

## Contents

<b>1.0 Matamata Piako District Council</b>	<b>2</b>
1.1 Annexure A – Legal Memorandum	2
1.2 Annexure B – Planning Evidence	2
1.3 Annexure C – Urban Design Evidence	2
1.4 Annexure D – Economic Evidence	2
1.5 Annexure E – Geotechnical Evidence	4
1.6 Annexure F – NPS-HPL Evidence	12
1.7 Annexure H – Stormwater and Flooding Evidence	12
1.8 Annexure I – Public Water and Wastewater Evidence	16
1.9 Annexure J – Private Services – Retirement Village	17
1.10 Annexure K – Infrastructure Funding Evidence	19
1.11 Annexure L - Acoustic Evidence	22
<b>2.0 Waikato Regional Council</b>	<b>24</b>
2.1 Planning	24
2.2 On-Site Wastewater Servicing – Retirement Village	27
2.3 Bore Water Supply – Retirement Village	29
2.4 Stormwater Management	29

## 1.0 Matamata Piako District Council

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### 1.1 Annexure A – Legal Memorandum

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A legal memorandum response is provided as **Attachment 1**.

### 1.2 Annexure B – Planning Evidence

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A peer review of Planning matters was undertaken by Marius Rademeyer on behalf of Matamata Piako District Council. A response to these matters is provided within the Planning Response memo prepared by Barker & Associates provided as **Attachment 2**.

### 1.3 Annexure C – Urban Design Evidence

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A peer review of Urban Design matters was undertaken by Ian Munro on behalf of Matamata Piako District Council. A response to these matters is provided within the Urban Design memo prepared by Barker & Associates provided as **Attachment 24** and is supported by updated Urban Design Drawings.

### 1.4 Annexure D – Economic Evidence

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A peer review of Economics matters was undertaken by Tim Heath of Property Economics. The below response to matters raised is provided by Fraser Colegrave of Insight Economics, and is supported by an Economic Response Memo provided as **Attachment 7**.

**Table 1: Annexure D - Economic Evidence Response to Comments**

Summary of Comment (MPDC – Economics)		Applicant Response
1. <u>Residential Capacity Sufficiency</u>  Matamata has sufficient zoned, feasible, and realisable residential capacity over the short, medium, and long term. The proposal therefore introduces additional capacity in a location not required to meet projected demand and may undermine sequencing and uptake of existing or planned growth areas.		Our review demonstrates that the revised HCA substantially overstates feasible and realisable capacity and understates future demand. The model is opaque, relies on unrealistic assumptions, and produces outputs inconsistent with actual supply conditions. Accordingly, the conclusion that Matamata has ample capacity is not supported. Even if near-term capacity were adequate, advancing Ashbourne now promotes affordability, competition, and

		NPS-UD-aligned forward planning. (Refer: Economic Response Memo, Section 1 & Appendix A.)
2.	<u>Potential to stimulate demand</u>  The development is unlikely to stimulate new residential demand for Matamata. Activity enabled by the project is likely to represent redistribution of growth rather than net additional demand.	High-quality, large-scale developments frequently unlock latent demand by offering choices not otherwise available. Matamata already functions as a commuter location between Hamilton and Tauranga, with data confirming significant outbound flows. In a hybrid-work environment, Ashbourne is well-positioned to attract new households rather than simply redistribute existing growth. (Refer: Economic Response Memo, Section 2.)
3.	<u>Sufficiency of retirement village supply and appropriateness of location</u>  Existing and planned retirement village capacity appears sufficient to meet short–medium-term demand within the catchment, and additional RV development could occur on suitably sized zoned land without using Highly Productive Land.	The suggestion that RV needs can be met elsewhere is unsupported. Localised demand is higher than regional averages indicate, and suitable large, contiguous, development-ready sites are scarce. Ashbourne is uniquely capable of delivering a high-quality, integrated RV and associated benefits. (Refer: Economic Response Memo, Section 3.)
4.	<u>Loss and efficient use of Highly Productive Land (HPL)</u>  The proposal results in permanent loss of HPL. The evidence raises concerns about whether Clause 3.10 of the NPS-HPL is met and whether similar development outcomes could be achieved on non-HPL land. Incremental loss of HPL is identified as a significant adverse effect.	While the project results in some HPL loss, the FTA requires this to be weighed rather than avoided. The counterfactual that an equivalent development would occur elsewhere on non-HPL land is unsupported. No alternative site with comparable scale, feasibility, or integration have been identified, and the project delivers significantly higher-value land use including agrivoltaic productivity. (Refer: Economic Response Memo, Section 4.)
5.	<u>Displacement of economic activity and net regional benefit</u>  A large proportion of economic activity may displace construction that would otherwise occur in existing zoned growth areas. This may materially reduce net regional economic benefits, which are central to assessment under the FTA.	Claims of displacement rely on the unrealistic assumption that another project of similar timing and scale would arise elsewhere. No evidence supports this. Most of the growth, RV investment, commercial activity, and solar generation enabled by Ashbourne would not occur under the status quo. Net regional benefits remain substantial even after conservative adjustments. (Refer: Economic Response Memo, Section 5.)
6.	<u>Infrastructure costs, sequencing, and long-term network efficiency</u>  Infrastructure required for the project is unplanned, with associated risks relating to long-term ownership, maintenance, cost recovery, and inefficient	Concerns about infrastructure risk are unsubstantiated. Standard mechanisms—DCs, PDAs, targeted rates—ensure cost recovery, and a PDA is already advancing substantial contributions to wastewater upgrades. MPDC

