

Attachment 2 - Assessment against GW Section 53 Comments Mt Welcome - additional information and clarification

Source: Applicant's Revised Proposal Documents, September 2026
Assessment against Greater Wellington Regional Council Stormwater comments dated 3 July 2026 (Ref. FTA260348)

Item	Issue category	GW Section 53 Comments on Stormwater Management (3 July 2026)	Item addressed in revised proposal? (Y/N)	GW Comments (15 October 2026)
9	General	The application does not include an options assessment demonstrating that Water Sensitive Design (WSD) principles have been fully considered. An options assessment is required that as a minimum, addresses the following: (a)Treatment train alternatives - comparison of alternative treatment configurations beyond sole reliance on centralised raingardens, including source control measures; (b)Rainwater harvesting - consideration of rainwater harvesting as a means of achieving sustainable water use and volume mitigation objectives; (c)Raingarden locations - consideration of alternative raingarden locations that could support infiltration where geotechnical conditions permit; and (d)Catchment-scale trade-offs - consideration of broader catchment-scale design trade-offs. (e)Consideration of opportunities for integration of stormwater functions with non-water project drivers (for example, multi modal transport, public recreational use / open space, amenity, cultural and social initiatives etc).	N	This item is patially addressed. There is now greater consideration to treatment train opportunities and source control through the provision of rainwater tanks. Opportunities to integrate stormwater practices with other non-water functions are not specifically mentioned or addressed, but are inherently interpreted to be limited due to steep topography. This should be specifically assessed as part of the stormwater management plan.
10	General	The options assessment must document the alternatives considered and clearly justify the design choices made.	N	Refer to (9) above.
11	General	Revised stormwater plans showing contours with labels and the labelling on the proposed raingarden devices should be provided, to facilitate the review of the stormwater system. Catchment plans with contours should also be provided for each device.	N	Raingarden labels now included in the drawings but raingarden catchment plans not yet provided.
12	General	The proposed raingardens and wetlands are located in areas that are space-constrained and in some cases steep, leaving little room for safe maintenance access. The stormwater device design must allow for adequate room for safe maintenance access and operations, including a 3m vehicle access and associate turning areas, stockpiling and loading zones and other requirements.	N	This item is partially addressed. Detention pond plans indicate maintenance access to detention ponds, but there are still no drawings that clearly indicate maintenance access and working areas for raingardens.
13	General	There are parts of the stormwater network that do not discharge to a raingarden, a peak flow attenuation wetland, or both, hence preventing discharges from these networks from being subject to water quality treatment or peak flow attenuation. Some examples are illustrated in FIGURE 1 below, where networks highlighted in red do not drain to a raingarden or wetland, and those highlighted in blue drain to raingardens but not to wetlands. The design should ensure that both stormwater quality and quantity functions are addressed for all networks involved.	N	Item not specifically addressed.
14	General	The design intends for all flows to discharge to the proposed peak flow attenuation wetlands, which if may result in re-suspension of sediments and associated contaminants, if flow velocities are not appropriately managed particularly during large storm events. It is uncertain how discharges into the various devices will be managed to manage flow velocities and prevent erosion and scour	N	Item not specifically addressed.
15	General	Sediment forebays / extraction zones should be provided to all stormwater management devices to facilitate maintenance and reduce risk of contaminant release and/or disturbance to plant life during maintenance and cleaning activities. These have not been provided for in the proposed design.	N	Item not specifically addressed.
16	General	An Operation & Maintenance (O&M) Plan has not been provided as part of the application. A draft O&M Plan should be submitted for review, including details of the proposed inspection and maintenance regime frequencies, preventative and periodic maintenance tasks, and ownership and maintenance responsibilities. Maintenance of the stormwater system should be managed by the development for 5 years following construction to allow establishment of these systems prior to any proposed handover of maintenance activities to Tiaki Wai.	N	Draft O&M Plan not provided.
17-19	Stormwater Treatment	The Stormwater Management Plan (SMP) assumes imperviousness levels of 75% for lots and 85% for roads for raingarden design purposes. However, the contributing areas used for raingarden sizing are inconsistent with this assumption. Rather than applying 75% imperviousness, the design adopts fixed contributing areas of 200 m² (roof) and 36 m² (driveway) per lot - totalling 236 m² per lot. For the majority of lots, which range from approximately 500 m² to 600 m² in area, a 75% imperviousness assumption would yield contributing impervious areas of 375 m² to 450 m² respectively - significantly greater than the 236 m² applied. The raingarden design should therefore be re-visited to account for the assumed lot imperviousness.	N	Item not specifically addressed.
20 & 21	Stormwater Treatment	In accordance with the Wellington Stormwater WSUD Treatment Device Design Guide (Wellington Water, 2019), bioretention devices must have a surface area of approximately 2% of their contributing impervious catchment. A detailed review of all 30 proposed raingardens was undertaken using the drawings and the raingarden table in Appendix 2 of the SMP. The findings of this review are summarised below: (a)The review found that nearly all raingardens fall well below the 2% threshold, even when assessed against the lower 236 m² per-lot assumption (refer Table 1). Non-compliance becomes more pronounced when the 375 m² to 450 m² impervious areas required under the 75% assumption are applied. (b)Additionally, a number of discrepancies were identified, for example with regard to the contributing catchment areas and raingarden labelling used in the "Raingarden Catchment" table in Appendix 2 of the SMP not aligning with the design plans. TABLE 1 below shows a full list of the findings for each of the raingardens, with raingarden label discrepancies shown in red font.	N	This clarification item allows for batters and buildable area constraints to be excluded from the maximum impervious area calculation, as agreed through the JWS. It was also agreed that the provision of rainwater tanks would allow the contributing roof catchment areas to be removed from the raingarden catchments for purposes of raingarden sizing. However, this item is not yet fully addressed as it is contingent on rainwater tank clarification requests relating to JWS item 22. The discrepancies in Table 1 have not yet been specifically addressed.
22	Stormwater Treatment	The stormwater plans do not appear to show a raingarden or alternative treatment device for the 1.3-hectare commercial centre. This information should be provided.	Y	The applicant proposes that the commercial lot manage its own stormwater at source, the design will be subject to a separate design and consenting process.

