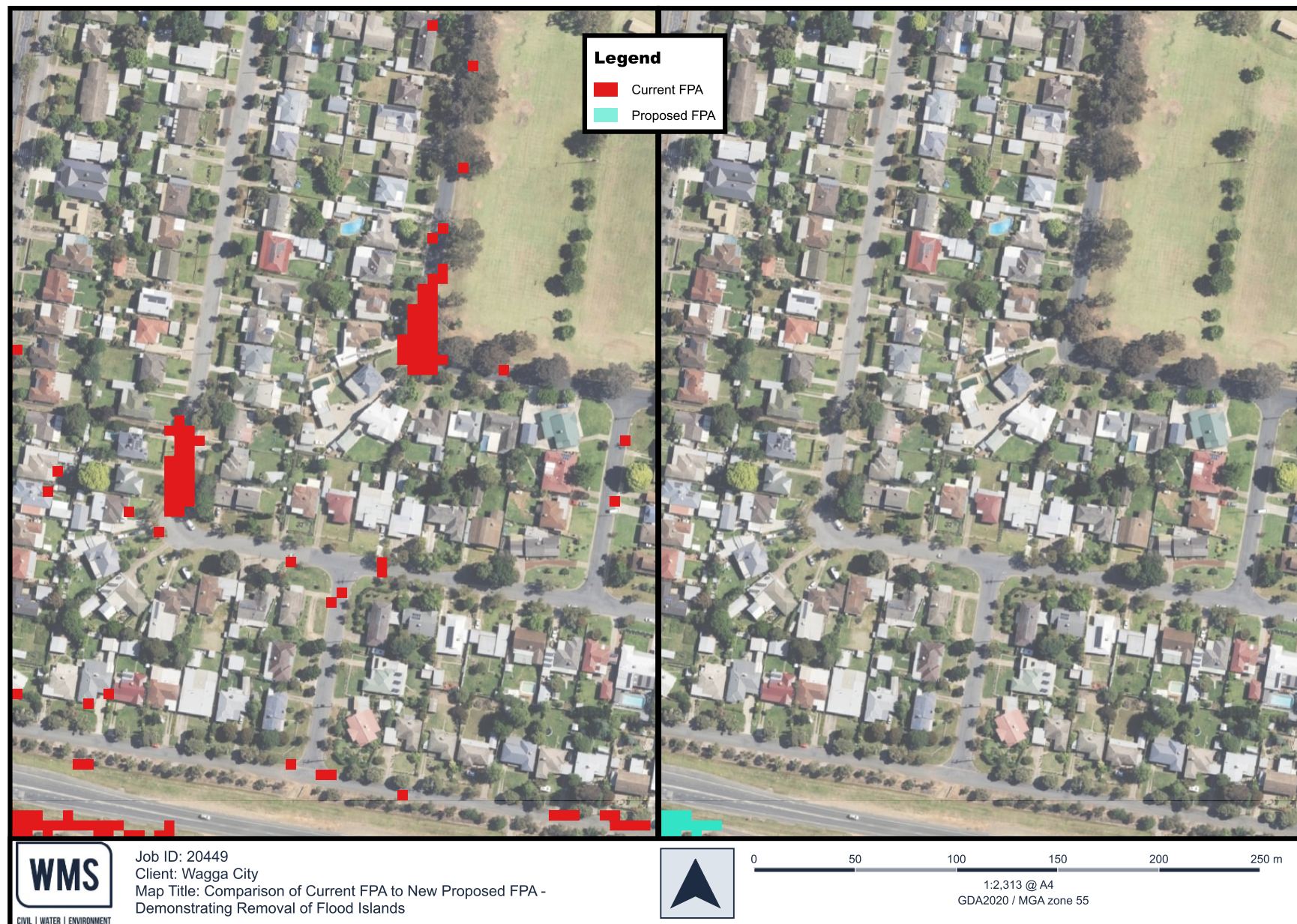
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