	network extension. Redistribution of growth may also increase marginal costs in currently serviced or planned areas.	has extensive experience managing growth infrastructure, and no site-specific constraints have been identified. (Refer: Economic Response Memo, Section 6.)
7.	<p><u>Overall economic efficiency and FTAA significance threshold</u></p> <p>When considering displacement, HPL loss, infrastructure inefficiencies, and loss of rural-residential capacity, the evidence questions whether the regional benefits are sufficient to outweigh adverse effects, as required under section 85 of the FTAA.</p>	Ashbourne delivers significant net benefits: diversified housing supply, improved affordability, construction stimulus, renewable energy generation, and expanded residential capacity. The modest adverse effects, including limited HPL and lifestyle-section loss, are outweighed by the regional benefits, consistent with the FTAA's weighting direction. (Refer: Economic Response Memo, Section 7.)

## 1.5 Annexure E – Geotechnical Evidence

A review of the geotechnical matters was provided by Tony Cowbourne of Terrane Consultants. The below response to matters raised is provided by Ben McKay of CMW Geosciences and Clare Houlbrooke of WGA.

**Table 2: Annexure E – Tony Cowbourne Geotechnical Evidence Comment**

	Summary of Comment (MPDC - Geotechnical)	Applicant Response
2.1	<p><u>Level of Investigations</u></p> <p>There are two scales to the subsurface investigations needed for a site such as Ashbourne. Firstly to define the overall geological and groundwater models, and then sufficient coverage for the design of both the geotechnical and civils elements. The larger scale dimension is discussed in Section 2.2 following.</p> <p>The smaller scale requirements can be calibrated via the MBIE/NZGS Modules2 guidance as to the minimum amount of 'deep' subsurface tests (boreholes, CPT, etc) required for a liquefaction/earthquake assessment for a Plan Change and Subdivision Consent. In response to the initial peer review regarding investigation an additional ten CPT tests and two machine</p>	<p>Acknowledged.</p> <p>Further works have been identified in Section 8 of the GIR issued on the 17th November 2025 (<b>Attachment 5</b>), referenced HAM2023-0124AI Rev 3 to support earthworks as well as building consent applications.</p>

