

Addendum – Specialist input: Healthy Waters

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Subject: FTA111 – Milldale Stages 4C and 10 - 13 Fast Track – Auckland Council
Application Reference: BUN60446761

Date: 01 September 2025

1. INTRODUCTION

- 1.1. This Addendum provides additional comments from Healthy Waters (**HW**) on the revised information provided by the Applicant on 6th August 2025 in respect of stormwater aspects of the Milldale Stage 4C and Stages 10-13 Fast Track approval application.

Documents Reviewed

- 1.1 The following documents received from the Applicant on the 6th August 2025 have been reviewed in preparing this Addendum:
- Appendix 7A – *Milldale Stages 10 -13, Civil Engineering - Response Overview Report*
 - Appendix 7Ai – Memorandum: Milldale Fast-Track - 4C - Response to Council Feedback
 - Appendix 7B – Engineering Drawings, Part 1 to Part 9
 - Appendix 7C – Flood Assessment, Milldale Fast Track Application, Milldale Stages 10 - 13

- Appendix 7D – Stormwater Models Issue Memo, Milldale Fast-track Application
- Appendix 7H – Survey Response Memo, Milldale Fast Track Application, Milldale Stages 10 - 13
- Appendix 7I – Stream Erosion Assessment, Milldale Fast Track Application – Stages 10-13
- Appendix 7V - Milldale - Comments Received on Conditions of Consent from Auckland Council
- Volume 8 – Milldale Stages 10 – 13, 4C and WWTP Updated Conditions of Consent

1.2 The following additional documents received from the Applicant on the 22nd August 2025 have been reviewed in preparing this Addendum:

- Response Letter – *Milldale Stages 4C, 10 – 13 – Applicant’s Response to Further Information Request (File Ref: FTAA-2503-1038)*
- Attachment 1 – Engineering Memorandum – Compliance with the Auckland Council Stormwater Network Discharge Consent (NDC) and the Wainui East Stormwater Management Plan
- Attachment 4 – Volume 8: Milldale Stages 10 – 13, 4C and WWTP Updated Conditions of Consent – Revised 22 August 2025

2. ASSESSMENT

HW Memorandum Summary – 29th July 2025

2.1. HW’s key assessment findings are outlined within the Memorandum dated 29th July 2025 including within the Executive Summary, and in Section 3 in more detail. Recommendations are outlined within Section 4 of the HW Memorandum. In brief areas of concern included:

Resource Consent Matters

- **Management of Overland Flow:** Several Overland Flow Paths (OLFP) are proposed to be conveyed within the proposed public road corridors. Although this approach is generally supported, there are several locations (with reference to the provided OLFP cross-section information) that had shown the acceptable design safety criteria being considerably exceeded. This presents high flood hazards and risks to people, property. It was requested that the design was amended to demonstrate compliance with Auckland Council’s safety criteria for depth, velocity, and hazard rating.
- **Vesting of Land:** Stormwater assets and associated land were proposed to be vested as ‘*Local Purpose (Drainage) Reserve*’. Healthy Waters preference is for any land intended to be vested as ‘*Land in Lieu of Reserve – for Drainage Purposes*’.
- **Riparian Setbacks:** The site’s stream network is expected to adjust (widen, deepen, meander) in response to urbanisation. Due to steep slopes and erosive in-situ soils, hydrology mitigation and riparian planting alone may not prevent erosion

or protect stream health in the long term. A minimum of 20m, and ideally 30–50m, of riparian planting is recommended, particularly in steep or sensitive areas. A Geomorphic Risk Assessment was sought to identify appropriate riparian widths.

- **Flood Management and Modelling:** The Applicant's Engineer has proposed to pass forward flows from the development, meaning attenuation of events up to and including the 1% AEP event is not proposed. To enable verification and support of the proposed pass forward approach, HWFR requested a full copy of the Applicant's stormwater model, including all pre- and post-development scenarios. This is necessary to confirm the modelling assumptions and assess potential flooding effects including the Wainui Road bridge itself, the properties downstream between the bridge and Lysnar Road, and the private property at 147 Argent Lane located between Stages 11 and 12.

Engineering Plan Approval Matters

- **Public Devices (Operation and Design):** The Application proposes a range of public stormwater management devices, including dry basins, intended for vesting to Auckland Council. HWFR sought further information to demonstrate that the proposed public devices have been consolidated as much as practicable, are of the most appropriate type (e.g. dry basin, wetland, etc.) and have been designed with sufficient space available to enable operation and maintenance activities to be carried out in accordance with Council standards, guidelines, and requirements. Several proposed new public stormwater lines were shown to be located within the rear yards of private lots, often at the base of earth-reinforced slopes. HWFR had significant concerns about the long-term maintenance and access implications of the proposed network layout in these instances.
- **SMAF 'offset' Approach:** The Application proposed the use of an 'offset' approach to manage hydrology mitigation across relatively large catchment areas, including some that discharge directly to the stream environment. This approach is not supported by HWFR. While offset mitigation may be considered a Best Practicable Option in isolated cases (such as small, constrained catchments where onsite treatment would require impractically small and unmaintainable roadside devices) justification of this approach had not been provided.
- **Vesting of Land:** It was proposed to vest land containing stormwater management devices. The supporting documents did not sufficiently demonstrate whether the extent of the land proposed to vest is appropriate and will deliver additional public benefit that could not otherwise be achieved through private ownership and maintenance. Justification was sought for the extent and location of land proposed for vesting, including evidence that the land delivers essential stormwater function as well as wider public benefit.

- 2.2. Comments on the Applicant's proposed conditions were provided in **Appendix A** of the HW Memorandum. Additional conditions sought, if the Panel is minded to grant approval, were provided in **Appendix B** of the Memorandum.

Revised Information

- 2.3. HWFR areas of concern have been responded to by the Applicant within the additional information provided on the 6th August 2025 and the 22nd August 2025. Appendix 7V of the additional information from the Applicant includes a response to comments on the conditions of consent provided by HW.

Outstanding Issues

- 2.4. Following review of the further information received from the Applicant, the key areas of concern have been updated as summarised below:

Resource Consent Matters

- **Management of Overland Flow:** An Overland Flow Path Memorandum has been provided by the Applicant within Appendix 7A, supported by overland flow path engineering drawings in Appendix 7B. The proposed management of overland flow paths (OLFPs) using strategic spill points to divert flows into the adjacent stream corridors is supported in principle. This will require detailed design to be completed at Engineering Plan Approval stage and due to the anticipated complexity of the design and implementation, a new, additional condition requiring OLFP as-built plan is recommended and has been included within **Appendix A** of this memo.

The updated plans show that the OLFPs generally comply with the Auckland Transport roadway flow safety design criteria (Transport Design Manual, Road Drainage, Table 3). However, the calculations lack clarity on the assumptions made to calculate the peak flows, including primary network blockages. There is also a concern that the OLFPs sections included in the analysis and engineering plans are not representative of the critical locations. For example, for Section S-S (drawing P24-128-00-3036-DR) the critical location would be further upstream, where the OLFP is contained within the road corridor and not spilling over into adjacent reserves. There is a risk that compliance with the relevant Council safety requirements cannot be achieved at this location. On this basis, a further additional condition has been recommended and has been included within **Appendix A** of this memo, to ensure final overland flow path report is prepared prior to Engineering Plan Approval that demonstrates compliance with Council standards.

- **Vesting of Land:** The Applicant has provided a Survey Response Memorandum as Appendix 7H which recommends that vesting is completed under Reserves Act 1977 as *Local Purpose (Drainage) Reserve* on the basis that this will provide clarity for future management. HWFR will not accept land proposed to be vested as *Local Purpose (Drainage) Reserve* but will accept land would be vested as *Land in Lieu of a Reserve* (as opposed to '*Land in Lieu of Reserve – for Drainage Purposes*').

On this basis, the Applicant must update the proposed scheme plan to replace all proposed *Local Purpose (Drainage) Reserve* land with *Land in Lieu of a Reserve*.

Based on the further information provided by the Applicant, HWFR can confirm that Lot 6001, Lot 6002 and Lot 6022 will not be accepted in public ownership. This land is not critical to be maintained in public ownership to provide a primary stormwater function and can remain in private ownership. Auckland Council Community Facilities have also indicated that this land has low activation potential with limited engagement or passive activation and minimal contribution to surrounding connections. Proposed scheme plans must be amended to include this land as private. Operation and maintenance obligations for this land will be on the private landowners.

- **Riparian Setbacks:** The Stream Erosion Assessment, Appendix 7I has been reviewed. In Section 6 it is outlined that *“more than 20m of stream riparian margin has been provided for all streams which is considered suitable width to allow adjacent property and infrastructure to be well set back from the stream and associated flood plains.”* HWFR supports this statement.
- **Stream Erosion Assessment:** In response to the Stream Erosion Assessment provided as Appendix 7I, HWFR agrees with the conclusion that streams in proposed development area are dynamic. Presented mitigation options, including planting, providing for riparian margin greater than 20m, instream natural based solution plus engineering measures, are supported.
- **Flood Management:** HWFR have carried out a review of the hydraulic model provided and now raise several items which require clarification and action. **Appendix B** of this memo includes detailed model review comments. Comments raised are required to be addressed to enable HWFR to confirm that the proposed ‘pass-forward’ approach (not providing peak flow attenuation) will not increase the flood hazard and risk to downstream properties and infrastructure. On this basis the stormwater model review and flood risk and nuisance conditions are recommended to remain.

It is important to note that the peak post-development 1% AEP flood levels at the Wainui Bridge exceed the minimum freeboard requirements and Applicant’s consultation with the asset owner is also recommended.

- **Vesting of Land:** The Applicant has provided further information on the proposed public reserves in Appendix 7A and Appendix 7B.

Excluding Lots 6001, 6002 and 6022, which will not be accepted as public land, the remaining public reserves have been identified by Auckland Council Community Facilities as having (refer Figure 1):

- High Positive Activation: Strong engagement with surrounding areas and well-integrated connections; or
- Moderate Activation: Functional and beneficial activation, particularly between vested lots.

Lots identified as having Moderate Activation are generally surrounded by public roads and footpaths and are disconnected from private land. In principle, these can be considered for public ownership. Lots identified as having high positive activation are achieving both stormwater and public benefit functionality and can also be considered for public ownership. Matters such as the final form, treatment, and long-term maintenance implications of the land still require further assessment which will need to be addressed at Engineering Plan Approval.