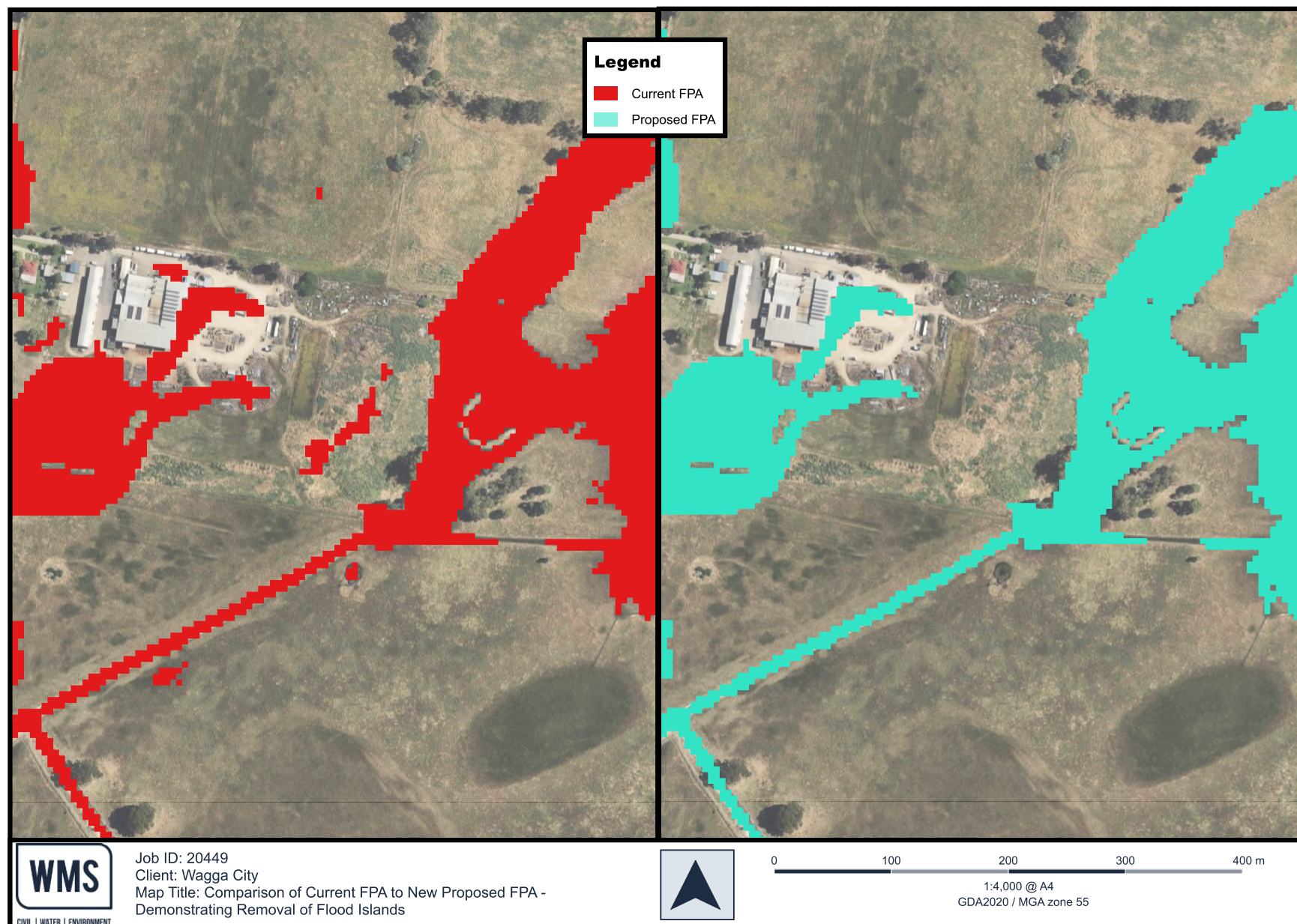


