

Glenelg Phase 3 - Comment Response Matrix		
COMMENT #	UPDATED COMMENT (GRCA, JULY 14, 2025)	RESPONSE (CROZIER)
<b>Comments on Feature-Based Water Balance - Grand River Conservation Authority (March 22nd, 2024)</b>		
<b>GRCA Comments:</b>		
1	We acknowledge that a revised calculation has been provided. However, additional clarifications (see comments below) are required for the feature-based water balance.	Acknowledged.
2	We acknowledge that significant improvements to the water balance have been made through the proposed mitigation measures. However, additional measures are still required at Outlet #1 and Outlet #2 to ensure that post-development infiltration matches or exceeds pre-development levels. Enhancing infiltration at these locations would help reduce post-development runoff, particularly at Outlet #2, where runoff is currently projected to increase by 161%.	The FBWB has been revised to present the interim condition with the Phase 3A lands built out. As shown in the FBWB Report, the proposed mitigation scheme aims to reduce changes in post-development. Runoff volumes will increase by 13% and 69% for the outlet #1 wetland and outlet #2 wetland, respectively, under post-development (mitigation) conditions compared to pre-development conditions. Given that there is no development proposed in the contributing areas to outlet #3 and outlet #4 wetlands, there is no change in post-development conditions compared to pre-development conditions. According to the consulting Ecologists at SLR, the proposed mitigation scheme is adequate in mitigating the impacts to the receiving wetlands. This was also discussed in the FBWB meeting between the GRCA, Crozier and SLR on August 21, 2025.
3	This comment may be considered addressed if a clear justification is provided for the annual mitigated infiltration volume of 28,148 m <sup>3</sup> /year, attributed to the direct connection of the roof area to the drainage layer	The proposed LID scheme has been revised and direct connection of roofs to the drainage layer is no longer proposed. Please refer to Section 3 of the SWM Brief for more information on the revised LID scheme.
4	Please confirm whether the same climate station was used for both the continuous and monthly datasets. Additionally, please explain the significant discrepancies observed during the winter months between the two data sets	Different climate stations were used for the feature-based and site-wide water balances due to limited available data. For the FBWB, continuous climate data for 2013-2022 were obtained from the Luther Marsh station. For the site-wide water balance, climate normals between 1981-2010 were obtained from Proton Station. The significant discrepancies between the two datasets is believed to be caused by the different time periods. The site-wide water balance calculations, have been revised within the SWM Brief to use the 1991-2020 climate normals from Proton Station.
5	Please provide detailed justification for the direct connection of roof drainage to the drainage layer without incorporating Low Impact Development (LID) measures, including all relevant calculations, assumptions, and supporting references. Additionally, please note that the GRCA requires a minimum 1.0 m separation between the bottom of each proposed infiltration facility and the seasonally high groundwater table at the specific location of the facility. This requirement does not refer to the clearance between the groundwater table and the proposed finished grade for the Subject Site, as depicted in Figure 5. Please revise the submission accordingly and provide the necessary supporting information.	The proposed LID scheme has been revised and direct connection of roofs to the drainage layer is no longer proposed. Please refer to Section 3 of the SWM Brief for more information on the revised LID scheme.
6	Please provide the seasonal high groundwater table in the vicinity of the 'direct roof connection to the drainage layer'. Additionally, please confirm if the plotted groundwater on the School Block infiltration fetchers profile represents the seasonal high groundwater table.	Please note that the proposed mitigation measures have been revised and direct roof connection to the drainage layer is no longer proposed. Additionally, the plotted groundwater on the School Block infiltration fetchers profiles represents the seasonal high groundwater table.
7	Based on updated information, GRCA has more specific comments on this matter (see comments 21 and 22 below).	Acknowledged.
8	We acknowledge that the Glenelg Phase 3A - Servicing & SWM Implementation Report has been stamped by a professional engineer. However, the Civil Drawings Set has not been stamped by a professional engineer. Additionally, the Southgate – BWDSB New School Block Servicing & SWM Implementation Report and relevant drawings within the report have not been stamped. Please provide stamped report and drawings in the next submission.	To be provided in the subsequent Servicing & Stormwater Management Implementation Report.