HWFR is under no obligation to accept this land where the minimum requirements set by the relevant Council standards, guidelines and codes of practice have not been met to the satisfaction of HWFR.

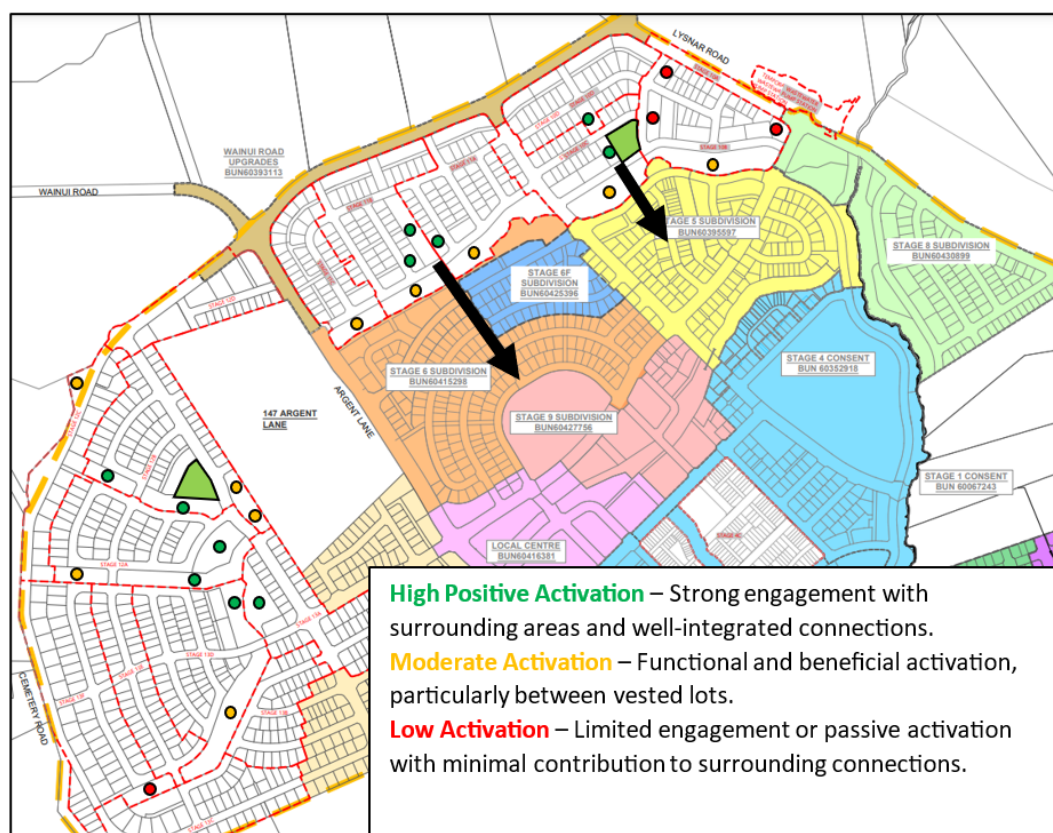


Figure 1 – Public reserve activation, reproduced from Auckland Council Community Facilities memo dated 16/05/2025

Engineering Plan Approval Matters

- **Public Devices (Operation and Design):** The Applicant has provided updated engineering drawings as Appendix 7B which now show public stormwater pipe networks located out of the rear yards. A statement was also provided within Appendix 7Ai clarifying that this can be finalised at Engineering Plan Approval. This is supported by HWFR.

The updated engineering drawings show further details for the proposed dry basis. This includes location of maintenance tracks and access. However, it is important

to note that these are not in accordance with *Auckland Council Stormwater Management Devices in the Auckland Region Guideline Document 001* (GD01), which requires 3.5m maintenance track around the perimeter of the device and access with maximum longitudinal grade of 1 in 8. No further detail has been provided to support the proposed departure from standard (e.g. details on vehicle and machinery access including tracking curves). On this basis, HWFR cannot confirm that sufficient space has been provided to accommodate the necessary operation and maintenance activities without incurring significant traffic management and establishment costs. HWFR recommends that the Applicant updates the design of the dry basis so that they are compliant with GD01 requirements. Any approvals of departures from design standards are at the discretion of HWFR and devices which cannot be practicably maintained will not be accepted in public ownership.

- **SMAF 'offset' Approach:** An Offset Detention Memorandum has been provided by the Applicant's Engineers within Appendix 7A. The Memo uses a concept example for the comparative assessment of the storage volumes and runoff flow rates between the SMAF compliant and the 'offset' mitigation approach. The Memo provides a summary of the total SMAF volume provided by the development and the volumes provided by each device, noting that some devices achieve just over 50% of the required volume. The analysis provides a good baseline, however due to the lack of site-specific analysis it is not considered adequate to demonstrate that the proposed 'offset' approach can meet the outcomes required by the SMAF provisions and the SMP. Further clarifications for the proposed 'offset' mitigation approach was provided by the Applicant's Engineers in the Engineering Memorandum – Compliance with the Auckland Council Stormwater Network Discharge Consent (NDC) and the Wainui East Stormwater Management Plan, dated 22 August 2025. The memorandum relies on resource consents that were granted for previous stages within the wider Milldale development, however it does not provide further justification on the Best Practicable Option for the development under this consent. On this basis, an updated condition of consent is recommended to ensure that the Applicant will provide further analysis that will include a comparative analysis of stream flows within Stream 21 between a SMAF compliant and proposed 'offset' mitigation approach for a range of rainfall events to demonstrate compliance with the SMP and be authorized under the NDC.

Additional Conditions

- 2.5. Initial comments on the Applicant's proposed stormwater related conditions, as well as on additional conditions sought, if the Panel is minded to grant approval, were provided as **Appendix A** and **Appendix B** respectively of the HW Memorandum dated 29th July 2025. Following a review of the revised information provided by the Applicant, further conditions are now recommended. These are included in **Appendix A** of this

addendum, alongside comments, amendments, and additional conditions recommended in the HW memorandum dated 29th July 2025.

- 2.6. The Applicant's documents provided on 22nd August 2025 did not respond to the HW Addendum dated 15th August 2025. Therefore, the conditions contained in **Appendix A** remain unchanged.

APPENDIX A: CONDITIONS REGISTERS

PROPOSED CONDITIONS COMMENTS REGISTER

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
Stages 10-13 General Conditions of Consent BUN 200				
1	Activity in accordance with application The proposal must be carried out in general accordance with the plans and all information submitted with the application, as detailed below and referenced by the Council under consent numbers [BUN 200]: <ul style="list-style-type: none"> a) Application Form and Assessment of Environmental Effects prepared by Woods and B&A, dated 28 February 2025; and b) Reports and Drawings as listed in Section 2.6. 	No objection, standard condition.	Noted	-
Stages 10-13 Subdivision Conditions of Consent SUB 201				
80	Land to Vest in Council Lots 6000-6022 on the approved resource consent subdivision plans referenced in Condition 1 must vest in the Council as a Local Purpose (Drainage) Reserve. The Consent Holder must meet all costs associated with the vesting of the Local Purpose (Drainage) Reserves.	Areas proposed for vesting must be offered as ' <i>Land in Lieu of Reserve – for Drainage Purposes</i> '. Amendments are proposed as follows. Land to Vest in Council Lots 6000-6022 on the approved resource consent subdivision plans referenced in Condition 1 must vest in the Council as a Local Purpose (Drainage) Reserve <i>Land in Lieu of Reserve – for Drainage Purposes</i> . The Consent Holder must meet all costs associated with the vesting of the Local Purpose (Drainage) Reserves <i>Land in Lieu of Reserve</i> . <u><i>Advice note:</i></u> <u><i>Detail on the final extent of land proposed to be vested must be agreed by Council prior to lodgment of Engineering Plan Approval</i></u>	Disagree Refer to Volume 7 for response to this matter. For consistency reasons, the reserve classification should remain the same as previous Milldale stages. There is no ability to vest land as Land in Lieu of Reserve for drainage purposes. This will not be accepted by LINZ as it not a 'parcel intent usage' and survey approval will not be granted by LINZ.	Disagree to vesting as Local Purpose (Drainage) Reserve. Agree to amendment from Land in Lieu of Reserve – for Drainage Purposes to Land in Lieu of Reserve. Updated amendments are proposed as follows, including removal of lots which will not be accepted. Land to Vest in Council Lots 6000 and 6022 6003-6021 on the approved resource consent subdivision plans referenced in Condition 1 must vest in the Council as a Local Purpose (Drainage) Reserve <i>Land in Lieu of Reserve</i> . The Consent Holder must meet all costs associated with the vesting of the Local Purpose (Drainage) Reserves <i>Land in Lieu of Reserve</i> . <u><i>Advice note:</i></u> <u><i>Detail on the final extent of land proposed to be vested must be agreed by Council prior to lodgment of Engineering Plan Approval</i></u>
84	Operation and Maintenance of Stormwater Management Devices within JOALs The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal Team. The draft covenant document shall include provision for the following items: <ul style="list-style-type: none"> a) specifies ownership, operation, and maintenance of the private stormwater systems for JOALs in each respective stage; 	An additional condition regarding the operation and maintenance of stormwater management devices within JOALs has been recommended within Appendix B for Stages 10-13 Subdivision Conditions of Consent SUB 201 as Condition 84A.	Noted	Updated amendments proposed as follows. Operation and Maintenance of Stormwater Management Devices within JOALs The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal team. The draft covenant document shall include provision for the following items:

