



2 September 2025

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Southern Regional Planning Panel

Attention: Southern Regional Planning Panel

Dear Sir/Madam

DA-2023/849 – Halcyon Forest Reach Community- Bong Bong Road Huntley

Subject: Wollongong LEP Section 5.21: Flood Planning Compliance

The Southern Regional Planning Panel (Panel) has requested that the Applicant provide a comprehensive and consolidated update to the previously prepared **Table 4** within 'Attachment F – Updated MC FRMSP – SRPP Response'. In response, this submission provides an updated table that demonstrates compliance with clause 5.21 of *Wollongong Local Environmental Plan 2009* (WLEP). The table addresses each objective and consideration directly, supported by clear evidence with limited cross-referencing, consistent with the Panel's requirements.

Upon consideration of this letter, and previous advice provided through the assessment of the application, the Panel can be satisfied that the development as proposed is suitable for the land, that the development employs appropriate measures to manage flood risk, and that the development will not result in adverse impacts to the environment.

The following document primarily demonstrates compliance by referencing flood model results from the following two scenarios as defined in the NSW Department of Planning and Environment - Flood Risk Management Manual 2023.

- Defined Flood Event (DFE) - *The flood event selected as a general standard for the management of flooding to development.*
- Probable Maximum Flood (PMF) - *The largest flood that could conceivably occur at a particular location.*

Due to their relevance in asserting evidence of compliance, the flood maps that identify modelled flood depths for the DFE and PMF are included as **Figures 1 and 2**, alongside Impacts mapping in the DFE as **Figure 3**.

This response consolidates and briefly summarises the work undertaken for three documents provided to Council and the Panel:

- **Reference 1: Water Cycle Management Study (WCMS) Revision 2** - dated 10th October 2024, as submitted to Council in response to WCC RFI 1.
- **Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response'** - dated 16th June 2025, as submitted to the Panel in response to deferral.
- **Reference 3: 'Attachment A - Stormwater and Flooding Advice'** – dated 25th August, as submitted to the panel responding to Council's supplementary Assessment Report.

Together, these documents establish the technical foundation to satisfy the requirements of clause 5.21 of the WLEP, as summarised in this response.

Figure 1: Defined Flood Event (DFE) - The flood event selected as a general standard for the management of flooding to development

Proposed DFE Flood Depth
M107

Legend

-  Site Boundary
-  Halcyon Community
-  Existing Layout
-  Proposed Layout

Depths (m)

-  ≤ 0.15
-  0.15 - 0.3
-  0.3 - 0.5
-  0.5 - 1
-  1 - 1.5
-  1.5 - 2
-  2 - 4
-  > 4