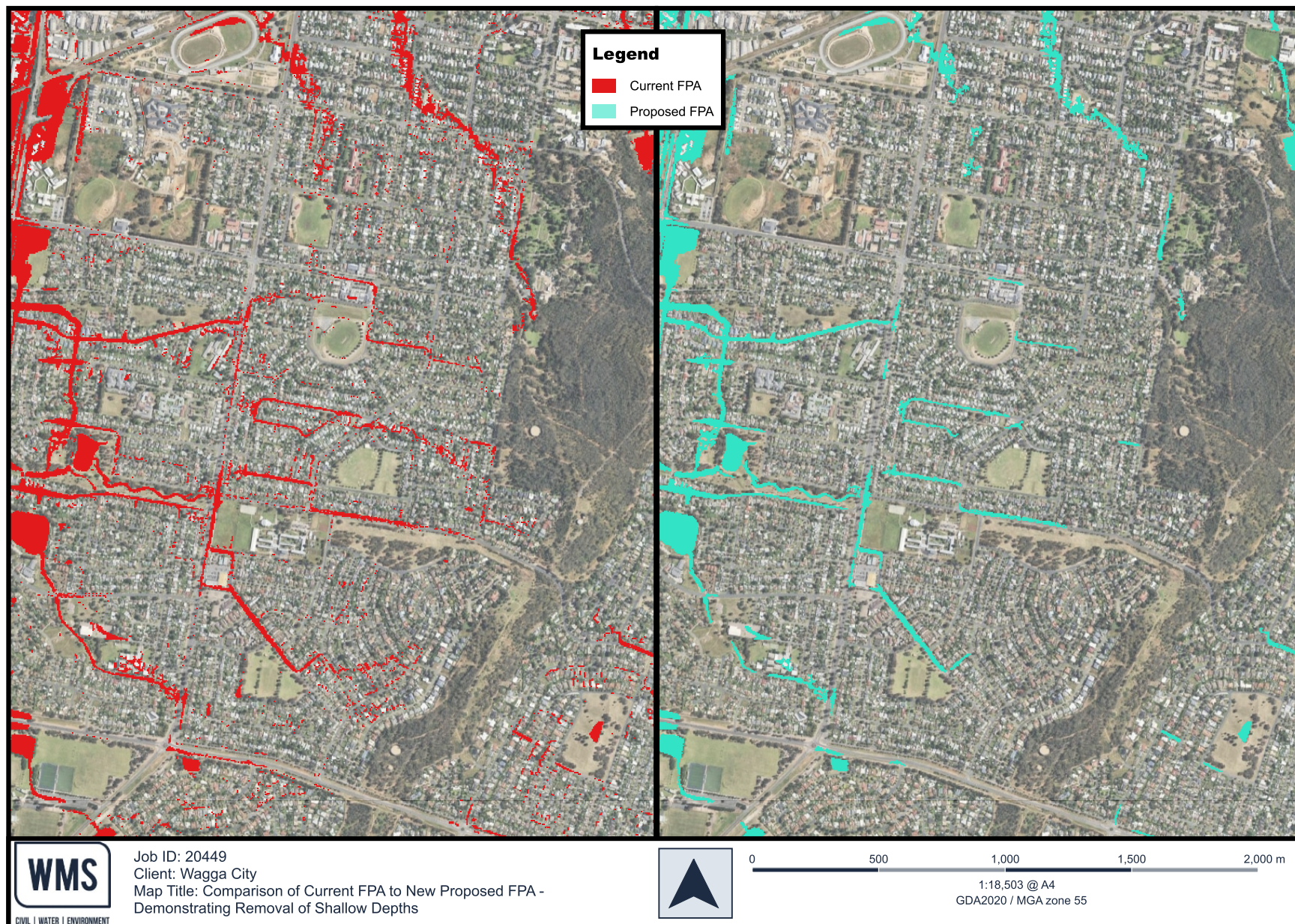
APPENDIX C: EXAMPLE CHANGES TO FPA MAPS