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	<p>b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and</p> <p>c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 93).</p> <p>d) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ.</p>			<p>a) specifies ownership, operation, and maintenance of the private stormwater systems for JOALs in each respective stage;</p> <p>b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and</p> <p>c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 4999); and</p> <p>d) <u>Specifies that evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request; and</u></p> <p>e) <u>Specifies that the device must continue to meet the hydrology mitigation requirements (retention and/or detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and</u></p> <p>f) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ;</p>
92	<p>Connection to the Public Network</p> <p>The Consent Holder must design and construct connections to the public stormwater reticulation network to serve all Lots in general accordance with the requirements of the stormwater utility service provider and in general accordance with the approved plans referenced in Condition 1. Confirmation from the utility provider that works have been satisfactorily undertaken must be provided when applying for a certificate under section 224(c) of the RMA.</p> <p>Advice Note:</p> <ul style="list-style-type: none"> • <i>Acceptable forms of evidence include Engineering Approval (EA) Completion Certificates.</i> • <i>Stormwater utility provider is the Auckland Council Healthy Waters Department.</i> • <i>Public connections are to be constructed in general accordance with the Stormwater Code of Practice.</i> • <i>Alterations to the public stormwater reticulation network require Engineering Approval.</i> • <i>Plans approved under Resource Consent do not constitute an Engineering Approval and should not be used for the purposes of constructing public reticulation works in the absence of that approval.</i> 	No objection, standard condition.	Noted	-
93	<p>Public Stormwater Outfalls</p> <p>The Consent Holder must design and construct stormwater outfall structures in general accordance with the requirements of the utility service provider and in general accordance with the approved plans referenced in Condition 1. Confirmation from the utility provider that works have been satisfactorily</p>	No objection, standard condition.	Noted	-

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	<p>undertaken must be provided when applying for a certificate under section 224(c) of the RMA.</p> <p>Advice Note:</p> <ul style="list-style-type: none"> • <i>Stormwater outfalls shall be designed in general accordance with “Auckland Council publication Technical Report 2013/018”.</i> • <i>Acceptable forms of evidence include Engineering Approval Completion Certificates. • Utility service provider is the Auckland Council Healthy Waters Department</i> • <i>Construction of public outfall structures require Engineering Approval.</i> • <i>Engineering Plans approved under Resource Consent do not constitute an Engineering Approval and should not be used for the purposes of constructing public reticulation works in the absence of that approval.</i> • <i>Please be aware of any other conditions and requirements pertaining to outfalls, including regional consenting conditions and requirements.</i> 			
94	<p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (dry basins and rain gardens) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stages 10-13 ref P24-128, rev 1, prepared by Woods, dated 28/03/2025” and “Stormwater Management Devices in the Auckland Region, December 2017, Guideline Document 2017/001” referenced in Condition 1, and in general accordance with the approved plans referenced in Condition 1.</p> <p>Advice Note: <i>Safety in design documents will need to be reviewed by Healthy Waters and the residual risks will need to be agreed prior to issuing approvals.</i></p>	<p>Amendments proposed.</p> <p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (<u>including</u> dry basins, rain gardens, <u>and any proposed alternatives</u>) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stages 10–13,” ref P24-128, rev 1, prepared by Woods, dated 28/03/2025 and “Stormwater Management Devices in the Auckland Region,” December 2017, Guideline Document 2017/001, referenced in Condition 4 and in general accordance with the approved plans referenced in Condition 1.</p> <p><u>Where there is any inconsistency between the Infrastructure Report and the adopted Wainui East Stormwater Management Plan (Version 4, dated 7 September 2016), the SMP shall take precedence unless otherwise agreed in writing by Auckland Council Healthy Waters.</u></p> <p>Advice Notes:</p> <ul style="list-style-type: none"> • <u>Refinements to stormwater devices, including changes to type, layout, and function, such as the potential conversion of dry basins to wetlands (e.g. Basins H and I, may be undertaken during the detailed design phase, where appropriate and in consultation with Auckland Council Healthy Waters.</u> • <u>Any proposed changes from the consented design must remain consistent with the overarching stormwater management strategy set out in the Wainui East SMP (V4, September 2016) and be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</u> • <u>Opportunities to optimise the design for long-term operation, maintenance, and asset management</u> 	<p>Disagree</p> <p>Given all works need to be undertaken in accordance with the SMP, this condition is not required. The detailing of the stormwater devices will be finalised at EA stage. The specialist reporting and plans submitted with the application ensures the management of stormwater for Stages 10-13 and JOALs have been designed in general accordance with the SMP.</p> <p>It is not necessary to introduce wording that could potentially change the scope of the approval and undermine the management of stormwater as detailed in the application documents.</p> <p>Agree in part.</p>	<p>The specialist reporting and plans do not provide sufficient information to demonstrate compliance with the Wainui East Stormwater Management Plan. Accepting that all works will need to be designed at Engineering Approval Stage to comply with the SMP and approved by Auckland Council Healthy Waters.</p> <p>Updated amendments proposed as follows.</p> <p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (dry basins and rain gardens) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stages 10–13,” ref P24-128, rev 1, prepared by Woods, dated 28/03/2025 and “Stormwater Management Devices in the Auckland Region,” December 2017, Guideline Document 2017/001, referenced in Condition 4 and in general accordance with the approved plans referenced in Condition 1.</p> <p>Advice Notes:</p> <ul style="list-style-type: none"> • <u>Refinements to stormwater devices, including changes to type, layout, and function, such as the potential conversion of dry basins to wetlands (e.g. Basins H and I, may be undertaken during the detailed design phase, where appropriate and in consultation with Auckland Council Healthy Waters.</u> • <u>Design must remain consistent with the overarching stormwater management strategy set out in the Wainui East SMP (V4, September 2016) and be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</u>

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		<p><u>should be explored as part of the detailed design process in consultation with Auckland Council Healthy Waters. This includes ensuring adequate access, minimisation of maintenance burden, and consolidation of devices where practicable.</u></p> <ul style="list-style-type: none"> <u>Safety in Design documentation must be submitted to Auckland Council Healthy Waters for review, and any residual risks must be agreed upon prior to the issue of Engineering Plan Approval.</u> 		<ul style="list-style-type: none"> <u>Opportunities to optimise the design for long-term operation, maintenance, and asset management should be explored as part of the detailed design process in consultation with Auckland Council Healthy Waters. This includes ensuring adequate access, minimisation of maintenance burden, and consolidation of devices where practicable.</u> <u>Safety in Design documentation must be submitted to Auckland Council Healthy Waters for review, and any residual risks must be agreed upon prior to the issue of Engineering Plan Approval.</u>
99	<p>Operation and Maintenance Manual for Public and Private Stormwater Devices</p> <p>An Operation and Maintenance Plan (OMM) must be provided to Council to address all public and private stormwater management systems. The OMM must set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. The OMM must include:</p> <ol style="list-style-type: none"> details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process; a programme for regular maintenance and inspection of the stormwater management system; a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices; a programme for post storm inspection and maintenance; a programme for inspection and maintenance of the outfall; general inspection checklists for all aspects of the stormwater management system, including visual checks; and a programme for inspection and maintenance of any vegetation associated with the stormwater management devices 	<p>An additional condition regarding operation and maintenance manual requirements for public stormwater devices has been recommended within Appendix B for <i>Stages 10-13 Subdivision Conditions of Consent SUB 201</i> as Condition 99A.</p>	Noted	<p>Agree with new condition 101 provided the following amendments are included:</p> <p>Operation and Maintenance Manual for Public Stormwater Devices</p> <p>An Operation and Maintenance Plan (OMM) must be provided to Council to address all public stormwater management systems at EA stage. The OMM must set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. The OMM <u>must be prepared to the satisfaction of Auckland Council Healthy Waters Operations Team and comply with Healthy Waters Operation and Maintenance Plan Template.</u> The OMM must include:</p> <ol style="list-style-type: none"> details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process; a programme for regular maintenance and inspection of the stormwater management system; a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices; a programme for post storm inspection and maintenance; a programme for inspection and maintenance of the outfall; general inspection checklists for all aspects of the stormwater management system, including visual checks; and a programme for inspection and maintenance of any vegetation associated with the stormwater management devices
115	<p>Site-Wide Stormwater Management</p> <p>All stormwater from buildings and paved areas on all residential lots within the development must be collected and disposed of in general accordance with the requirements of the 'Wainui Stormwater Management Plan, Ref: Job No.31720, dated 07-09-2016' and 'Auckland Council GD01'. The collection and disposal system must be installed in conjunction</p>	<p>Amendments proposed.</p> <p>All stormwater from buildings and paved areas on all residential lots within the development must be collected and disposed of in general Hydrology mitigation of runoff from buildings and paved areas on all residential lots within the development must be achieved at-source within the individual lots, and in accordance with the requirements of the 'Wainui</p>	<p>Disagree.</p> <p>This is adequately addressed by the current wording. Proposed amendment to remain.</p>	<p>The Wainui Stormwater Management Plan is not specific that the hydrology mitigation must be provided at source.</p> <p>The proposed amended condition provides clarity on the stormwater management requirements for private residential lots.</p>

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	with the erection of any buildings and must be maintained to the specified capacity and standard.	Stormwater Management Plan, Ref: Job No.31720, dated 07-09-2016' as well as 'Auckland Council GD01'. The stormwater management system must be installed in conjunction with the erection of any buildings and must be maintained to the specified capacity and standard.		
Phase 1: Civil Works Land Use - Conditions of Consent LUC 301				
1	<p>The proposal must be carried out in general accordance with the plans and all information submitted with the application, as detailed below and referenced by the Council under consent numbers [BUN 300]:</p> <ul style="list-style-type: none"> a) Application Form and Assessment of Environmental Effects prepared by Woods and B&A, dated 28 March 2025. b) Reports and Drawings as listed in Section 3.3. 	No objection, standard condition.	Noted	-
Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301				
30	<p>The proposal must be carried out in general accordance with the plans and all information submitted with the application, as detailed below and referenced by the Council under consent numbers [BUN 301]:</p> <ul style="list-style-type: none"> a) Application Form and Assessment of Environmental Effects prepared by Woods and B&A, dated March 2025; and b) Reports and Drawings as listed in Section 3.3. 	No objection, standard condition.	Noted	-
38	<p>Operation and Maintenance of Stormwater Management Devices within JOALs</p> <p>The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal team. The draft covenant document shall include provision for the following items:</p> <ul style="list-style-type: none"> a) specifies ownership, operation, and maintenance of the private stormwater systems for JOALs in each respective stage; b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 49); and d) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ. 	An additional condition regarding the operation and maintenance of stormwater management devices within JOALs has been recommended within Appendix B for <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301</i> as Condition 38A.	Noted	<p>Updated amendments proposed as follows.</p> <p>Operation and Maintenance of Stormwater Management Devices within JOALs</p> <p>The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal team. The draft covenant document shall include provision for the following items:</p> <ul style="list-style-type: none"> a) specifies ownership, operation, and maintenance of the private stormwater systems for JOALs in each respective stage; b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 4999); and d) <u>Specifies that evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request; and</u> e) <u>Specifies that the device must continue to meet the hydrology mitigation requirements (retention and/or</u>