	<p>boreholes were completed. The investigation strategy is not clear. There are uncertainties with some of the results however they can be put to one side for the present<sup>3</sup>. There appears to be reasonable calibration between the boreholes and nearby CPT tests, which is favourable.</p> <p>The % coverage on the investigations is still quite low considering the size of the Ashbourne site and the complex geological and groundwater conditions. CMW have acknowledged the current time constraints and recognised that further investigations were likely be required as part of the detailed design and consenting.</p>	
2.2	<p><u>Paleo Channels</u></p> <p>As identified in our first review report the Waikato River used to flow through the Hauraki Basin rather than the Hamilton Basin and three large paleo-channels have been inferred in the vicinity of Matamata, as indicated in Attachment G4. The commentary given in the Rev 2 geotechnical report regarding paleo-channels is only of a general nature and there is no mention of any interpreted paleo-channels within the site. There is insufficient deep investigation data to calibrate this.</p>	<p>Refer Section 5 of the updated GIR in whole (included as <b>Attachment 5</b>). Sections on published geology, stratigraphic units, ground water and paleochannel all reference soils that are deposited by an ancient braided river system, confirming that soils are representative of paleochannel deposits. The risk these deposits pose to land development is quantified later in the GIR within Section 6 (primarily liquefaction potential and static settlement hazards), and mitigating measures have been presented in Section 7.</p> <p>As braided river systems have channels that infill and migrate to new areas quickly, it is understood that there will be several discontinuous minor paleochannels below the site. It is assessed that additional deep investigations, won't change the assessment of the ancient braided river migrating back and forth across the wider area of the site.</p>
2.3	<p><u>Active Faulting</u></p> <p>It is important that the Ashbourne site is shown to be free of active fault traces. The CMW assessment is not considered to be sufficient.</p> <p>There is no change to the previous suggestion that GNS should provide the assessment of active faulting. It could be as simple as a short statement.</p>	<p>The information that the reviewer has discussed in this comment has been reviewed and addressed previously. The reviewer should explain why the current assessment using DEM model is not sufficient.</p> <p>Please also note the following.</p> <ol style="list-style-type: none"> <li>(1) The Taupo Pumice Alluvium aged at approximately 2,000yrs old is not mapped on the development site.</li> <li>(2) Considering Table 11.1 in the MfE document, and given the average return interval of the Te Puninga Fault of 6,200yrs, and assuming there is</li> </ol>

		<p>a trace of an active fault even though the DEM study does not indicate a fault rupture through the site, the following points can be made:</p> <ul style="list-style-type: none"> <li>(a) IL1 structures are permitted within the fault avoidance zones established for any fault type,</li> <li>(b) IL2 buildings maybe be permitted within the fault avoidance zones for distributed/uncertain fault types and permitted/controlled/discretionary for well defined faults,</li> <li>(c) IL3 buildings are discretionary within the fault avoidance zones for distributed/uncertain fault types and non-complying for well defined faults, and</li> <li>(d) building outside of the fault avoidance zones (if established) is allowable for IL1-IL3 structures (in relation to the fault rupture hazard).</li> </ul> <p>During further geotechnical design stages, additional observations will be made and faulting will continue to be discussed and assessed in these future stages of design, should new data or observations come to light.</p>
3.0 4.0 & 5.0	<p>Hydrogeological setting and the Water Supply Bore</p> <ul style="list-style-type: none"> <li>• Uncertainty in the groundwater system and conceptual groundwater model.</li> <li>• Water quality effects of the wastewater disposal system on the water take from the RV Production Bore.</li> <li>• Use of late time data for hydraulic conductivity.</li> <li>• Effect of shallow groundwater levels on the wastewater disposal system and potential for soakage.</li> </ul>	<p>Mr Cowbourne's evidence and report has a recurring theme that there is too much uncertainty with the groundwater system in order to progress the application. There are always inherent variability and uncertainty involved in groundwater modelling. Hydrogeology requires interpretation of point data from a naturally derived system being translated into a three-dimensional understanding of the system. WGA agrees that this site has some hydrogeological complexities, but it is not so highly complex that we cannot understand the underlying hydrogeology sufficiently to apply modelling techniques and conservative parameters. There are numerous investigation sites both on the property and nearby which allow sufficient understanding of the groundwater system.</p> <p>Mr Cowbourne states that the level of factual groundwater data remains limited, with much of the information being too shallow to identify controls</p>

on the groundwater system. However, WGA consider that there is sufficient available information to understand the local groundwater system. In terms of the proposed groundwater take, the small size of the proposed take and the depth of the bore lessen any potential drawdown effects. In terms of the shallow groundwater levels, WGA have taken into account the multitude of investigation sites provided by CMW (GIR Figure 9), the drilling carried out by Brown Bros, and nearby groundwater investigations carried out for other clients in the area. For example, we have modelled the shallow piezometric surface under several farms to the north of Matamata for the application of wastewater. The observed and modelled groundwater levels at the Ashbourne site as presented in the WGA groundwater level map are consistent with this piezometric surface to the north.

The updated geological model presented by CMW aligns with our observed groundwater level fluctuations. WGA disagrees with Mr Cowbourne that there is uncertainty in what is controlling groundwater levels as outlined in the WGA memo included as **Attachment 4**.

In section 3.1 of his report Mr Cowbourne states that the lithological log was documented by the drillers. However, this is incorrect as the lithology was documented by WGA Hydrogeologists who are trained in geology.