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<b>Comments on 1st Submission Detailed Design - Grand River Conservation Authority (July 14, 2025)</b>		
<b>GRCA Comments:</b>		
9	The report indicates that the entire Glenelg Phase 3 lands drain to five different outlets under pre-development conditions. Tile drains serve as intermediate receivers for Outlets 2, 3, and 4. It should be noted that tile drains are typically sized differently from conventional stormwater management infrastructure (e.g., storm sewers). For instance, some tile drains are designed to convey flows equivalent to 25 mm per hectare over a 24-hour period. The GRCA has concerns regarding the suitability of these tile drains as receivers for standard post-to-pre-development stormwater management flows. Please provide justification	Please note that at outlets #2, #3, and #4, the tile drains are tile drain outlets. Therefore, there should be no concerns regarding the suitability of tile drains as receivers. The SWM Brief has been revised to provide clarification on this in Section 2.0.
10	The Glenelg Phase 3 – Servicing & Stormwater Management Implementation Report does not include a description for Catchment INT-7.	Acknowledged. Section 2.1 of the SWM Brief has been revised to include a description for Catchment INT-7.
11	Please revise Figure 6B to remove features that pertain only to interim conditions (e.g., channels and 3:1 slopes).	Acknowledged. Figure 6B has been revised to remove features that pertain only to interim conditions.
12	The velocity in the interim drainage channel has been calculated at 1.17 m/s. At this velocity, channel erosion protection may be necessary. Please either propose appropriate erosion control measures or provide justification for why such protection is not required.	Please note that the interim drainage channel calculations have been revised. For the southeast channel, no additional channel erosion protection is necessary, given that the velocity in the channel is less than 1.2 m/s. For the northeast and northwest drainage channels, additional erosion control measures are required. To offer erosion protection, the channels will be lined with erosion resistant grasses. Further details will be provided in the subsequent Servicing & Stormwater Management Implementation Report.
13	The calculated drawdown time of 53.9 hours exceeds the maximum allowable drawdown time of 48 hours, as specified in the MECP Stormwater Management Planning and Design Manual (2003). Please revise accordingly	Acknowledged. The drawdown time for the SWMF has been revised and reduced to not exceed the maximum allowable drawdown time of 48 hours. Refer to the SWMF calculations provided in Appendix C of the SWM Brief.
14	Please provide the specific rectangular weir equation used to calculate the discharge, including all relevant parameters and assumptions	Acknowledged. The rectangular weir equation, relevant parameters and assumptions have been included in the SWMF calculations provided in Appendix C of the SWM Brief.
15	A review of civil drawings C106B and C106E indicates that a clay liner or geosynthetic clay liner (GCL) is proposed up to the extended detention water level (517.05 m). However, the observed groundwater level is approximately 1 m higher than the top elevation of the proposed liner. This raises the potential for groundwater intrusion into the pond, which could reduce the available active storage volume. Please consider extending the clay liner or GCL above the observed groundwater level. Additionally, please confirm whether the plotted groundwater level represents a seasonal high groundwater condition.	Yes, the plotted groundwater level on civil drawings C106B and C106E represents the seasonal high groundwater condition.
16	Please confirm whether the proposed clay liner or geosynthetic clay liner (GCL) can withstand the anticipated groundwater pressure. Buoyancy calculations should be provided to support this assessment.	Buoyancy calculations are being completed by the Geotechnical Consultant and will be submitted under separate cover.
17	Please include additional water level profiles on the SWM Pond cross-sections, specifically for the 2-year, 5-year, 100-year, and Regional Storm events.	Acknowledged. The SWM Pond cross-sections have been revised to include additional water level profiles for the 2-year, 5-year, 100-year and Regional storm events. Refer to Drawings C106B-C106D.