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
				<p><u>detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and</u></p> <p>f) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ;</p>
40	<p>Overland Flow Path Protection</p> <p>Lot 4007 is subject to a land covenant for the 1-in-100-year overland flow path. No obstructions, including buildings, structures, or hard landscaping other than permeable fencing, shall be placed within the designated overland flow path. Compliance must be maintained in accordance with the recommendations of "Infrastructure Report Milldale Stage 4C, ref P240128, rev 0, prepared by Woods, dated 28/03/2025" and any subsequent reports.</p> <p>This covenant must be registered on the record of title to be issued for Lot 4007 to ensure that it is complied with on a continuing basis.</p>	<p>Minor changes are proposed to this condition to ensure that the adopted SMP has precedence over the Infrastructure Report.</p> <p>Overland Flow Path Protection</p> <p>Lot 4007 is subject to a land covenant for the 1-in-100-year overland flow path. No obstructions, including buildings, structures, or hard landscaping other than permeable fencing, shall be placed within the designated overland flow path. Compliance must be maintained in accordance with the recommendations of "Infrastructure Report Milldale Stage 4C, ref P240128, rev 0, prepared by Woods, dated 28/03/2025" and any subsequent reports.</p> <p><u>Where there is any inconsistency between the Infrastructure Report and the adopted Wainui East Stormwater Management Plan (Version 4, dated 7 September 2016), the SMP shall take precedence unless otherwise agreed in writing by Auckland Council Healthy Waters.</u></p> <p>This covenant must be registered on the record of title to be issued for Lot 4007 to ensure that it is complied with on a continuing basis</p>	<p>Disagree</p> <p>Given all works need to be undertaken in accordance with the SMP, this condition is not required. The detailing of the stormwater devices will be finalised at EA stage. The specialist reporting and plans submitted with the application ensures the management of stormwater for Stages 10-13, Stage 4C including JOALs have been designed in general accordance with the SMP.</p> <p>It is not necessary to introduce wording that could potentially change the scope of the approval and undermine the management of stormwater as detailed in the application documents.</p>	<p>Agree in part.</p> <p>The specialist reporting and plans do not provide sufficient information to demonstrate compliance with the Wainui East Stormwater Management Plan. Accepting that all works will need to be designed at Engineering Approval Stage to comply with the SMP and approved by Auckland Council Healthy Waters.</p> <p>Updated amendments proposed as follows.</p> <p>Overland Flow Path Protection</p> <p>Lot 4007 is subject to a land covenant for the 1-in-100-year overland flow path. No obstructions, including buildings, structures, or hard landscaping other than permeable fencing, shall be placed within the designated overland flow path. Compliance must be maintained in accordance with the recommendations of "Infrastructure Report Milldale Stage 4C, ref P240128, rev 0, prepared by Woods, dated 28/03/2025" and any subsequent reports.</p> <p>This covenant must be registered on the record of title to be issued for Lot 4007 to ensure that it is complied with on a continuing basis.</p> <p>Advice Note:</p> <ul style="list-style-type: none"> <i><u>Design must remain consistent with the overarching stormwater management strategy set out in the Wainui East SMP (V4, September 2016) and be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</u></i>
46	<p>Connection to Public Network</p> <p>The Consent Holder must design and construct connections to the public stormwater reticulation network to serve all Lots in general accordance with the requirements of the stormwater utility service provider and in general accordance with the approved plans referenced in Condition 1. Confirmation from the utility provider that works have been satisfactorily undertaken must be provided when applying for a certificate under section 224(c) of the RMA.</p> <p>Advice Note:</p> <ul style="list-style-type: none"> <i>Acceptable forms of evidence include Engineering Approval Completion Certificates.</i> 	No objection, standard condition.	Noted	-

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
	<ul style="list-style-type: none"> Stormwater utility provider is the Auckland Council Healthy Waters Department. Public connections are to be constructed in general accordance with the Stormwater Code of Practice. Alterations to the public stormwater reticulation network require Engineering Approval. Plans approved under Resource Consent do not constitute an Engineering Approval and should not be used for the purposes of constructing public reticulation works in the absence of that approval. 			
47	<p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (rain gardens) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stage 4C, ref P24-128, rev 0, prepared by Woods, dated 28/03/2025” referenced in Condition 1, and any subsequent reports, and “Stormwater Management Devices in the Auckland Region, December 2017, Guideline Document 2017/001” and in general accordance with the approved plans referenced in Condition 1.</p>	<p>Amendments proposed as follows.</p> <p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (rain gardens) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stage 4C, ref P24-128, rev 0, prepared by Woods, dated 28/03/2025” referenced in Condition 1, and any subsequent reports, and “Stormwater Management Devices in the Auckland Region, December 2017, Guideline Document 2017/001” and in general accordance with the approved plans referenced in Condition 1.</p> <p><u>Where there is any inconsistency between the Infrastructure Report and the adopted Wainui East Stormwater Management Plan (Version 4, dated 7 September 2016), the SMP shall take precedence unless otherwise agreed in writing by Auckland Council Healthy Waters.</u></p> <p>Advice Notes:</p> <ul style="list-style-type: none"> <u>Refinements to stormwater devices, including changes to type, layout, and function, such as the potential conversion of dry basins to wetlands (e.g. Basins H and I), may be undertaken during the detailed design phase, where appropriate and in consultation with Auckland Council Healthy Waters.</u> <u>Any proposed changes from the consented design must remain consistent with the overarching stormwater management strategy set out in the Wainui East SMP (V6, September 2016) and be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</u> <u>Opportunities to optimise the design for long-term operation, maintenance, and asset management should be explored as part of the detailed design process in consultation with Auckland Council Healthy Waters. This includes ensuring adequate access, minimisation of maintenance burden, and consolidation of devices where practicable.</u> <u>Safety in Design documentation must be submitted to Auckland Council Healthy Waters for review, and any</u> 	<p>Disagree</p> <p>Given all works need to be undertaken in accordance with the SMP, this condition is not required. The detailing of the stormwater devices will be finalised at EA stage. The specialist reporting and plans submitted with the application ensures the management of stormwater for Stages 10-13, Stage 4C including JOALs have been designed in general accordance with the SMP.</p> <p>It is not necessary to introduce wording that could potentially change the scope of the approval and undermine the management of stormwater as detailed in the application documents.</p>	<p>Agree in part.</p> <p>The specialist reporting and plans do not provide sufficient information to demonstrate compliance with the Wainui East Stormwater Management Plan. Accepting that all works will need to be designed at Engineering Approval Stage to comply with the SMP and approved by Auckland Council Healthy Waters.</p> <p>Updated amendments proposed as follows.</p> <p>Stormwater Devices</p> <p>All public stormwater treatment and/or attenuation devices (rain gardens) and the private stormwater detention tanks within JOALs must be designed and constructed in general accordance with the “Infrastructure Report Milldale Stage 4C, ref P24-128, rev 0, prepared by Woods, dated 28/03/2025” referenced in Condition 1, and any subsequent reports, and “Stormwater Management Devices in the Auckland Region, December 2017, Guideline Document 2017/001” and in general accordance with the approved plans referenced in Condition 1.</p> <p>Advice Notes:</p> <ul style="list-style-type: none"> <u>Refinements to stormwater devices, including changes to type, layout, and function, such as the potential conversion of dry basins to wetlands (e.g. Basins H and I), may be undertaken during the detailed design phase, where appropriate and in consultation with Auckland Council Healthy Waters.</u> <u>Design must remain consistent with the overarching stormwater management strategy set out in the Wainui East SMP (V6, September 2016) and be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</u> <u>Opportunities to optimise the design for long-term operation, maintenance, and asset management should be explored as part of the detailed design process in consultation with Auckland Council Healthy Waters. This includes ensuring adequate</u>

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
		<u>residual risks must be agreed upon prior to the issue of Engineering Plan Approval.</u>		<u>access, minimisation of maintenance burden, and consolidation of devices where practicable.</u> <ul style="list-style-type: none"> <u>Safety in Design documentation must be submitted to Auckland Council Healthy Waters for review, and any residual risks must be agreed upon prior to the issue of Engineering Plan Approval.</u>
52	Operation and Maintenance Manual for Public and Private Stormwater Devices An Operation and Maintenance Plan (OMM) must be provided to Council to address all public and private stormwater management systems. The OMM must set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. The OMM must include: <ul style="list-style-type: none"> a) details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process; b) a programme for regular maintenance and inspection of the stormwater management system; c) a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices; d) a programme for post storm inspection and maintenance; e) a programme for inspection and maintenance of the outfall; f) general inspection checklists for all aspects of the stormwater management system, including visual checks; and g) a programme for inspection and maintenance of any vegetation associated with the stormwater management devices 	An additional condition regarding operation and maintenance manual requirements for public stormwater devices has been recommended within Appendix B for <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301</i> as Condition 52A.	Noted	Condition to be split into two as per <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 201</i> Condition 99 comments. Supported for private devices only. Separate condition to be added for public to include the following wording: Operation and Maintenance Manual for Public Stormwater Devices An Operation and Maintenance Plan (OMM) must be provided to Council to address all public stormwater management systems at EA stage. The OMM must set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. <u>The OMM must be prepared to the satisfaction of Auckland Council Healthy Waters Operations Team and comply with Healthy Waters Operation and Maintenance Plan Template.</u> The OMM must include: <ul style="list-style-type: none"> a) details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process; b) a programme for regular maintenance and inspection of the stormwater management system; c) a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices; d) a programme for post storm inspection and maintenance; e) a programme for inspection and maintenance of the outfall; f) general inspection checklists for all aspects of the stormwater management system, including visual checks; and g) a programme for inspection and maintenance of any vegetation associated with the stormwater management devices
Phase 2: Comprehensive Residential Development Subdivision - Conditions of Consent SUB 302				
1	The proposal must be carried out in general accordance with the plans and all information submitted with the application, as detailed below and referenced by the Council under consent numbers [BUN 300]:	No objection, standard condition.	Noted	-