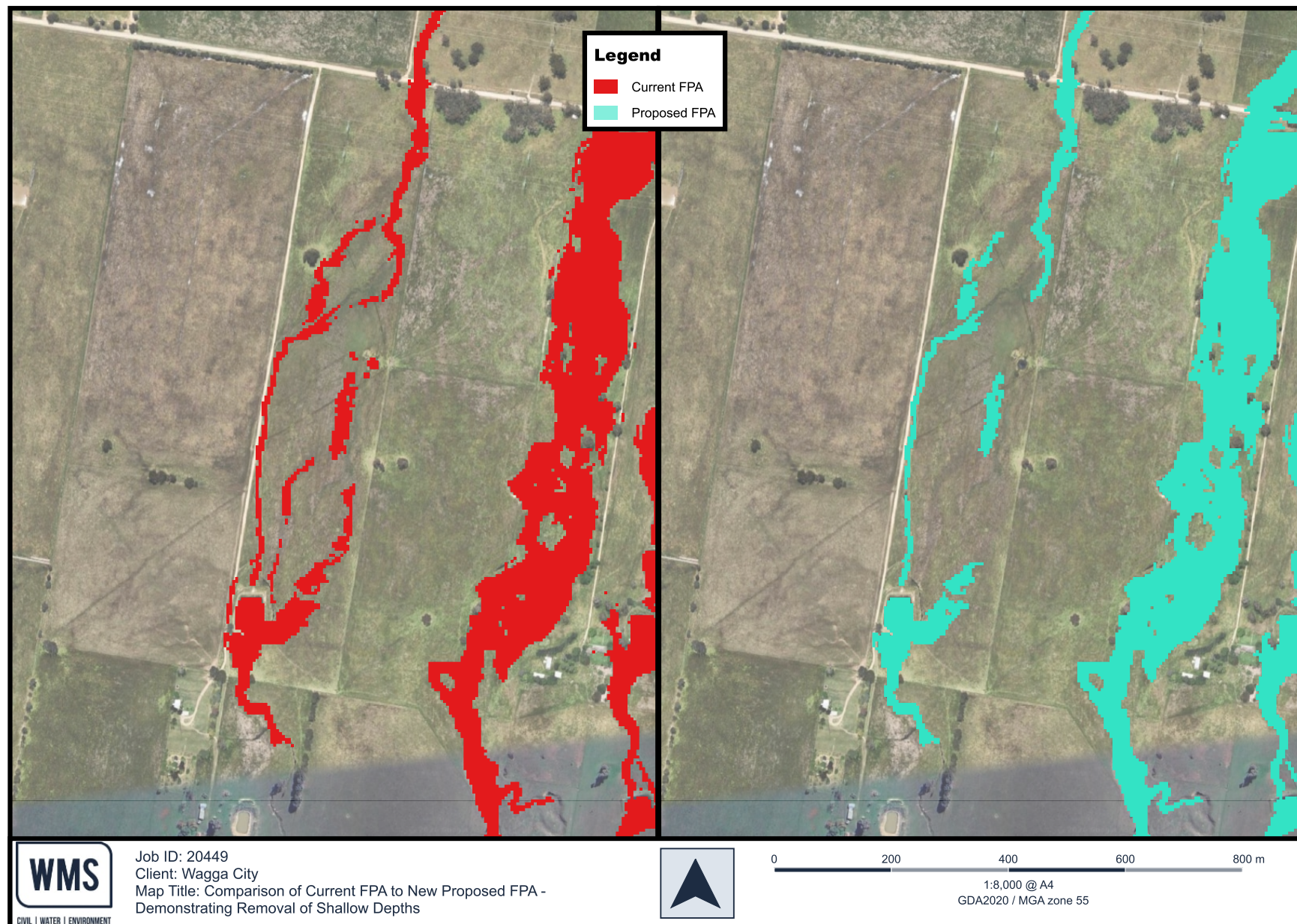
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