0 60 120 180
1:3,000 At A3 Paper Size

M107 - DFE
Proposed
Revision Date: 02/09/2025

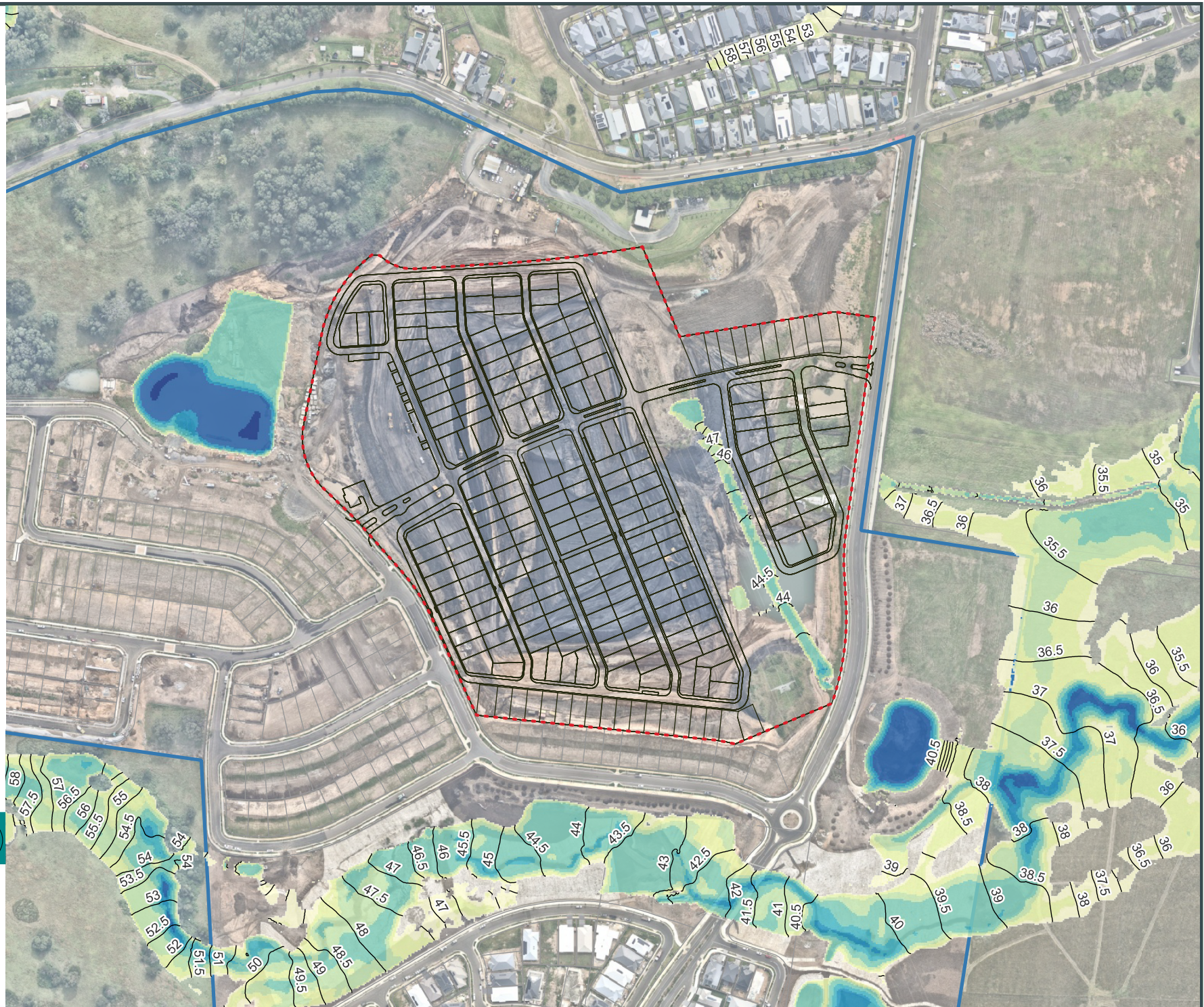


Figure 2: Probable Maximum Flood (PMF) - The largest flood that could conceivably occur at a particular location

Proposed PMF Flood Depth
M107

Legend

-  Site Boundary
-  Halcyon Community
-  Existing Layout
-  Proposed Layout

Depths (m)

-  ≤ 0.15
-  0.15 - 0.3
-  0.3 - 0.5
-  0.5 - 1
-  1 - 1.5
-  1.5 - 2
-  2 - 4
-  > 4

0 60 120 180
1:3,000 At A3 Paper Size

M109 - PMF
Proposed
Revision Date: 02/09/2025



Figure 3: Impacts Map (DFE) - Change in water level between pre developed and post developed scenarios

Proposed DFE Change in Water Level
M177

Legend

-  Site Boundary
-  Halcyon Community
-  Existing Layout
-  Proposed Layout
- Change in Water Level (m)
-  ≤ -1.00
-  $-1.00 - -0.50$
-  $-0.50 - -0.25$
-  $-0.25 - -0.10$
-  $-0.10 - -0.05$
-  $-0.05 - -0.02$
-  $-0.02 - -0.02$ (not shown)
-  $0.02 - 0.05$
-  $0.05 - 0.10$
-  $0.10 - 0.25$
-  $0.25 - 0.50$
-  $0.50 - 1.00$
-  > 1.00
-  Was wet, now dry
-  Was dry, now wet

0 60 120 180
1:3,000 At A3 Paper Size

M177 - DFE
Proposed
Revision Date: 02/09/2025





WLEP CLAUSE 5.21 PROVISIONS

The below table elaborates on the previously prepared 'Table 4', regarding WLEP Clause 5.21 Compliance, with the addition of clear evidence and limited and relevant cross referencing for completeness.

Wollongong LEP Clause 5.21 Objectives and Considerations

Objective	Response	Evidence
(1) The objectives of this clause are as follows:		
a) To minimise the flood risk to life associated with the use of land.	This objective has been satisfied. Commentary: The proposed development will result in all residential lots located outside of the floodplain, with flood free evacuation possible in all flood scenarios up to and including the PMF event. This is clearly demonstrated in Figure 2. All modelling presented to date indicates that no overbank flooding occurs within the site in all events up to the DFE. In the PMF, floodwaters may enter localised areas of the roadway at the west of the site, however, flood hazard levels remain H1 (considered safe for pedestrians and vehicles, per Wollongong DCP E13 Figure 3 – Combined Flood Hazard Curves) where adjacent to residential lots, ensuring risk to life is minimised.	Figure 1 - Proposed DFE Flood Depth Map Figure 2 - Proposed PMF Flood Depth Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 5-7 "Modelling Results" <i>Combined Flood Hazard Curves – Wollongong DCP E13</i>