18	Please provide appropriately sized riprap at the SWM pond outlet to ensure erosion protection. Additionally, the use of a level spreader should be considered to help disperse flow and prevent concentrated discharge.	Acknowledged. A level-spreader has been incorporated at the SWM Pond Outlet and riprap has been sized to ensure erosion protection. Refer to Drawing C106A for the SWM Facility Plan and Appendix C of the SWM Brief for detailed calculations.
19	The Servicing & Stormwater Management Implementation Report (S&SWMIR) does not include a monitoring program. Please provide a detailed monitoring plan to verify the functionality of the proposed stormwater management strategy, including the performance of infiltration features	To be provided in the subsequent Servicing & Stormwater Management Implementation Report.
20	Typical Erosion and Sediment Control (ESC) drawings have not been provided. However, the Site Alteration Plan Stage 1 (C104A) and Stage 2 (C104B) appear to serve as ESC Drawings. Please confirm whether these drawings are intended to represent the ESC plans. Additionally, please address the following items related to ESC and site alteration: <ul style="list-style-type: none"> <li>• Confirm whether the proposed SWM pond will function as a temporary sediment control pond during construction.</li> <li>• Provide details on how the temporary Hickenbottom inlet was sized.</li> <li>• Provide information on the sizing methodology for the sediment traps.</li> <li>• Include a dedicated ESC section in the Servicing &amp; Stormwater Management Implementation Report (S&amp;SWMIR) to present and discuss the above items.</li> </ul>	<p>During Stage 1 topsoil stripping the proposed sediment pond and sediment traps will be used. During Stage 2 the sediment pond will be converted to the proposed SWM Pond while the Phase 3A area is being brought to pre grade, which will allow the runoff to be conveyed via the channels to the SWM Pond inlet.</p> <p>Appendix A within the Fill Control Report provides details to how the Hickenbottom was sized.</p> <p>Section 4.5.2 of the Fill Control Report provides details to how the Sediment Traps were sized.</p> <p>A S&amp;SWMIR will not be provided during this Submission however a dedicated ESC section will be provided in the future S&amp;SWMIR. The SWM Brief will not include an ESC section.</p>

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GRCA Comments:		
21	The report indicates that 3.18 hectares of roof area are directly connected to the drainage layer, resulting in a total annual infiltration volume of 28,148 m <sup>3</sup> /year. Please provide comprehensive documentation supporting the proposed approach of direct connection of roof runoff to the drainage layer without the implementation of Low Impact Development (LID). This should include all relevant calculations, assumptions, and references—such as infiltration rates, seasonal high groundwater levels, available storage capacity, and any other pertinent factors. Additionally, please clearly explain the methodology used to derive the annual infiltration volume of 28,148 m <sup>3</sup> /year.	The proposed LID scheme has been revised and direct connection of roofs to the drainage layer is no longer proposed. Please refer to Section 3 of the SWM Brief for more information on the revised LID scheme.
22	We acknowledge that significant improvements have been made to the water balance through proposed mitigation measures. However, additional measures are required at Outlet #1 and Outlet #2 to ensure that post-development infiltration meets or surpasses pre-development conditions. Notably, there is a substantial increase in runoff (161%) to the wetland at Outlet #2, along with a slight decrease in both runoff and infiltration to the wetland at Outlet #3.	The FBWB has been revised to present the interim condition with the Phase 3A lands built out. As shown in the FBWB Report, the proposed mitigation scheme aims to reduce changes in post-development. Runoff volumes will increase by 13% and 69% for the outlet #1 wetland and outlet #2 wetland, respectively, under post-development (mitigation) conditions compared to pre-development conditions. Given that there is no development proposed in the contributing areas to outlet #3 and outlet #4 wetlands, there is no change in post-development conditions compared to pre-development conditions. According to the consulting Ecologists at SLR, the proposed mitigation scheme is adequate in mitigating the impacts to the receiving wetlands. This was also discussed in the FBWB meeting between the GRCA, Crozier and SLR on August 21, 2025.