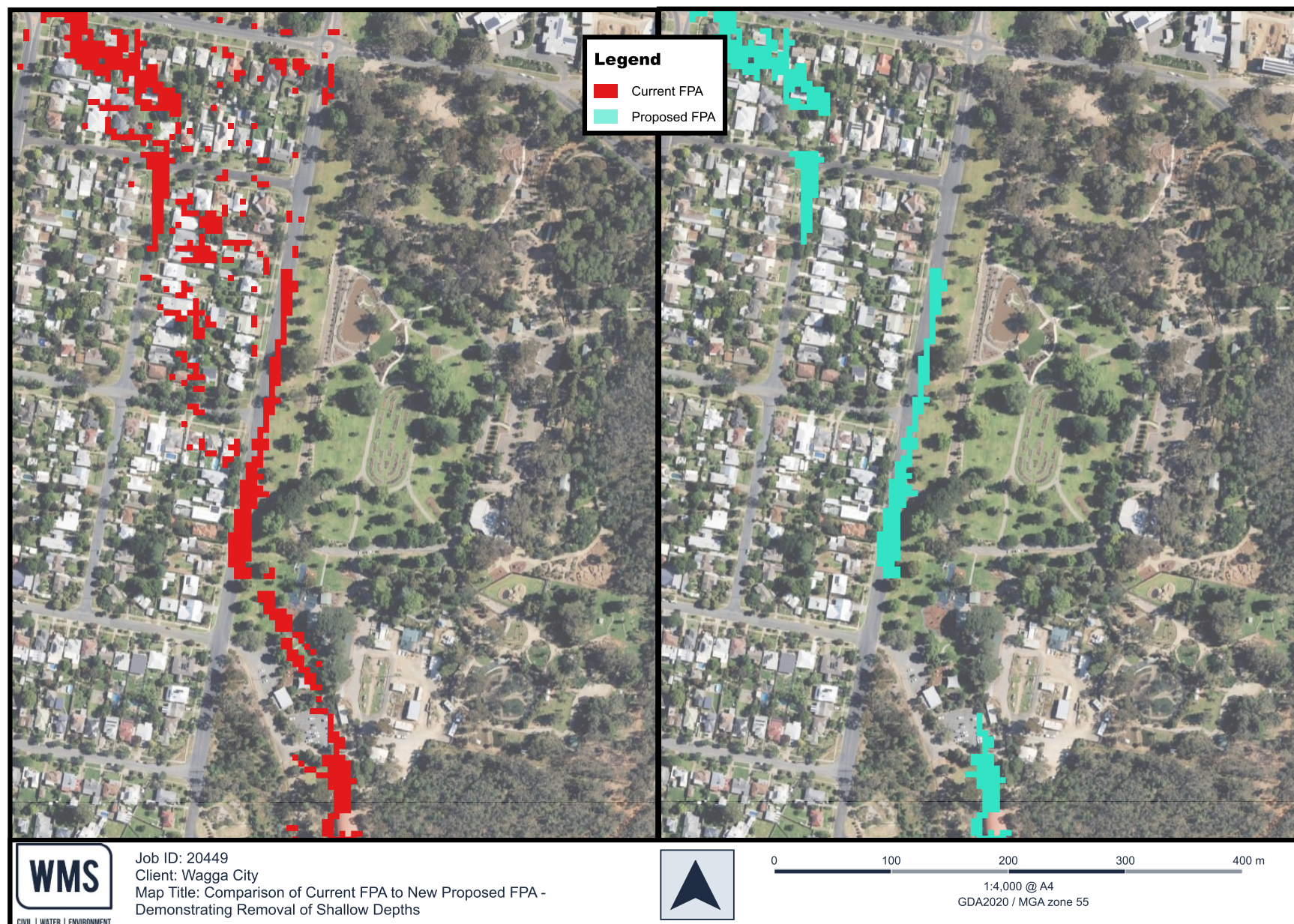