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
	a) Application Form and Assessment of Environmental Effects prepared by Woods and B&A, dated 28 March 2025; and b) Reports and Drawings as listed in Section 3.6 .			
34	<p>Operation and Maintenance Manual (OMM) for Private Stormwater Management Device within JOAL 4150</p> <p>The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal team. The draft covenant document shall include provision for the following items:</p> <ul style="list-style-type: none"> a) specifies ownership, operation, and maintenance of the private stormwater system for JOAL 4150; b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 40). d) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ. 	<p>Minor amendments to the heading of this condition are suggested for consistency with other stages.</p> <p>Operation and Maintenance Manual (OMM) for of Private Stormwater Management Device within JOAL 4150</p> <p>An additional condition regarding the operation and maintenance of stormwater management devices within JOALs has been recommended within Appendix B for <i>Phase 2: Comprehensive Residential Development Subdivision - Conditions of Consent SUB 302</i> as Condition 34A.</p>	<p>Agree</p> <p>Condition has been updated.</p>	<p>Updated amendments proposed as follows.</p> <p>Operation and Maintenance Manual (OMM) for of Private Stormwater Management Device within JOAL 4150</p> <p>The Consent Holder must provide a copy of the draft land covenant document to the Council, Legal team. The draft covenant document shall include provision for the following items:</p> <ul style="list-style-type: none"> a) specifies ownership, operation, and maintenance of the private stormwater systems for JOALs in each respective stage; b) specifies responsibilities together with an acceptable method of management of the stormwater systems, and for the raising of funds from shareholders or members from time to time to adequately finance future maintenance and renewal obligations of the stormwater system; and c) in relation to the private stormwater device(s), specifies the operation and maintenance of the private stormwater system to be in general accordance with relevant sections of the OMM supplied to Council and any other relevant consents (as detailed in Condition 40); and d) <u>Specifies that evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request; and</u> e) <u>Specifies that the device must continue to meet the hydrology mitigation requirements (retention and/or detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and</u> f) Supply a solicitor's undertaking that the land covenants above as approved by Council will be registered with LINZ;
41	<p>Connection to Public Network</p> <p>The Consent Holder must design and construct connections to the public stormwater reticulation network to serve all Lots in general accordance with the requirements of the stormwater utility service provider and in general accordance with the approved plans referenced in Condition 1. Confirmation from the utility provider that works have been satisfactorily undertaken must be provided when applying for a certificate under section 224(c) of the RMA.</p> <p>Advice Note:</p> <ul style="list-style-type: none"> • <i>Acceptable forms of evidence include Engineering Approval Completion Certificates.</i> 	No objection, standard condition.	Noted	-

#	PROPOSED CONDITION	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS COMMENT: 01.09.2025
	<ul style="list-style-type: none"> Stormwater utility provider is the Auckland Council Healthy Waters Department. Public connections are to be constructed in general accordance with the Stormwater Code of Practice. Alterations to the public stormwater reticulation network require Engineering Approval. Plans approved under Resource Consent do not constitute an Engineering Approval and should not be used for the purposes of constructing public reticulation works in the absence of that approval. 			
42	<p>Operation and Maintenance Manual for the Private Stormwater Device in JOAL 4150</p> <p>An Operation and Maintenance Plan (OMM) must be provided to Council to address the private stormwater management system in JOAL 4150. The OMM must set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. The OMM must include:</p> <ul style="list-style-type: none"> a) details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process; b) a programme for regular maintenance and inspection of the stormwater management system; c) a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices; d) a programme for post storm inspection and maintenance; e) a programme for inspection and maintenance of the outfall; f) general inspection checklists for all aspects of the stormwater management system, including visual checks; and g) a programme for inspection and maintenance of any vegetation associated with the stormwater management devices. 	<p>Unlike with other Stages and Phases, the Operation and Maintenance Manual proposed under this condition is not intended to be applicable to any private devices. Therefore, no objection.</p>	<p>Noted</p>	-

ADDITIONAL RECOMMENDED CONDITIONS REGISTER

#	ADDITIONALLY RECOMMENDED CONDITIONS	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS RESPONSE: 01.09.2025
SPECIFIC				
Stages 10-13 Subdivision Conditions of Consent SUB 201				
84A	<p>Consent Notice – Private Stormwater Compliance</p> <p>A consent notice must be registered on the record of title for each lot that contains or is served by a private stormwater management device within a JOAL. The consent notice must require that:</p> <ul style="list-style-type: none"> a) The stormwater device be maintained in accordance with the approved Operation and Maintenance Manual required by Condition 99, and b) The device must continue to meet the hydrology mitigation requirements (retention and/or detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and c) Evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request. 	<p>This condition will ensure that private stormwater management devices within JOALs for Stages 10-13 continue to function as intended and remain compliant with the hydrology mitigation requirements of the SMP. As these devices will not be publicly maintained, it is essential that legal mechanisms such as land covenants and consent notices clearly define long-term maintenance responsibilities and performance expectations.</p> <p>This provides assurance that stormwater runoff from JOALs will be managed appropriately over the life of the development and will ensure ongoing compliance with the SMP.</p>	<p>Disagree.</p> <p>The proposed covenant condition adequately addresses this. Council should not be required to be a third party to private stormwater maintenance requirements. The covenant has adequate provisions embedded in its wording to enable Council to enforce maintenance requirements should owners not comply. A consent notice is not required in addition to the covenant.</p>	<p>Agree to remove this recommended condition. Updated wording proposed to <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 201 Condition 84.</i></p> <p>Proposed updated wording ensures the outcomes of the stormwater management devices are captured and record is kept as proof compliance with the registered covenant.</p>
99A	<p>Operation and Maintenance Manual for Public Stormwater Devices</p> <p>An Operation and Maintenance Plan (OMP) for all stormwater management devices proposed to be vested in Council shall be submitted to Auckland Council Healthy Waters Operations Team for approval prior to the lodgement of Engineering Plan Approval. The OMP must be prepared to the satisfaction of Auckland Council Healthy Waters Operations Team and comply with Healthy Waters Operation and Maintenance Plan Template.</p>	<p>The additional condition will ensure that all stormwater management devices proposed for vesting in Auckland Council are supported by an OMP that aligns with Healthy Waters current operational standards.</p> <p>Requiring the OMP to be submitted prior to the time of Engineering Plan Approval allows the Healthy Waters Operations Team to confirm that the design put forward for EPA supports safe, efficient, and cost-effective long-term maintenance.</p>	<p>Disagree.</p> <p>OMMs are provided as part of the EA stage. The condition has been amended to include reference to timing of this Manual being provided. The standard wording of this condition is for it to be submitted to Council, we do not consider it necessary to also refer to Healthy Waters Team in this condition.</p>	<p>Agree to remove this recommended condition. Updated wording proposed to <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 201 Condition 99.</i></p>
Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301				
38A	<p>Consent Notice – Private Stormwater Compliance</p> <p>A consent notice must be registered on the record of title for each lot that contains or is served by a private stormwater management device within a JOAL. The consent notice must require that:</p> <ul style="list-style-type: none"> a) The stormwater device be maintained in accordance with the approved Operation and Maintenance Manual required by Condition 52, and b) The device must continue to meet the hydrology mitigation requirements (retention and/or detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and c) Evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request. 	<p>This condition will ensure that private stormwater management devices within JOALs for Stage 4C continue to function as intended and remain compliant with the hydrology mitigation requirements of the SMP. As these devices will not be publicly maintained, it is essential that legal mechanisms such as land covenants and consent notices clearly define long-term maintenance responsibilities and performance expectations. This provides assurance that stormwater runoff from JOALs will be managed appropriately over the life of the development and will ensure ongoing compliance with the SMP.</p>	<p>Disagree</p> <p>This is already addressed in Condition 38.</p>	<p>Agree to remove this recommended condition. Updated wording proposed to <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301 Condition 38.</i></p> <p>Proposed updated wording ensures the outcomes of the stormwater management devices are captured and record is kept as proof compliance with the registered covenant.</p>

#	ADDITIONALLY RECOMMENDED CONDITIONS	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS RESPONSE: 01.09.2025
52A	<p>Operation and Maintenance Manual for Public Stormwater Devices</p> <p>Operation and Maintenance Manual for Public Stormwater Devices</p> <p>An Operation and Maintenance Plan (OMP) for all stormwater management devices proposed to be vested in Council shall be submitted to Auckland Council Healthy Waters Operations Team for approval prior to the lodgement of Engineering Plan Approval. The OMP must be prepared to the satisfaction of Auckland Council Healthy Waters Operations Team and comply with Healthy Waters Operation and Maintenance Plan Template.</p>	<p>The additional condition will ensure that all stormwater management devices proposed for vesting in Auckland Council are supported by an OMP that aligns with Healthy Waters current operational standards.</p> <p>Requiring the OMP to be submitted prior to the time of Engineering Plan Approval allows the Healthy Waters Operations Team to confirm that the design put forward for EPA supports safe, efficient, and cost-effective long-term maintenance.</p>	<p>Disagree</p> <p>OMMs are provided as part of the EA stage. The condition has been amended to include reference to timing of this Manual being provided. The standard wording of this condition is for it to be submitted to Council, we do not consider it necessary to also refer to Healthy Waters Team in this condition.</p>	<p>Agree to remove this recommended condition. Updated wording proposed to <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301 Condition 52</i>.</p>
65	<p>Site Wide Stormwater Management</p> <p>Hydrology mitigation of runoff from buildings and paved areas on all residential lots within the development must be achieved <u>at-source within the individual lots</u>, and in accordance with the requirements of the 'Wainui Stormwater Management Plan, Ref: Job No.31720, dated 07-09-2016' as well as 'Auckland Council GD01'. The stormwater management system must be installed in conjunction with the erection of any buildings and must be maintained to the specified capacity and standard.</p>	<p>This condition is recommended to ensure that stormwater runoff from individual residential lots is managed in a way that aligns with the hydrology mitigation requirements of the Wainui East SMP, which requires at-source management.</p>	<p>Disagree</p> <p>Given all works need to be undertaken in accordance with the SMP, this condition is not required. The detailing of the stormwater devices will be finalised at EA stage. The specialist reporting and plans submitted with the application ensures the management of stormwater for Stages 10-13, Stage 4C including JOALs have been designed in general accordance with the SMP.</p> <p>It is not necessary to introduce wording that could potentially change the scope of the approval and undermine the management of stormwater as detailed in the application documents.</p>	<p>Proposed condition to remain.</p> <p>This condition is the same as <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 301 Condition 115</i> and ensures equivalent hydrology mitigation requirements proposed by this development for all private lots.</p> <p>The Wainui Stormwater Management Plan is not specific that the hydrology mitigation must be provided at source. The proposed amended condition provides clarity on the stormwater management requirements for private residential lots.</p>
Phase 2: Comprehensive Residential Development Subdivision - Conditions of Consent SUB 302				
34A	<p>Consent Notice – Private Stormwater Compliance</p> <p>A consent notice must be registered on the record of title for each lot that contains or is served by a private stormwater management device within a JOAL. The consent notice must require that:</p> <ul style="list-style-type: none"> a) The stormwater device be maintained in accordance with the approved Operation and Maintenance Manual required by Condition 52, and b) The device must continue to meet the hydrology mitigation requirements (retention and/or detention) set out in the Wainui East SMP (Version 4, dated 7 September 2016) in perpetuity; and c) Evidence of maintenance (e.g. inspection reports, service logs) must be made available to Auckland Council on request. 	<p>This condition will ensure that private stormwater management devices within JOALs for Stage 4C continue to function as intended and remain compliant with the hydrology mitigation requirements of the SMP. As these devices will not be publicly maintained, it is essential that legal mechanisms such as land covenants and consent notices clearly define long-term maintenance responsibilities and performance expectations. This provides assurance that stormwater runoff from JOALs will be managed appropriately over the life of the development and will ensure ongoing compliance with the SMP.</p>	<p>Disagree</p> <p>This is addressed through proposed covenant</p>	<p>Agree to remove this recommended condition. Updated wording proposed to <i>Phase 1: Civil Works Subdivision - Conditions of Consent SUB 302 Condition 34</i>.</p> <p>Proposed updated wording ensures the outcomes of the stormwater management devices are captured and record is kept as proof compliance with the registered covenant.</p>
GENERAL				
1	Raingarden Media Specification	<p>A condition is recommended specifying raingarden media compliance and verification requirements. These requirements will ensure that the media of any communal raingardens meets council standards</p>	Disagree	Proposed condition to remain.