WGA “reduced the assessed hydraulic conductivity” referred to in section 3.1 of Mr Cowbourne’s report was from our original assessment as we use a more conservative method to determine hydraulic conductivity from soakage tests than often used by geotechnical engineers. In WGA’s review of the soakage test results only the late-stage recovery data was utilised from the CMW tests as these are indicative of the bulk hydraulic conductivity for the following reasons:

(1) The early recovery data is dominated by the process of water taking up pore spaces in the material immediately surrounding the test hole, followed shortly after by downward drainage through the sediment as the

	<p>water level in the test hole drops below the saturated zone in the adjacent soil</p> <p>(2) The later stage data from each test reflects the behaviour of a more stable saturated zone around the lower half of the test hole, with an outward hydraulic gradient in the surrounding soils approaching 1. It is this data we have used to provide guidance on the saturated hydraulic characteristics of the surrounding soils.</p> <p>Mr Cowbourne describes the layers we describe as aquitards as a “seal”. However, an aquitard is a lower permeability layer which restricts groundwater movement but over the long term there is often leakage through these layers. The term for a “seal” would more accurately be described as an aquiclude. WGA consider the silty layers in this area are aquitards.</p> <p>Mr Cowbourne states that WGA envisage the overall groundwater system is controlled by a “completely infilled basin”, however this is not our conceptual understanding. Effectively the basin is acting like a bathtub with rainfall recharge (inflow) exceeding the discharge (outflow including leakage) during winter, leading to rising groundwater levels. During summer, groundwater levels will recede as groundwater dissipates with discharge slowly through the aquitard layer and through flow to the north. WGA consider the system has groundwater outflow to the north and inflow from the south.</p> <p>In section 3.1 of his report, Mr Cowbourne implies that it is the addition of new sites that have changed the piezometric surface. However, the piezometer he is referring to (HA24-16D) is one that had been monitored from December 2024. The rise in water level observed is more than typical seasonal groundwater level fluctuations, but similar responses have been observed in the past. For example, the regional council monitoring site (64_831).</p> <p>Hydraulic gradient between the Ashbourne RV Production Bore water level and the shallow water table has been raised by Mr Cowbourne. WGA consider</p>
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		<p>that the groundwater level in the production bore is likely to be higher following winter conditions rather than comparing with the static water measured during drilling of the Ashbourne RV Production Bore in March 2025. However, the hydraulic gradient is not an issue as the water quality modelling shows no E. Coli, faecal or virus effects even with a fully connected system as reported in WGA's memo included as <b>Attachment 4</b>.</p> <p>WGA understand that wastewater disposal clearance above the water table is being addressed by raising the disposal field by 600 mm. This has been incorporated in the updated wastewater disposal modelling in WGA's memo included as <b>Attachment 4</b>. Maven has redesigned the soakage across the site, taking into account the winter groundwater levels.</p>
6.1	<p><u>Liquefaction Hazard</u></p> <p>Revision 2 of the geotechnical report gives higher predicted levels of liquefaction and the benchmark requirement is now for TC2-TC3 Hybrid foundations.</p> <p>A TC2-TC3 Hybrid classification is not the norm for the Matamata urban area (normally TC1, sometimes TC2).</p> <p>Although not stated in the geotechnical report the change to a TC2-TC3 Hybrid has significant implications. It changes the default design from a fairly standard foundation system (eg a stiffened ribraft or similar waffle slab) to one that requires specific design, ground strengthening works and has limitations on the type of building (shape, cladding, etc). The cost increase varies between regions and site conditions. Considering the number of residential units within Ashbourne this translates into a very significant cost. It is a direct result of the high groundwater table.</p> <p>It is also noted that to date the liquefaction assessment only considers IL1 and IL2 buildings. The aged care building is an IL3 status building. This is a significant change.</p>	<p>Refer to the latest revision of the GIR, which contains the assessment and mitigation options for the proposed IL3 aged care building.</p> <p>The reviewer conveys that the norm for the Matamata urban area is normally TC1, sometimes TC2 foundations. However this cannot be a criteria to overrule site-specific assessment and related geotechnical recommendations. Recommendations have been provided to optimise liquefaction results in Section 8 of the GIR.</p> <p>Lastly, the hazard has been assessed, the potential effects have been quantified, and mitigation measures exist that are used throughout New Zealand to satisfy the consenting requirements.</p>
6.2	<p><u>Lateral Spreading Hazard</u></p> <p>Lateral spreading can be a primary hazard/risk issue when assessing the suitability of land for development due to the size of the area it can affect.</p>	<p>In the GIR, lateral movement slips with factor of safety less than 1 are present and it is assessed as a hazard that requires mitigation. This is why lateral</p>

