

1 August 2025

Perception Planning
Attn: Erin Daniel
By email

Dear Erin,

Re - Response to Request for Further Information (30 July 2025) – Planning Proposal for Land Rezoning at 16 George Street and 21 Coxs Lane, Fullerton Cove

Martens & Associates Pty Ltd (**MA**) have prepared this letter in response to the Request for Further Information (**RFI**) letter received on 30 July 2025 from Fairfield City Council (the **Council**) in relation to the Planning Proposal to rezone subject land from RU2 Rural Landscape to R3 Medium Density Residential and C3 Environmental Management at 16 George Street, Fullerton and 21 Coxs Lane, Fullerton Cove (the **Site**).

A response to the flooding-related matters raised in the Council's RFI is provided in Table 1.

Table 1. MA Response to RFI

Item	Council's Comment	MA Response
1	- The report shows that the climate change scenario adopted in this assessment includes: 0.9 m sea level rise by 2100, and 20% increase in rainfall intensity, in accordance with -ARR1987 - The latest ARR guidelines on climate change has now included rainfall factors for climate change scenarios. This would have a significant change in design rainfall and as result on the FPL. In relation to climate change, Council requires the following to be considered: - Utilise temperature projections based on SSP2-4.5 as the basis for a scaling approach to design rainfalls taking into account the design service life of the stormwater infrastructure being modelled / designed. - Given that the SSP projections are plausible scenarios that represent future climate uncertainty the modelling should also include sensitivity testing and analysis (in accordance with the principles outlined in ARR, particularly Book 7 chapter 7) utilising	- The TUFLOW model used in the Flood Impact Assessment (MA FIA) prepared by Martens & Associates is based on the Williamstown-Salt Ash Floodplain Risk Management Study and Plan (BMT FRMS), conducted by BMT (2017). This study remains the most recent Council-adopted flood study and forms the basis of Council's current flood mapping and the flood certificate issued on 18 March 2025. - Based on the findings from the BMT FRMS, the peak flood levels across the Williamstown-Salt Ash floodplain, including the subject site, are dominated by regional Hunter River flooding, with minimal contribution from local catchment runoff. The BMT FRMS adopted a coincident event approach, combining Hunter River flows at the 1% AEP, local catchment inflows at the 10% AEP, and a sea level at the 50% AEP, for determination of the Flood Planning Level (FPL). - The BMT FRMS assessed Hunter River flows using an updated flood frequency analysis and retained local catchment hydrology based on ARR1987 IFD data, as this does not materially affect flood levels driven by Hunter River flooding. A consistent modelling approach has been adopted in the MA FIA. As stated in the BMT FRMS, any update to IFD 2016 rainfall data for the local catchment would not