Objective	Response	Evidence
	Figure 3: Combined Flood Hazard Curves (Smith et al., 2014)	
b) To allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change.	This objective has been satisfied. Commentary: Climate change is included through assessment of a DFE in line with the requirements set out in the Mullet Creek Floodplain Risk Management Study and Plan 2023. Specifically, the DFE is the 1% Annual Exceedance Probability (AEP) flood event combined with climate change factors, consideration of future riparian corridor vegetation growth and the blockage of pipes and culverts all within the one design event. Results of the DFE confirm the flood function is unchanged as a result of the proposed development with effective and reliable conveyance of floodwaters from the upstream wetland through the site as per the requirements of prior development approvals pertaining to the site. Key	Figure 1 - Proposed DFE Flood Depth Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 3 "Defined Flood Event" Prior WCC Approvals 'DA 2020-673' and 'SWC 2024/4'



Objective	Response	Evidence
	infrastructure that has been approved by Council and construction accepted include: -Downstream Culverts in Forest Reach Drive – DA 2020-673 (Central Precinct – south of LLC) -Upstream wetland and culvert crossing immediately adjacent to LLC – SWC 2024/4 (Northern Precinct – west of LLC) -Basin and spillway south east of site – DA 2020-673	
c) To avoid adverse cumulative impacts on flood behaviour and the environment.	This objective has been satisfied. Commentary: Flood impacts from the site have been assessed across a variety of storm events, with no off site impacts in exceedance of acceptable limits. Figure 3 above identifies proposed impacts in the DFE event, with no offsite impacts identified with the exception of the Forest Reach Drive culvert outflow. Impacts at this outflow are less than 50mm and isolated to the centre of the watercourse and are in accordance with WCC DCP Chapter E13 - 6.4.3: Prescriptive Controls. Furthermore, the flood impact assessment undertaken to date considers impacts of all Forest Reach master planned community approved infrastructure that has been constructed and accepted by Council to date. This ensures no cumulative impacts from the proposed development.	Figure 3 - Proposed DFE Flood Impacts Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 5-7 "Modelling Results" Reference 1: 'Water Cycle Management Study (WCMS) Rev 2'
d) To enable the safe occupation and efficient evacuation of people in the event of a flood.	This objective has been satisfied. Commentary: The proposed development will result in no residential lots located within the floodplain, with flood free evacuation possible in all flood scenarios up to and including the Probable Maximum Flood (PMF) event. Refer to Figure 2.	Figure 1- Proposed DFE Flood Depth Figure 2 - Proposed PMF Flood Depth Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response'



Objective	Response	Evidence
(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development:		
a) is compatible with the flood function and behaviour on the land, and	This objective has been satisfied. Commentary: The proposed development is centrally located within a master planned community and is outside of any riparian corridors or flood storage areas and does not encumber the flood function of the surrounding floodplain. There is an existing temporary swale through the site that connects floodwaters from the upstream wetland through the site for the progression of the Council approved bulk earthworks within the site. This swale is formalised in this development application in the form of a box culvert and swale profile. This proposed final form maintains the function of the temporary swale with all events up to the DFE conveyed through the site, as demonstrated in Figure 1.	Figure 1 - Proposed DFE Flood Depth Map Figure 2 - Proposed PMF Flood Depth Map
b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and	This objective has been satisfied. Commentary: Flood impacts from the site have been assessed across a variety of storm events, with no impacts occurring outside of the site in exceedance of the acceptable limits documented within WCC DCP Chapter E13 as a result of the proposed works. Figure 3 above identifies proposed impacts in the DFE event, and confirms no offsite impacts with the exception of the Forest Reach Drive culvert outflow. Impacts at this outflow remain less than 50mm and are isolated to the centre of the watercourse in accordance with WCC DCP Chapter E13 6.4.3: Prescriptive Controls.	Figure 3 - Proposed DFE Flood Impacts Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 5-7 "Modelling Results"
c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the	This objective has been satisfied. Commentary: The proposed development will result in no residential lots located within the floodplain, preventing additional burden on existing evacuation routes.	Figure 1 - Proposed DFE Flood Depth Map Figure 2 - Proposed PMF Flood Depth Map Figure 3 - Proposed DFE Flood Impacts Map