	<p>The Rev 2 geotechnical report includes more details on the lateral spread hazard. There are calculations and indicative magnitudes for expected lateral spreading/lateral stretch ground movements. There is a residual uncertainty as to how deep the lateral movement could extend to.</p> <p>Lateral spreading can also affect new slopes such as those created by the greenway and the stormwater ponds. Rev 2 of the geotechnical report mentions a minimum 3 metre setback for buildings alongside the greenway for lateral spreading. It is not clear if this accounts for the higher groundwater levels. The risk assessment will need to be revisited as part of the pond-re-design currently underway.</p> <p>Lateral spread is highly susceptible to groundwater levels. Therefore the groundwater regime needs to be confirmed before the assessment of lateral spreading can be finalised.</p>	
6.3	<p><u>Future Development Area</u></p> <p>Revision 1 of the geotechnical report identified the future development area at the far western corner of the site as having the highest risk from lateral spreading, due to the proximity to the Waitoa River and the steepness of the topography. The predicted lateral spread extends a considerable distance away from the river and the report identified that ground stabilisation measures would be required.</p> <p>The future development area is not mentioned in Revision 2 of the geotechnical report. The level of assessed liquefaction susceptibility has increased from Rev 1 to Rev 2, therefore the lateral spread issues will also have increased and the requirements for ground stabilisation measures becomes more onerous. Lateral spreading is likely to be a significant cost penalty when it comes to development of this part of the site.</p>	<p>Guidance on lateral spread analyses was included for the Balance Lot/Future Development Area in Sections 6.6 and 7.3 of the GIR, which states the area should be subject to further study and recommendations once land use is determined (as this may also influence the importance level and information about seismic loads might also change over time with more research being available).</p> <p>It is further noted that the balance lot only forms part of this consent to the extent that it is to be subdivided as a vacant rural Lot. The future land use on this land would be subject to a separate consenting process.</p>
7.1	<p><u>Building Importance Levels</u></p> <p>The CMW report considers IL1 (minor) and IL2 (normal) buildings.</p> <p>The aged care building qualifies as an IL3 building as the criteria given in Table 3.2 of AS/NZS1170.0 Structural Design Actions<sup>4</sup> . This will significantly increase the design requirements (for example earthquake loadings will</p>	<p>The IL3 structure was removed from CMW's scope and hence reference to that was removed from the last GIR revision.</p> <p>Refer to the latest revision of the GIR, which contains the assessment and mitigation options for the proposed IL3 aged care building (<b>Attachment 5</b>).</p>

<p>increase by approx. 30%) and therefore costs compared to what appears to have been allowed for to date.</p>		
<p><u>Groundwater Levels in the Infrastructure Design</u></p> <p>The higher groundwater levels will affect some of the infrastructure design. For example, the Maven drawing for a pumping well at the retirement village shows a groundwater level of 65.31 mRL (see Attachment G11), whereas WGA Figure 1 indicates it has been increased to between 66 and 67 mRL (as per Attachment G8). The increase in uplift pressures will be significant.</p>	<p>Acknowledged. This will be addressed in detailed design.</p> <p>Uplift is mitigated with anchoring systems for underground infrastructure, such as mass concrete or percussion driven earth anchors systems (such as Platypus Ground Anchors) attached to infrastructure in the seismic case. Buoyancy during seismic cases can be mitigated by having drainage systems. These solutions are widely used in New Zealand for similar developments.</p>	
<p><u>Water Supply Pipe</u></p> <p>The geotechnical report recognises the potential for lateral spreading ground movement into the greenway and advises a minimum setback for buildings of 3 metres. The Maven plans show the inlet pipe from the water bore that will supply all of the retirement village runs along the side of the greenway (as per Attachment G11). There is therefore a potential for interruption of supply. The supply pipe may need to be re-designed. It could be as straightforward as re-routing it through the main part of the village.</p> <p>Given the amount of increase in groundwater levels consideration should be given to whether an assessment of the vulnerability of the proposed infrastructure to liquefaction effects is warranted.</p>	<p>Acknowledged. Detailed service design (including re-routing and/ or anti-buoyancy measure design for both static and seismic conditions) will be carried out as part of detailed design.</p>	
<p><u>Greenway Outlet Structure</u></p> <p>The existing groundwater levels within the western half of the greenway alignment are up to 67.5 mRL. A length of culvert will act as the discharge control measure at the transition from the almost flat greenway into the riprap lined channel end of the greenway under flood flow conditions. Water will pond within the greenway under flood conditions (the drawing indicates up to approx 68 mRL for the 1% AEP event).</p> <p>The outlet culvert and the confining embankment are only of a relatively short length. Seepage flows out of the channel could significantly surcharge piezometric pressures within the slope. The slope appears to be at risk of a</p>		<p>Further analysis of local greenway slope under static, elevated groundwater and seismic conditions (including liquefied soil conditions) is will be carried out detailed design stage. Appropriate mitigation solutions will be designed and selected based on analyses findings and project requirements.</p>