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	temperature projections based on SSP3-7.0 to understand any potential impacts and enable informed risk assessments to be undertaken for infrastructure with a long-term design service life. - Existing flows and flood levels (pre-development flows) are to be calculated using present day rainfall data. Future flood levels (Climate Scenarios), post-development flows are to be calculated using present day rainfall data scaled up using climate change factors SSP2-4.5, and SSP3-7.0 for sensitivity analysis. This would change the FPL for the area. - The Flood Impact Risk Management Report shows that inflow hydrographs for each sub catchment were generated using XP-RAFTS, based on ARR87 methods and using 1987 rainfall intensities. Applicant must demonstrate that the hydrological and hydraulic calculations for FIRA is to be carried out based on latest ARR 2019 intensities and climate change scenarios. This would change the FPL of the development area. - Section 3.5 of the Flood Impact Risk Management Report to be reviewed and updated: - Item 1: 1% AEP event - report says that the site is unaffected by 1% AEP flood event except for a small area at the north western corner. This level is based on ARR87 and not the ARR 19 design intensities. - Item 2: 1% AEP event with climate used the ARR 87 design intensities, rather than the release of ARR 23 data for climate change scenarios. Require to review this for latest climate change scenarios.	materially affect the peak flood level or FPL of the study area. Further sensitivity analyses could be undertaken to verify this. - In relation to the latest ARR 2019 (Version 4.2) guidelines, for consideration of FPL determination based on SSP2-4.5, the BMT FRMS has already adopted a 20% increase in flows. This is generally consistent with applying a 1.21 multiplier based on ARR 2024 (see extract below from the latest online data hub) for the Hunter River flow identified in the BMT FRMS report. Therefore, the FPL adopted in the MA FIA is considered appropriate. SSP2-4.5 <table><tr><th>Year</th><th><1 hour</th><th>1.5 Hours</th><th>2 Hours</th><th>3 Hours</th><th>4.5 Hours</th><th>6 Hours</th><th>9 Hours</th><th>12 Hours</th><th>18 Hours</th><th>>24 Hours</th></tr><tr><td>2030</td><td>1.18</td><td>1.17</td><td>1.16</td><td>1.14</td><td>1.13</td><td>1.12</td><td>1.12</td><td>1.11</td><td>1.1</td><td>1.1</td></tr><tr><td>2040</td><td>1.22</td><td>1.2</td><td>1.19</td><td>1.17</td><td>1.16</td><td>1.15</td><td>1.14</td><td>1.13</td><td>1.12</td><td>1.12</td></tr><tr><td>2050</td><td>1.27</td><td>1.24</td><td>1.23</td><td>1.21</td><td>1.19</td><td>1.18</td><td>1.17</td><td>1.16</td><td>1.15</td><td>1.14</td></tr><tr><td>2060</td><td>1.3</td><td>1.27</td><td>1.25</td><td>1.23</td><td>1.21</td><td>1.2</td><td>1.19</td><td>1.18</td><td>1.16</td><td>1.16</td></tr><tr><td>2070</td><td>1.33</td><td>1.3</td><td>1.28</td><td>1.26</td><td>1.24</td><td>1.22</td><td>1.21</td><td>1.19</td><td>1.18</td><td>1.17</td></tr><tr><td>2080</td><td>1.37</td><td>1.33</td><td>1.31</td><td>1.28</td><td>1.26</td><td>1.24</td><td>1.22</td><td>1.21</td><td>1.2</td><td>1.19</td></tr><tr><td>2090</td><td>1.4</td><td>1.36</td><td>1.34</td><td>1.31</td><td>1.28</td><td>1.26</td><td>1.24</td><td>1.23</td><td>1.21</td><td>1.2</td></tr><tr><td>2100</td><td>1.41</td><td>1.37</td><td>1.35</td><td>1.32</td><td>1.29</td><td>1.27</td><td>1.25</td><td>1.24</td><td>1.22</td><td>1.21</td></tr></table> - The following additional scenarios could be undertaken to provide full coverage in line with Council's request. While we agree to update the modelling to include these for completeness, we note that none of these are expected to materially affect the FPL as assessed in the current MA FIA, given the dominant influence of Hunter River flooding, as previously discussed. The proposed additional scenarios are: - Present-day rainfall data - Present-day rainfall data scaled using climate change factors for SSP2-4.5 (design scenario and for FPL assessment - Present-day rainfall data scaled using climate change factors for SSP3-7.0 (for risk assessment/sensitivity testing).	Year	<1 hour	1.5 Hours	2 Hours	3 Hours	4.5 Hours	6 Hours	9 Hours	12 Hours	18 Hours	>24 Hours	2030	1.18	1.17	1.16	1.14	1.13	1.12	1.12	1.11	1.1	1.1	2040	1.22	1.2	1.19	1.17	1.16	1.15	1.14	1.13	1.12	1.12	2050	1.27	1.24	1.23	1.21	1.19	1.18	1.17	1.16	1.15	1.14	2060	1.3	1.27	1.25	1.23	1.21	1.2	1.19	1.18	1.16	1.16	2070	1.33	1.3	1.28	1.26	1.24	1.22	1.21	1.19	1.18	1.17	2080	1.37	1.33	1.31	1.28	1.26	1.24	1.22	1.21	1.2	1.19	2090	1.4	1.36	1.34	1.31	1.28	1.26	1.24	1.23	1.21	1.2	2100	1.41	1.37	1.35	1.32	1.29	1.27	1.25	1.24	1.22	1.21
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2	- Future flood affectation – any filling of north western area of site may impact the surrounding properties. It is important to model this filling and assess the impact on adjacent properties. The report does not address the impact of filling on adjacent properties. - Flood maps showing fill area and flood extent, depth variation on adjacent properties are to be submitted for assessment.	No filling is currently proposed as part of this planning proposal. However, the proposed area rezoned for R3 in the north-western area of the site could either be revisited to avoid encroaching into the Flood Planning Area or be subject to proposed filling above the FPL, supplemented by additional modelling to assess the potential flood impact on adjacent properties. This would include updated flood extent and depth variation mapping to address Council's requirements.																																																																																																			

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3	The model identified that George Street and Coxs Lane road becomes impassable during the 1% AEP with climate change and PMF events due to overtopping. Even though, there is sufficient warning time, this area will cut off for long period of time. Residents cannot enter or exist for the development area for long period of time. Applicant must demonstrate how long the area will be cut off during extreme flood events and PMF. Explore a range of options for flood free access, in discussion with Council staff, with identification of the preferred option and delivery mechanism and timing included in the revised planning proposal	As the site is affected by prolonged regional flooding from the Hunter River, further PMF modelling across a full range of durations could be undertaken to assess inundation timing. Hydrograph outputs covering the full range of durations from the regional Hunter River flood model are required and would need to be obtained from Council. These hydrographs were used in the BMT FRMS (2017) and in earlier BMT studies completed in 2005 and 2012 for the Williamstown-Salt Ash Floodplain. Currently, only the critical duration hydrograph is available from the BMT FRMS (2017) model file provided by Council. The full range is necessary to complete the required assessment. Further engagement with Council could be undertaken to explore feasible options for flood-free access or evacuation and to identify a preferred solution for inclusion in the planning proposal.

If you require any further information, please do not hesitate to contact our offices.

For and on behalf of

MARTENS & ASSOCIATES PTY LTD



STANLEY LEUNG

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Principal Civil Engineer / Project Manager