#	ADDITIONALLY RECOMMENDED CONDITIONS	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS RESPONSE: 01.09.2025
	<p>The media of the proposed communal raingardens must comply with the following:</p> <ul style="list-style-type: none"> a) The consent holder must provide raingarden media specification along with lab test results conforming the media to be compliant with the GD01 requirements. The media specification must be provided at least 5 (five) working days prior to placing the material within the constructed raingarden, to obtain Healthy Waters confirmation on the media material. b) Upon completion of the bio-filtration media placement, the consent holder must organise for infiltration testing of the bio-filtration media at developers costs to conform minimum required infiltration rate is achievable. The infiltration testing must be undertaken by a third-party engineer and in accordance with 'Adoption Guidelines for Stormwater Biofiltration Systems Appendix I – Measurement of hydraulic conductivity – Using in situ and ex-situ (laboratory) sampling methods, produced by CRC for Water Sensitive Cities, Belinda Hatt, Sebastien Le Coustumer June 2009 (updated April 2015)' or similar testing guidelines document, as agreed by Healthy Waters. The infiltration testing must be performed in presence of a Healthy Waters specialist or as agreed by Healthy Waters at time of the Pre-Construction Meeting. c) The consent holder must provide mulch layer and raingarden planting after obtaining clearance from Healthy Waters on acceptance of the infiltration testing results. The mulch material and planting must conform to GD01 or as specified by the Council landscape specialists <p>Advice Note: All infiltration tests results must be reported in 'mm/hr' and certified by a Chartered Professional Engineer.</p>	and that its infiltration performance is verified before final planting and ongoing use.	Final raingarden details will be designed at Engineering Approval stage	
2	<p>Maintenance of Communal Stormwater Management Devices</p> <p>The consent holder must maintain the communal stormwater management devices serving the subdivision in accordance with the following requirements:</p> <ul style="list-style-type: none"> a) The consent holder must maintain the communal devices until the earlier of: <ul style="list-style-type: none"> (i.) 80% of the building sites discharging to the devices have been developed, or (ii.) A period of five (5) years has passed from the date of issue of the final section 224(c) certificate under the Resource Management Act 1991 for the subdivision, b) The consent holder must remove any sediment from the communal device that has resulted from development activities within the subdivision, if required by the Council, prior to acceptance of the device(s) by Council for ongoing maintenance. c) At the time of transfer of any stormwater management devices to Council for ongoing maintenance, all planted 	The recommended condition will ensure any communal stormwater devices are properly maintained during development and handed over to Council in a functional and compliant state.	<p>Disagree.</p> <p>The applicant is responsible for the construction of the devices and is vested with Council at s224(c) in an acceptable state. Inspections by Council as part of the s224(c) approval process ensures this is the case. The responsibility for maintenance passes to Council at that point on the basis it is managing stormwater from public road</p>	Proposed condition to remain.

#	ADDITIONALLY RECOMMENDED CONDITIONS	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS RESPONSE: 01.09.2025
	<p>areas associated with the stormwater management devices must achieve a minimum plant survival rate of 95%.</p> <p>d) Updated Operation and Maintenance Manuals for all communal stormwater management devices must be provided to the Council at the time of transfer of any stormwater management devices to Council for ongoing maintenance.</p> <p>e) A bond must be provided at the time of application for the section 224(c) certificate to ensure the ongoing maintenance of the communal stormwater management devices until transfer of any stormwater management devices to Council for ongoing maintenance.</p>			
3	<p>Requirement for Bond</p> <p>Prior to the issue of the section 224(c) certificate under the RMA, the consent holder must provide a bond to the Council in accordance with Section 222 of the RMA to ensure the performance of the proposed stormwater management devices.</p> <p>The bond must:</p> <ul style="list-style-type: none"> a) Be calculated at a rate of communal device area; b) Be provided in the form of a cash deposit, a bank bond guaranteed by a New Zealand-registered bank, or another form of security (e.g., an encumbrance) as agreed with the Council. c) Be documented and executed by the Council's solicitor. All legal and administrative costs associated with preparation, execution, variation, administration, or release of the bond must be met by the consent holder. d) Be released once the relevant condition(s) have been satisfied and all associated Council costs have been paid. <p>Advice Notes: <i>The Council may use the bond to restore the communal stormwater device(s) to comply with Auckland Council's GD01 standards if the consent holder fails to meet the condition requirements.</i></p> <p><i>The final bond amount will be confirmed and agreed by Council prior to Engineering Plan Approval. It will be calculated based on a per-square-metre rate of communal raingarden area, with the rate to be determined at that time. The bond value will be adjusted for inflation using the Reserve Bank inflation calculator or another method agreed with Council.</i></p>	<p>A condition requiring establishment of a bond will secure proper maintenance and completion of any communal stormwater management devices, protecting the Council from costs if the consent holder fails to meet their obligations.</p>	<p>Disagree</p> <p>The applicant is responsible for the construction of the devices and is vested with Council at s224(c) in an acceptable state. Inspections by Council as part of the s224(c) approval process ensures this is the case. The responsibility for maintenance passes to Council at that point on the basis it is managing stormwater from public roads.</p> <p>Furthermore, this would represent another unnecessary cost to the development. The previous nine stages have not required such a condition and there have been no negative issues arising from not having such a condition.</p>	<p>Proposed condition to remain.</p>
4	<p>Exclusion of Retaining Walls from Vesting</p> <p>No retaining walls shall be vested in Auckland Council's Healthy Waters department. All retaining structures shall remain in private ownership and maintenance responsibility unless otherwise agreed in writing by Auckland Council.</p>	<p>A condition clarifying ownership of retaining walls is important to ensure that long-term ownership and maintenance responsibilities are clearly defined. Retaining structures are not stormwater assets and are not maintained by Healthy Waters due to their structural complexity, ongoing maintenance requirements, and associated liability.</p>	<p>Disagree</p> <p>This condition is not required. As detailed in the Application Drawings, all retaining walls have been contained within private lots. Note this excludes retaining associated with culvert headwalls which will be public assets.</p>	<p>Proposed condition to remain.</p>