blowout type failure. Further assessment and stabilisation measures are warranted.	
<u>Natural Hazard Assessment</u> It is noted that there are some terminology and other discrepancies in the technical reports and across to the planning documentation. These will need to be tidied up once all the potential natural hazards have been benchmarked and the scale of risk mitigation measures determined.	Acknowledged - erroneous NHRA in Appendix H replaced with appropriate NHRA for subject site.
G2 - Geological layers inconsistent. CPT24-09 trace erroneous data on cross section.	Erroneous data removed from CPT24-09 on cross section. A decision was made not to delineate every subsoil layer called into question as the model presented for Cross Section A-A' serves as a way to understand the wider scale soil deposits, and as such is a simplified model of the site geology. Where Cross Sections A-A' and B-B' cross, it has been noted by the reviewer that geology presented on the model are inconsistent. The geologic sections both comprise Hinuera Formation soils. However, the soil deposits are more finely delineated based on soil consistency/strength in Cross Section B-B' when compared to A-A'. This is a function of the scale of each cross section and the intended use - A-A' being a model of widespread soil deposits over the entire site, and B-B' being a small cross section across the proposed greenway which was analysed for slope stability.

## 1.6 Annexure F – NPS-HPL Evidence

A peer review of NPS-HPL matters has been provided by Duncan Walker of Perrin Ag Consultants Limited. The matters raised by Mr Walker are addressed in the response memo provided at **Attachment 3**.

## 1.7 Annexure H – Stormwater and Flooding Evidence

A peer review of stormwater and flooding matters has been provided by Bronwyn Rhynd. The following table addresses comments raised by Ms Rhynd. The below table summarises responses to these matters provided by Hydrogeologists at WGA and Civil Engineers at Maven Associates and is supported by relevant attachments.

### Barker & Associates

+64 375 0900 | [admin@barker.co.nz](mailto:admin@barker.co.nz) | [barker.co.nz](http://barker.co.nz)

Kerikeri | Whangārei | Warkworth | Auckland | Hamilton | Cambridge | Tauranga | Havelock North | Wellington | Christchurch | Wānaka & Queenstown

**Table 3: Annexure E – Tony Cowbourne Geotechnical Evidence Comment**

Summary of Comment (MPDC - Geotechnical)		Applicant Response
(a)	<p><u><b>Groundwater Investigation and Soakage</b></u></p> <p>The reliance on soakage for stormwater disposal requires further investigation into site-specific groundwater conditions. Existing geotechnical and hydrogeological reviews confirm this necessity.</p>	<p>Following further monitoring of the existing groundwater levels and further geotechnical investigations being conducted by WGA and CMW the data confirmed that groundwater levels are elevated in the northern catchments in the proposed residential and retirement village. This concludes soakage-based devices in these northern areas, where necessary due to GWL, are no longer proposed. This has now been replaced by treatment and attenuation wetlands and piped reticulation, removing the dependence on vertical offset and infiltration effectiveness.</p> <p>Soakage for the primary network remains in the Southern Catchment, South-Western Residential Catchment and parts of northern (where levels have lifted out of the GWL) with Dry Basin A remaining where CMW's field investigation and WGA ground water modelling confirmed free-draining soils and significant groundwater depth of approximately 6.1m below ground level. Redundancy and contingency detention are provided throughout the network of trenches interconnection and overflow routing to Dry Basin A and Dry Basin B.</p>
(b)	<p><u><b>Design Review and Space Allocation</b></u></p> <p>There is a need to confirm that sufficient space is available within soakage basins and road carriageways, and to verify adequate separation from the groundwater table.</p>	<p>The need to confirm adequate space and clearance for soakage devices within road corridors has been addressed through further groundwater analysis and a refinement of the stormwater design. Soakage has been removed from Retirement Village catchments and majority of the northern residential catchment and replaced with wetlands and piped reticulation. Due to the lack of GWL separation at peak levels wetland C and D in the residential development are providing treatment and attenuation for the northern catchment. Wetlands 1 and 2 in conjunction with 4 centralised raingardens, are providing treatment and attenuation for the retirement village. These are now sized in accordance with the latest Maven SMP which has been modelled via HEC-HMS and Sensitivity Models ran in HEC-RAS.</p> <p>A small portion of the northern sub-catchment remains suitable for soakage for the primary network where the latest WGA groundwater modelling and contouring indicates sufficient vertical offset to GWL. These soakage trenches</p>