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RP-5 FLOOD PROJECT IMPLEMENTATION STATUS

Author: Andrew Mason
Director: Henry Pavitt

Summary: | This Report outlines the status of the flood projects across the
 | various studies that Council currently has underway.

Recommendation

That the Floodplain Risk Management Advisory Committee receive and note the report in relation to Flood Project Implementation Status.

Report

Council has over 80 recommendations from the recently completed studies and is working its way through the studies.

The spreadsheet tracking these projects is an attachment in the committee Shared Space.

Financial Implications

N/A

Policy and Legislation

N/A

Link to Strategic Plan

Safe and Healthy Community

Objective: Our community feel safe

Be responsive to emergencies

Risk Management Issues for Council

As outlined in the Report.

Internal / External Consultation

N/A

QUESTIONS WITH NOTICE

MINUTES of the **FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE** held on **Thursday 2 July 2026**.

PRESENT

The Mayor Councillor Dallas Tout (Chairperson)
Councillor Jenny McKinnon
Ros Prangnell
Patricia Murray
Austin Morris

IN ATTENDANCE

Scott Gray	Chief Operating Officer
Sam Robins	Senior Town Planner
Andrew Mason	Project Manager
Ruby Brodin	Executive Assistant (Minute Taker)

EXTERNAL MEMBERS

Joshua Stanbury	State Emergency Service (SES)
Steve Manwaring	Climate Change Energy Environment & Water
Brian Mahoney	Uranquinty Co-opted Community Member

APOLOGIES

Apologies for non-attendance was received and accepted by the Committee for General Manager, Mr Peter Thompson, Manager of Sewer and Stormwater, Mr Ray Graham and Manager Environment & Sustainability, Mrs Carly Hood.

The meeting of the Floodplain Risk Management Advisory Committee commenced at 8:59am.

ACKNOWLEDGEMENT OF COUNTRY

Wagga Wagga City Council acknowledges the traditional custodians of the land, the Wiradjuri people, and pays respect to Elders past, present and future and extends our respect to all First Nations Peoples in Wagga Wagga.

We recognise and respect their cultural heritage, beliefs and continuing connection with the land and rivers. We also recognise the resilience, strength and pride of the Wiradjuri and First Nations communities.

MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Thursday 2 July 2026.

CONFIRMATION OF MINUTES

CM-1 CONFIRMATION OF MINUTES - FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE - 14 APRIL 2026

Recommendation:

On the Motion of R Prangnell and P Murray

That the Minutes of the proceedings of the Floodplain Risk Management Advisory Committee Meeting held on 14 April 2026 be confirmed as a true and accurate record, noting Council's adoption of these minutes at its meeting of 11 May 2026.

CARRIED

DECLARATIONS OF INTEREST

No declarations of interest were received.

REPORTS FROM STAFF

RP-1 2021-22-FM-0032 - URANQUINTY LEVEE UPGRADE - INVESTIGATION AND DESIGN

Recommendation:

On the Motion of Councillor J McKinnon and R Prangnell

That the Floodplain Risk Management Advisory Committee receive and note the update provided in relation to the Uranquinty Levee Upgrade Project.

CARRIED

Brian Mahoney vacated the meeting the time being 9:12am.

RP-2 2022-FMP-0103 HUMULA AND MANGOPLAH FLOOD STUDIES

Recommendation:

On the Motion of A Morris and P Murray

That the Floodplain Risk Management Advisory Committee receive and note the update provided in relation to the Humula and Mangoplah Flood Studies Project and endorse the model and report to go on Public Exhibition.

CARRIED

MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Thursday 2 July 2026.

RP-3 17866- LEVEE SYSTEM UPGRADE - NORTH WAGGA

Recommendation:

On the Motion of P Murray and R Prangnell

That the Floodplain Risk Management Advisory Committee receive and note the update to the Levee System Upgrade – North Wagga.

CARRIED

RP-4 WWCC MOFFS FFL AMENDMENT REVIEW

Recommendation:

On the Motion of Councillor J McKinnon and R Prangnell

That the Floodplain Risk Management Advisory Committee receive and note that a detailed report is being prepared with the intent that it will be available for consideration at Septembers meeting.

CARRIED

RP-5 FLOOD PROJECT IMPLEMENTATION STATUS

Recommendation:

On the Motion of Councillor J McKinnon and P Murray

That the Floodplain Risk Management Advisory Committee receive and note the report in relation to Flood Project Implementation Status.

CARRIED

QUESTIONS WITH NOTICE

QWN-1 ERINGOARRAH GAUGE

Councillor D Tout requested that the Committee be provided an update on the status of the upgrade of the gauge at Eringoarrah.

The Floodplain Risk Management Advisory Committee rose at 9:41am.