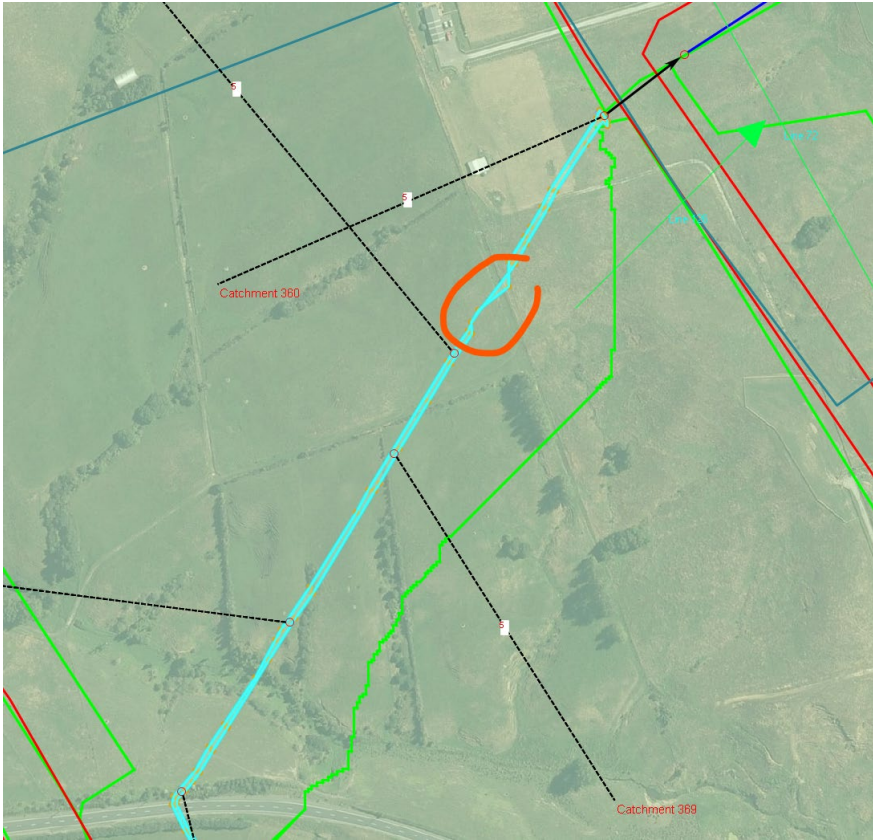
#	ADDITIONALLY RECOMMENDED CONDITIONS	HEALTHY WATERS COMMENT: 29.07.2025	APPLICANT RESPONSE: 06.08.2025	HEALTHY WATERS RESPONSE: 01.09.2025
5	<p>Flood Risk and Nuisance</p> <p>The consent holder must ensure that the development does not result in any increase in flood risk or flood nuisance to upstream or downstream properties, measured against the existing rainfall and land use conditions for the 50% AEP, 10% AEP, and 1% AEP storm events.</p>	<p>This condition will ensure that the development does not exacerbate flooding on neighbouring properties, maintain existing levels of flood risk, and protect both public and private assets from adverse effects during a range of storm events.</p>	<p>Do Not Agree</p> <p>All stormwater discharges are in accordance with the Wainui East SMP. This matter has been adequately assessed in the Application Documentation, including expert reporting addressing flooding. A condition addressing this is not warranted.</p>	<p>Proposed condition to remain.</p> <p>This condition to cover Stages 10 – 13 only.</p> <p>The SMP sets the stormwater management requirements for the Milldale area. It does not address the site-specific potential effects of individual developments within the catchment on flooding. The hydraulic model and supporting flood assessment require further clarifications and actions to demonstrate the proposed development will not increase the flood hazard and risk to downstream properties and infrastructure.</p>
6	<p>Stormwater Asset Acceptance</p> <p>Prior to the submission of any Engineering Plan Approval and prior to Auckland Council approving a survey plan pursuant to s223 of RMA for any stage, the consent holder must confirm and agree with Auckland Council Healthy Waters, acceptance in respect of all stormwater devices, and the extent of any associated land, proposed to vest to Healthy Waters. Should any stormwater devices, or associated land, not be accepted by Healthy Waters for vesting, the relevant plan must be updated, and it must show was a separate allotment on the survey plan and must be owned by a common entity.</p>	<p>This condition will ensure that any stormwater management devices intended for public ownership and maintenance are assessed and accepted by Auckland Council's Healthy Waters team before progressing to detailed engineering design or legal subdivision.</p>	<p>Disagree</p> <p>The proposed stormwater devices and associated land is detailed on the Application Drawings. The extent of land to vest is determined at the consent approval stage. It is important to note any updates to plans prior to EPA and s223 stage would invalidate the resource consent approval.</p>	<p>Proposed condition to remain.</p> <p>Auckland Council's Healthy Waters is under no obligation to take the devices and land proposed under this Consent where these do not meet the minimum requirements set by the relevant Council standards, guidelines and codes of practice.</p> <p>This condition to cover Stages 10 – 13 only.</p>
7	<p>Best Practicable Option Assessment</p> <p>Prior to Engineering Plan Approval, the Consent Holder must submit a final stormwater management strategy, supported by a Best Practicable Option (BPO) assessment, to Auckland Council Healthy Waters for review and approval.</p> <p>The BPO assessment shall demonstrate that:</p> <ul style="list-style-type: none"> a) Flows from public roads are directed to a stormwater basin, or to an alternative stormwater device, designed and sized for the contributing catchment area; or b) The use of offset mitigation is consistent with the principles and requirements of the Wainui East Stormwater Management Plan (Version 4, dated 7 September 2016) <p>The BPO assessment must be approved by Auckland Council Healthy Waters prior to Engineering Plan Approval.</p> <p>Advice Note: <i>Structural tree pit is considered to be an appropriate alternative stormwater device subject to Engineering Plan Approval.</i></p>	<p>This condition is proposed to ensure that the stormwater management strategy aligns with the intent of the Wainui East Stormwater Management Plan (SMP), which prioritises hydrology mitigation at source. The current reliance on offset mitigation for some catchments poses a risk of underperformance and non-compliance with SMP objectives.</p> <p>Requiring a re-evaluation of the strategy, supported by a robust Best Practicable Option (BPO) assessment where direct mitigation is not feasible will ensure compliance with the SMP.</p>	<p>Disagree</p> <p>The proposed stormwater devices are detailed on the Application Drawings and in the supporting Application Documentation. The proposal is in general accordance with the Wainui SMP.</p>	<p>Agree in part.</p> <p>This condition to cover Stages 10 – 13 only.</p> <p>Following the review of the provided Offset Detention Memorandum in Appendix 7A, this condition can be amended as follows.</p> <p>Hydrology Mitigation Report</p> <p>Prior to Engineering Plan Approval, the Consent Holder must prepare a Hydrology Mitigation report and submit to Council for review and approval. The Hydrology Mitigation report must include a comparative analysis of Stream 21 flows for a range of rainfall events up to and including 50% AEP. The analysis must compare the proposed 'offset' hydrology mitigation approach with the equivalent complaint hydrology mitigation approach and must demonstrate that any increase in stream peak flow, depth and velocity will not increase the risk of stream erosion.</p> <p>Advice Notes:</p> <ol style="list-style-type: none"> <i>'Offset' hydrology mitigation approach is where the required SMAF volume from a catchment is being accommodated within a device to which this catchment does not drain. Compliant hydrology</i>

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				<i>mitigation approach is where the required SMAF volume from a catchment is being provided within the device that this catchment drains to.</i>
8	<p>Geomorphic Risk Assessment</p> <p>Prior to lodgement of Engineering Plan Approval, the Consent Holder must provide a Geomorphic Risk Assessment to Auckland Council Healthy Waters for review and approval. The assessment must evaluate the condition, sensitivity, and likely adjustment of the proposed and existing stream networks in response to urbanisation and increased stormwater runoff.</p> <p>The Geomorphic Risk Assessment must include, but not be limited to:</p> <ul style="list-style-type: none"> a) An assessment of soil strength and resistance to erosion; b) Analysis of flow energy, stream power, and sediment transport potential; and c) Identification of areas at risk of stream widening, incision, or lateral migration over the design life of the development. <p>The outcomes of the assessment must inform the design of riparian setbacks, planting, and any stream protection measures to ensure long-term stability and resilience of the stream corridors.</p>	<p>This condition is recommended to ensure that riparian setbacks and stream protection measures are based on a clear understanding of how the stream network is likely to respond to the proposed urban development.</p> <p>Without this assessment, there is a risk of long-term erosion, channel instability, and infrastructure damage. A Geomorphic Risk Assessment will determine whether the design of setbacks and mitigation measures are fit-for-purpose.</p>	<p>Disagree</p> <p>This condition is not required as a Geomorphic Risk Assessment has been provided in Volume 7.</p>	<p>This condition to cover Stages 10 – 13 only.</p> <p>Updated condition proposed based on the outcomes of the assessment:</p> <p>Stream Mitigation Works</p> <p>All works within and adjacent to the streams must be carried out in general accordance with the recommendations and mitigation measures set out in the Stream Erosion Risk Assessment dated 4th August 2025, prepared by Woods, including any instream mitigation measures required for Stream 21. The final design of the measures must be provided to the Council for certification at the Engineering Plan Approval.</p>
9	<p>Stormwater Model</p> <p>The Consent Holder must provide a copy of the full stormwater model to Auckland Council Healthy Waters for review, verification, and endorsement prior to application for Engineering Plan Approval. The model must include both pre- and post-development scenarios, with all relevant parameters, assumptions, and input data clearly documented.</p> <p>The model must enable assessment of downstream effects and include, at a minimum, the following areas:</p> <ul style="list-style-type: none"> a) The Wainui Road bridge crossing above Waterloo Creek; b) Properties located downstream between the Wainui Road bridge and Lysnar Road; and c) 147 Argent Lane and its immediate receiving environment. <p>The model must demonstrate that the proposed stormwater management approach does not increase flood risk or result in adverse effects on downstream properties or infrastructure in accordance with the Wainui East Stormwater Management Plan (V4, September 2016).</p>	<p>Providing the full stormwater model is needed to enable Healthy Waters to verify that the proposed design aligns with the Wainui East Stormwater Management Plan (Version 4, 2016) and does not result in increased flood risk or adverse downstream effects.</p>	<p>Disagree</p> <p>This condition is not required as a copy of the Stormwater Model has been provided in Volume 7.</p>	<p>Proposed condition to remain.</p> <p>The hydraulic model and supporting flood assessment require further clarifications and actions to demonstrate the proposed development will not increase the flood hazard and risk to downstream properties and infrastructure.</p>

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10	<p>Overland Flow Path Management</p> <p>Prior to Engineering Plan Approval the Consent Holder must prepare an overland flow path management report and submit to Council for review and approval. The overland flow path management report must demonstrate compliance with the overland flow path management requirements of the Auckland Transport Design Manual and the Auckland Council Stormwater Code of Practice unless otherwise approved by Council.</p>			<p>Addendum condition. The report is required to ensure the risk of flooding to people, property and infrastructure will be managed in accordance with Council standards.</p>
11	<p>Overland Flow Path Certification (As-built)</p> <p>The consent holder must provide an Overland Flow Path As-built Plan prepared by an appropriately suitably qualified professional to the satisfaction of the Council including:</p> <ul style="list-style-type: none"> a. Layout plan of the overland flow paths for the site in accordance with the approved Resource Consent/Engineering Plan; and b. Long-section and cross section plans for all overland flow paths within roads; and c. Long-section and cross section plans for all overland flow paths at road spill points 			<p>Addendum condition. Providing overland flow path as-built information will ensure that the management of overland flow paths have been constructed and implemented in accordance with the approved engineering design.</p>
12	<p>Land Covenants – Streams</p> <p>Lots 6001, 6002 and 6022 must be subject to land covenants for protection and maintenance of the streams, streambanks, and riparian vegetation in perpetuity.</p>			<p>Addendum condition. Protect streams and riparian planting within private lots.</p>
13	<p>Protection and Maintenance of Streams and Riparian Planting</p> <p>Lots 6001, 6002 and 6022 must be retained and protected to provide for a for a continued function of the streams and riparian vegetation.</p> <p>Lot owners must:</p> <ul style="list-style-type: none"> a. Maintain all riparian vegetation in general accordance with the approved and implemented landscape plans; and b. Replace any dead, diseased, or damaged plants with plants of the same species and grade as originally approved, within the next planting season. c. Control pest plants and noxious weeds in accordance with the with the approved and implemented landscape plans d. Maintain the streams and streambanks so they remain free of debris, blockages, and structures that could cause erosion, flooding, or adverse effects on water quality. 			<p>Addendum condition. Protect streams and riparian planting within private lots.</p>

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	e. Not carry out earthworks, place fill, deposit material, remove vegetation, or alter the bed or banks of the stream except where necessary for maintenance as specified in the covenant.			