		<p>will be constructed post the Greenway being in place, as the WGA response Memo outlines, there will be net drawdown in GWLs across the catchment which then reinforces the soakage-based trenches in these areas that have good soakage soils and adequate offset to the peak GWL. Soakage will therefore remain in this localised area subject to confirmation at detailed design and groundwater monitoring will remain in place to inform the next design phase.</p> <p>In the southern catchment soakage will continue as the primary network. The trench is aligned and CMW soil logs and sufficient clearance to groundwater has been confirmed with around 6.1m clearance and aligns with newly constructed neighbouring Peakedale Development. Overflows for the soakage trench to Dry Basin A allows additional redundancy helping peak stormwater volumes to be managed within the trenches and the soakage in Basin A.</p>
(c)	<p><u>Seasonal Groundwater Monitoring</u></p> <p>Current groundwater monitoring has been limited to part of the year. Ongoing, year-round monitoring and adaptive management are recommended to address seasonal fluctuations and ensure robust design</p>	<p>The updated groundwater levels cover a seasonal response period and the winter levels have been used to derive a piezometric surface (<b>Attachment 4</b>). WGA has carried out additional modelling of the effect of roadside subsoil drainage as per the WGA memo included as <b>Attachment 4</b>. The removal of much of the reliance for soakage has removed the need for any further investigation. Ms Rhynd recommends ongoing groundwater monitoring and this can be achieved through the ongoing automated groundwater monitoring that has been installed in five monitoring sites.</p> <p>Ms Rhynd also refers to the geotechnical report for uncertainties on the effects of the wastewater on the bore water supply. These uncertainties have been covered in our response to Mr Cowbourne. The groundwater quality effects on the RV bore have been modelled by WGA with higher groundwater levels and with the ESR (2010) Guidelines and we consider the effects to be less than minor as reported in the attached memo.</p>
(d)	<p><u>Greenway Flows and River Interaction</u></p> <p>The appropriateness of the 80% pre-development/post-development flow threshold for Greenway flows must be reviewed. Additionally, the interaction</p>	<p>Post-development peak flows for the 100-year ARI event from the proposed development are attenuated to 80% of the pre-development peak flows in accordance with WRC's TR20/07 standard and is therefore deemed as appropriate. There is a large existing flood area to the south of the project</p>

	<p>between Greenway discharge and the Waitoa River requires further assessment prior to detailed design.</p>	<p>which will now be collected and conveyed into the Waitoa River via the proposed greenway during extreme events. Flows beyond the project extent are not (and do not require to be) attenuated by the greenway. As the greenway enables a new pathway for stormwater during extreme flood events to be conveyed to the Waitoa river, it results in a theoretical 20mm increase in water surface elevation within the Waitoa River directly downstream of the greenway. While this increase is acknowledged, it is considered minor with negligible effects and is outweighed by the substantial upstream benefits and overall reduction in localized flooding across the site. Its also important to point out this is via a sensitivity analysis which assumes zero soakage, all pipe networks are blocked, allows for climate change adjustments and assumes there are no other drains discharging to the Waitoa river upstream (upstream catchment is based on LiDAR).</p>
(e)	<p><u>Design Methodology and Information Gaps</u></p> <p>The applicant's memo outlines the intended approach for Greenway and Basin B infrastructure, referencing relevant regional guidelines. However, it does not provide new or sufficient detail to address technical concerns, particularly regarding groundwater table interaction and stormwater attenuation.</p>	<p>As explained in the Greenway Memo dated 23rd September, the greenway and Basin B are sized:</p> <ul style="list-style-type: none"> <li>• To provide conveyance of Existing inflows south of Greenway.</li> <li>• To provide conveyance of the attenuated flow RV Basin southern catchment</li> <li>• To provide conveyance and attenuation of flows (100year cc ARI) above the 10year cc event from Catchment B of the Residential.</li> <li>• To provide attenuation such that the total outflow equals to 100% of inflows (conveyance) plus 80% of the Basins B predevelopment 100yr flow.</li> </ul> <p>Details of the flows and storage being achieved as well as the proposed attenuation device are provided in the memo. A detailed HEC-RAS model has been completed which proves the stormwater attenuation is being achieved. Peak groundwater levels within vicinity of the greenway will be restricted due to inflow and conveyance of baseflows to the Waitoa river. See WGA's updated memo dated November 2025 on the impact the greenway will have on existing peak groundwater levels.</p>