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23	Stormwater Treatment	Drawing No. 4900 ("Typical Drainage Details – Raingarden Details – Sheet 1 of 5") shows a 450mm deep storage layer below the drainage layer and subsoil pipe, which is contained by an impermeable HDPE liner. Unless the storage layer is intended for stormwater retention through infiltration to ground, clarification is required as to what the purpose of this storage layer is.	Y	Storage layer design to be amended in light of the fact that the raingardens will be lined. This is accepted.
24	Hydrological Control	Hydrological controls, which mitigate development-related changes in small but frequent rainfall events that result in stream instability (channelised erosion) and impacts on stream health through reduced infiltration and baseflows, are not specifically proposed. These controls include retention (via infiltration and/or rainwater reuse), and/or extended detention measures, designed in accordance with GWRC's Hydrological Control Guidance Note (Sept 2025).	N	Revised detention pond design does not include allowance for extended detention for contributing catchments. Road catchment hydrological control not addressed. Newly proposed 3000L rainwater tanks proposed for roof catchments. These include 2000L retention and 1000L extended detention volume (EDV). Retention only partially addressed (only outdoor use proposed, no plumbing to the house). Additionally, tanks do not appear to have been sized following GW's Hydrological Control Practice Note (for reference, a 200m2 roof would require 3,000L retention plus 1,000 to 2,000L EDV, so a 4,000 to 5,000L tank, depending on in-situ soils). Further, the EDV outlet should be sized to discharge the EDV over 24 hours (this has not been demonstrated). Hence hydrological control mitigation not fully addressed.
25 & 26	Hydrological Control	In the context of stream discharge-related effects, the hydrology assessment (Appendix 18) instead focuses on 'hydraulic neutrality' achieved through "retention" wetlands which control peak flow rates from large, infrequent rainfall events to address flood risks and protect downstream infrastructure. Sections 6.7 and 6.8 of the Stormwater Management Plan state that the proposed wetlands will provide retention, extended detention, and peak flow attenuation. However: (a)Wetlands are not suited to provide a hydrological control retention function (i.e., where an internal water storage is used beneath the drainage layer to promote infiltration to ground and maintain stream baseflows). Retention is better suited to raingardens or infiltration devices. (b)The SMP does not demonstrate how extended detention will be achieved for hydrological control - no drawings or details are provided showing wetland orifice or live storage configurations for extended detention (as opposed to peak flow attenuation), nor a clear demarcation between the extended detention and peak flow attenuation functions. The SMP appears to combine these two functions, which serve distinct purposes.	N	Revised detention pond design does not include allowance for extended detention for contributing catchments. Road catchment hydrological control not addressed either in the detenton ponds or raingardens.
27	Hydrological Control	The Hydrology Assessment (Section 6.3) states that the proposed raingardens will be lined, meaning they will not provide retention or infiltration to protect stream baseflows. Section 8.1.4 also confirms that no rainwater reuse is proposed for roof areas, meaning that no water conservation measures for stormwater volume mitigation are proposed. Together, this indicates that volume mitigation is not currently incorporated into the design.	N	Refer item 24 above - hydrological control mitigation not fully addressed.
28 & 29	Hydrological Control	The hydrology assessment notes that most streams in the development site are perennial, with ephemeral sections in the lower catchments where seepages contribute to baseflow recharge. Wetlands in the valley floors also rely on groundwater recharge. The report also notes that receiving streams show evidence of bank slumping and increased sedimentation, and Table 5 of that report estimates a significant rise in daily discharge volumes in the Taupo and Kakaho West streams and tributaries, as a result of the proposed development. Although the Kakaho East and Muri Road catchments were not assessed, they are likely to experience similar impacts. Without mitigation, additional impervious surfaces could further exacerbate existing channelised steam erosion in these systems.	N	Refer item 24 above - hydrological control mitigation not fully addressed.
30	Hydrological Control	The report states that post-development conditions will result in fewer periods of both no flow and high-intensity flow, concluding that "there should not be a negative effect on downstream hydrology." However, it is unclear how the reduction in no-flow periods will be achieved, as the design excludes groundwater recharge through infiltration (e.g., the proposed lined raingardens) and provides no alternative means to sustain baseflows.	N	Item not specifically addressed.
31	Hydrological Control	Furthermore, as already mentioned, the report omits any reference to hydrological controls aligned with the objectives of PC1, which could address these concerns. The stormwater management design should therefore incorporate hydrological controls for all new impervious areas, consistent with GWRC's Hydrological Control Guidance Note (Sept 2025). These should include retention and/or extended detention measures to mitigate stormwater volume and reduce channelised erosion risks.	N	Refer item 24. Hydrological control not fully addressed.
32	Hydrological Control	Given the above findings, it is recommended that the design be revisited to incorporate the following hydrological controls for all contributing impervious catchments, including roads, lots and the proposed 1.3-hectare commercial centre, designed in accordance with GWRC's Hydrological Control Guidance Note (Sept 2025): (a)Stormwater volume mitigation using rainwater tanks in the lots for non-potable water reuse; (b)Channelised stream erosion protection through the provision of dedicated extended detention within the proposed wetlands.	N	Refer item 24. Hydrological control not fully addressed.