Objective	Response	Evidence
surrounding area in the event of a flood, and	No change in flood affectation of surrounding communities or their evacuation routes occurs as a result of the proposed development.	
d) incorporates appropriate measures to manage risk to life in the event of a flood, and	This objective has been satisfied. Commentary: The proposed development will result in no residential lots located within the floodplain, with flood free evacuation possible in all flood scenarios up to and including the PMF event. This is demonstrated in Figure 2. Flood related civil infrastructure located within the site is subject to safety design requirements consistent with Australian and industry standards, ensuring public safety is maintained in their vicinity during a flood event.	Figure 1 - Proposed DFE Flood Depth Map Figure 2 - Proposed PMF Flood Depth Map
e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses.	This objective has been satisfied. Commentary: The proposed development is centrally located within a wider master planned community development, with the entire site footprint already subject to a Council approved Bulk Earthworks DA (DA 2021/1401) which is near completion. All riparian and environmental interfaces, both from a flooding and conservation management perspective, have been constructed and not detrimentally impacted by the proposed development. The minor modification of the Central OSD (reconfiguration of rip rap spillway) basin results in works in the vicinity of a watercourse, which will require separate Controlled Activity Approval in accordance with National Resources Access Regulator (NRAR) guidelines, and are consistent with existing approved works, The civil plans include sediment and erosion control plans, adopting measures to manage construction works in accordance with Council requirements and Landcom's Blue Book as industry best practice.	Figure 3 - Proposed DFE Flood Depth Map Reference 1: 'Water Cycle Management Study (WCMS) Rev 2' Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 18 "Southeastern Basin Reconfiguration" <i>Prior WCC Approvals 'DA 2021/1401'</i>



Objective	Response	Evidence
(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters:		
a) the impact of the development on projected changes to flood behaviour as a result of climate change,	This objective has been satisfied. Commentary: Climate change has been included throughout the assessment of a DFE consistent with the requirements set out in the Mullet Creek Floodplain Risk Management Study and Plan 2023. Specifically, the DFE is the 1% AEP flood event combined with climate change factors, consideration of future riparian corridor vegetation growth and the blockage of pipes and culverts all within the one design event. Figure 3 above identifies proposed impacts in the DFE event, with no adverse offsite impacts identified with the exception of the Forest Reach Drive culvert outflow. Impacts at this outflow remain less than 50mm and are isolated to the centre of the watercourse in accordance with the requirements identified within WCC DCP Chapter E13 6.4.3: Prescriptive Controls.	Figure 1 - Proposed DFE Flood Depth Map Figure 3 - Proposed DFE Flood Depth Map Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response' – Page 3 "Defined Flood Event"
b) the intended design and scale of buildings resulting from the development	This objective has been satisfied. Commentary: Not applicable given proposed building structures are located outside of the floodplain. Furthermore, it is intended that the design and scale of the buildings within the site comply with relevant objectives relevant to the planning approval pathway for the site. This is demonstrated in Figure 2.	Figure 2 - Proposed PMF Flood Depth Map
c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood	This objective has been satisfied. Commentary: The proposed development results in no residential lots located within the floodplain, with flood free evacuation in all flood scenarios up to and including the PMF event. This is demonstrated in Figure 2. No overbank flooding occurs within the site in flood events up to and including the DFE, as demonstrated in Figure 1.	Figure 1 - Proposed DFE Flood Depth Map Figure 2 - Proposed PMF Flood Depth Map



Objective	Response	Evidence
d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.	This objective has been satisfied. Commentary: Not applicable with all proposed building structures and dwellings located outside of the floodplain This is demonstrated in Figure 2.	Figure 2 - Proposed PMF Flood Depth Map



CONCLUSION

In response to the Panel's requested actions, this submission provides a consolidated update to the previous WLEP Flood Compliance response (Table 4 of Attachment F) which satisfies the objectives of Clause 5.21 of the Wollongong LEP. This response consolidates and summarises the findings of the three referenced documents provided to Council and the Panel:

- **Reference 1: Water Cycle Management Study (WCMS) Revision 2** - dated 10th October 2024, as submitted to Council in response to WCC RFI 1.
- **Reference 2: 'Attachment F – Updated MC FRMSP – SRPP Response'** - dated 16th June 2025, as submitted to the Panel in response to deferral.
- **Reference 3: 'Attachment A - Stormwater and Flooding Advice'** – dated 25th August, as submitted to the panel responding to Council's supplementary Assessment Report.

The updated Table 'Wollongong LEP Clause 5.21 Objectives and Considerations' demonstrates that the objectives of Clause 5.21 are satisfied for the proposed development. Accordingly, the Panel can be satisfied that the relevant considerations relating to flood risk management and planning are addressed and can form the view that a favourable development consent can be issued, subject to the imposition of appropriate conditions previously provided.

Yours faithfully,

Maker ENG