APPENDIX B: HYDRAULIC MODEL REVIEW COMMENTS

NO.	CATEGORY OF INFORMATION REQUEST	INFORMATION REQUEST	REASON FOR REQUEST
Flooding			
FR-01	Flood Risk	<ul style="list-style-type: none">Please provide an afflux map for flood level comparison between the post development and predevelopment scenarios under various design storm events – 1%AEP 3.8°C, 1%AEP ED, 10% AEP, and 50%AEP. The afflux map for the 1%AEP 2.1oC scenarios shows flood depth increases along the stream but reduction of flood depths in the floodplain at No. 147 Argent Lane. Please also consider updating the map with finer scales which can clearly show differences in flood depth increases and decreases.We have noticed a wide spread flood plain at No. 147 Argent Lane under the post development scenario. Please assess if the design of the downstream culvert and stream channel have been optimised to allow for mitigation of the flood risk at this property in the future. Downstream infrastructure needs to be designed to be resilient to accomodate maximum probable development of upstream.	Assess effects on downstream properties.
FR02	Flood Risk	<ul style="list-style-type: none">The U culvert under Argent Lane outside No. 147, has a roughness set at 0.04 for Manning's n. If the channel bed is to be maintained as a natural channel, the Manning's n value can be increased to 0.045 to 0.06. Please check if the inlet and outlet headlosses have been allowed for.The natural channel at No. 147 Argent Lane has been modelled as Stream bed land use type with a manning's n value of 0.04. Please check if this is appropriate. <p>Figure 1 – anomaly with stream bed land use polygon at No. 147 Argent lane</p> 	Assess flood risk at downstream properties.
FR-03	Flood Risk	<ul style="list-style-type: none">All lots adjacent to stream channels and floodplain will need to have minimum floor levels set based on the peak flood levels under the MPD 1%AEP 3.8 °C storm event with blocked culverts condition as per ACSWCOP V4. Flood levels along the stream channels and overland flow paths should be mapped. Based on previously identified uncertainties during runoff curve calibrations at a few flow gauges in the catchment, a runoff curve number of 85 should be applied to the pervious area for post development	Protect future development from flood risk.

		<p>flood risk assessment. For comparisons of pre and post development scenario, a runoff curve number of 74 should be used for pervious area as per an email from</p> <ul style="list-style-type: none">• AC to Woods on Page 550 of Stormwater Report Part 2.• The probable ultimate land uses in the catchment areas discharging into Orewa River will need to be taken into consideration for flood risk assessment.																					
FR-04	Model Review	<ul style="list-style-type: none">• The 100yr CC rainfall temporal profiles used in the model needs to be checked to ensure consistency with those in ACSWCOP V4.	Correct design storm temporal profiles are to be used in Model.																				
FR-05	Model Review	<ul style="list-style-type: none">• The Upper Orewa Road bridge, Kowhai Road bridge and Lysnar Road bridge have been represented in the model as stream cross sections. The bridge abutments and decks have not been included in the model. Please justify why these structures are not included or amend the model as required. The SH1 bridge and Arran Drive bridge can be ignored if the model simulation results with updated tail water condition confirm that the peak flood level is well below the bridge deck level.• The model simulation result for the MPD 1%AEP 3.8°C result indicates that peak flood level at the upstream side of Wainui Bridge at RL 5.27m is 0.17m below the bridge deck overtopping level at RL 5.44m. This indicates that the Wainui Bridge will not mee the design freeboard requirement in Table 2.5 of the NZTA Bridge Manual. Please assess the performance of the Wainui Bridge with updated model runs and consider possible mitigation options. <p>sensitivity check undertaken for the effects of debris blockage.</p> <p>d. Freeboard for level of serviceability to traffic</p> <p>When considering the level of serviceability to traffic required by 2.3.2(d), the freeboards given in table 2.5 shall be used.</p> <p>Table 2.5: Freeboard allowance for the level of serviceability to traffic</p> <table><tr><th rowspan="2">Waterway structure</th><th rowspan="2">Situation</th><th colspan="2">Freeboard</th></tr><tr><th>Measurement points</th><th>Depth (m)</th></tr><tr><td rowspan="2">Bridge</td><td>Normal circumstances</td><td>From the predicted SLS 2 flood level to the underside of the superstructure</td><td>0.6</td></tr><tr><td>Where the possibility that large trees may be carried down the waterway exists</td><td></td><td>1.2</td></tr><tr><td rowspan="2">Major culverts</td><td>Normal circumstances (unaffected by debris)</td><td>From the predicted SLS 2 flood level to the outer edge line level</td><td>0.5</td></tr><tr><td>Cross-section larger than 6m²</td><td>From the predicted SLS 2 flood level to soffit of culvert</td><td>0.3</td></tr></table> <p>e. Further design criteria for major culverts</p> <p>Major culverts shall also be designed such that:</p> <ul style="list-style-type: none">- the SLS 2 flood does not head up more than 2m above the soffit level of the culvert inlet- flood levels do not head up above the soffit of the culvert in a:<ul style="list-style-type: none">o 1%AEP storm for importance level 3 or 4 structureso 20%AEP storm for importance level 2 structureso 50%AEP storm for importance level 1 structures	Waterway structure	Situation	Freeboard		Measurement points	Depth (m)	Bridge	Normal circumstances	From the predicted SLS 2 flood level to the underside of the superstructure	0.6	Where the possibility that large trees may be carried down the waterway exists		1.2	Major culverts	Normal circumstances (unaffected by debris)	From the predicted SLS 2 flood level to the outer edge line level	0.5	Cross-section larger than 6m²	From the predicted SLS 2 flood level to soffit of culvert	0.3	Need justification for not including bridge structures.
Waterway structure	Situation	Freeboard																					
		Measurement points	Depth (m)																				
Bridge	Normal circumstances	From the predicted SLS 2 flood level to the underside of the superstructure	0.6																				
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	Cross-section larger than 6m²	From the predicted SLS 2 flood level to soffit of culvert	0.3																				

FR-06	Model Review	<ul style="list-style-type: none">The boundary tidal levels are to be determined from the MfE publication – Coastal Hazards and Climate Change Guidance (2024), and take into account of SLR and VLM. <p>Table 8: Interim precautionary relative sea-level rise allowances recommended to use for coastal planning and policy before undertaking a dynamic adaptive pathways planning approach for a precinct, district or region</p> <table><tr><th>Planning category</th><th>Recommended interim precautionary RSLR allowances</th></tr><tr><td>A. Coastal subdivision, greenfield developments and major new infrastructure</td><td>Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 H+ based RSLR projection* that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.6 metre rise in MSL, before including VLM.)</td></tr><tr><td>B. Changes in land use and redevelopment (intensification and upzoning)</td><td>Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 H+ based RSLR projection* that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.6 metre rise in MSL, before including VLM.)</td></tr><tr><td>C. Land-use planning controls for existing coastal uses and assets (building additions)</td><td>Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 M based RSLR projection that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.2 metre rise in MSL, before including VLM.)</td></tr></table> <p>³⁶ Medium confidence projections are available further out to 2150 on the NZ SeaRise platform.</p> <p>52 Coastal hazards and climate change guidance</p> <p>Step 2: Assess sea-level rise and coastal hazards</p> <table><tr><th>Planning category</th><th>Recommended interim precautionary RSLR allowances</th></tr><tr><td>D. Non-habitable, short-lived assets with a functional need to be at the coast, which are either low consequences or readily adaptable (including services)</td><td>Using a timeframe out to 2075 (≥50 years), apply the medium confidence SSP5-8.5 M based RSLR projection that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 0.5 metre rise in MSL, before including VLM.)</td></tr></table>	Planning category	Recommended interim precautionary RSLR allowances	A. Coastal subdivision, greenfield developments and major new infrastructure	Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 H+ based RSLR projection* that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.6 metre rise in MSL, before including VLM.)	B. Changes in land use and redevelopment (intensification and upzoning)	Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 H+ based RSLR projection* that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.6 metre rise in MSL, before including VLM.)	C. Land-use planning controls for existing coastal uses and assets (building additions)	Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 M based RSLR projection that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.2 metre rise in MSL, before including VLM.)	Planning category	Recommended interim precautionary RSLR allowances	D. Non-habitable, short-lived assets with a functional need to be at the coast, which are either low consequences or readily adaptable (including services)	Using a timeframe out to 2075 (≥50 years), apply the medium confidence SSP5-8.5 M based RSLR projection that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 0.5 metre rise in MSL, before including VLM.)	Use correct boundary water level.
Planning category	Recommended interim precautionary RSLR allowances														
A. Coastal subdivision, greenfield developments and major new infrastructure	Using a timeframe out to 2130 (≥100 years), apply the medium confidence SSP5-8.5 H+ based RSLR projection* that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 1.6 metre rise in MSL, before including VLM.)														
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Planning category	Recommended interim precautionary RSLR allowances														
D. Non-habitable, short-lived assets with a functional need to be at the coast, which are either low consequences or readily adaptable (including services)	Using a timeframe out to 2075 (≥50 years), apply the medium confidence SSP5-8.5 M based RSLR projection that includes the relevant VLM rate for the local and/or regional area. (Note: approximately 0.5 metre rise in MSL, before including VLM.)														
FR-07	Model Review	<ul style="list-style-type: none">The 1D Model uses a few cross sections to represent the stream channel at the development site. The Milldale Stream Investigation Report indicates that the natural stream channel width varies significantly across the site. Please check if more cross sections from surveyed data can be used in the model to represent the natural channel, especially at the more constrained sections.													



FR-08

- Flexi Baffles and embeded soft bottom culverts are proposed as ecological mitigation. Please ensure these features are considered
- in the representation of culverts in the model.