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TABLE 1

SMP	Drawings	SMP discrepancies when compared with design plans	% area, based on 236m² imp area/ lot
1	1	Joal A should be added to contributing catchment	1.3%
2	2	OK	1.4%
6	3	Contributing lots assessed as 52, should be 53. Raingarden label discrepancy should be corrected.	2.5%
4	4	OK	1.3%
5	5	Contributing lots assessed as 58, should be 54.	1.3%
7	6	Joal K should be included in contributing catchment. Contributing lots assessed as 25, should be 29. Raingarden label discrepancy should be corrected.	1.1%
8	7	OK	1.3%
9	8	Contributing lots assessed as 17, should be 19.	1.1%
10	9	OK	1.3%
11	10	Raingarden label discrepancy should be corrected.	1.1%
12	11	Raingarden label discrepancy should be corrected.	1.1%
13	12	Contributing lots assessed as 95, should be 94. Raingarden label discrepancy should be corrected.	1.2%
14	13	Raingarden label discrepancy should be corrected.	1.2%
30	14	Raingarden label discrepancy should be corrected.	1.2%
15	15	Raingarden size has changed. Shown as 240m² on the SMP, but plans suggest the size of this raingarden is smaller – this should be checked.	1.0%
16	16	OK	1.2%
17	17	Contributing Road (Road-32). Previously stated in SMP as Road-02.	1.2%
18	18	OK	1.3%
19	19	Contributing lots assessed as 5, should be 7.	1.0%
20	20	OK	1.3%
21	21	OK	1.2%
22	22	OK	1.2%
23	23	OK	1.2%
24	24	OK	1.2%
25	25	OK	1.2%
26	26	OK	1.0%
27	27	OK	0.6%
28	28	OK	0.9%
29	29	OK	1.2%
3	30	There is an area along Road 10 that does not appear to drain to any raingarden on the plans; i.e., RG-03 in the SMP, which is called up as a 175m2 raingarden drains Road 10, Joal C and Joal D, could not be identified on any of the plans (we believe it should be located in vicinity of lots 235 and 236). Additionally, the contributing lots assessed for this raingarden should presumably be 44, not 48 as noted on the SMP. Raingarden label discrepancy should also be corrected.	Unknown

FIGURE 1