(f)	<p><u>Proposed Design Changes</u></p> <p>In response to observed seasonal high groundwater levels, the applicant proposes revised soakage locations (roadside trenches) and a continuous subsoil drainage network to manage peak groundwater. Despite these proposals, detailed design information remains lacking, making it difficult to confirm the viability of these solutions within the proposed development footprint.</p>	<p>Refer Maven s53 Technical Response Memorandum along with the updated Stormwater Management Plan (SMP) with additional ground water modelling and design updates.</p> <p>As per item b above, soakage has been removed from the design in areas of high groundwater levels.</p>
(g)	<p><u>Long-Term Monitoring and Conceptual Testing</u></p> <p>Integration of road, Greenway, and soakage basin designs with seasonal groundwater fluctuations requires extended monitoring and conceptual design testing at this stage, to ensure resilient outcomes and inform future resource consent decisions</p>	<p>Agreed, extended monitoring of groundwater fluctuations will be of benefit and can be conditioned.</p>
(h)	<p><u>Greenway and Outlet Design Concerns</u></p> <p>The current Greenway design and rip rap protection at the outlet raises concerns regarding flow velocity and effectiveness. Alternatives should be considered to achieve best practicable option.</p>	<p>Refer to design updates of plans C490-1 and C152. A riprap apron is proposed at the outlet of the proposed 1050mm culvert of dimensions 3m x 10m, D50 = 300mm, depth = 600mm. For connection to Waitoa River, a channel is proposed of 1m depth, 3m wide base with 1V:3H slopes (to be verified by the geotechnical engineer) lined with channel armouring. At 15% grade requires D50 = 900mm riprap at min depth 1.8m. at 3% grade requires D50=250mm riprap at min. depth 0.5m. Embankments will be planted with riparian vegetation. Further details to be confirmed during EPA.</p>

## 1.8 Annexure I – Public Water and Wastewater Evidence

A peer review of stormwater and flooding matters has been provided by Santha Agas. The following table addresses comments raised by Ms Agas. The below table summarises responses to these matters provided by Hydrogeologists at WGA and Civil Engineers at Maven Associates, and is supported by relevant attachments.

**Table 4: Annexure I – Public Water and Wastewater Evidence Comment**

Summary of Comment (MPDC – Public Water and Wastewater)	Applicant Response
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### Barker & Associates

+64 375 0900 | [admin@barker.co.nz](mailto:admin@barker.co.nz) | [barker.co.nz](http://barker.co.nz)

Kerikeri | Whangārei | Warkworth | Auckland | Hamilton | Cambridge | Tauranga | Havelock North | Wellington | Christchurch | Wānaka & Queenstown

<p>“Based on the review, water and wastewater services can be provided to the Ashbourne Residential Development subject to necessary network upgrades. Further detailed assessments are required to confirm the exact scope and timing of those upgrades to ensure sufficient capacity within MPDC’s existing infrastructure.”</p>	<p>Noted.</p>
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## 1.9 Annexure J – Private Services – Retirement Village

A peer review of the private wastewater and water matters for the Retirement Village has been provided by John Sternberg. The following table addresses comments raised by Mr Sternberg. The below table summarises responses to these matters provided by Hydrogeologists at WGA and Civil Engineers at Maven Associates and is supported by relevant attachments.

**Table 5: Annexure J - Private Services Evidence Summary**

Summary of Comment (MPDC – Private Services)		Applicant Response
1.1	Wastewater	
(a)	<p>MPDC has confirmed that the public wastewater system does not have enough capacity to service the retirement village component of this development. This means all wastewater infrastructure within the retirement village will not be vested in council and wastewater will be required to be managed and treated on site.</p>	Noted
(b)	<p>The proposed wastewater management philosophy includes on-site treatment and land disposal. The proposed treatment process (Innoflow) is well known in NZ and acceptable. However disposal of treated wastewater to land is subject to further investigation and more detail regarding location and design of the disposal beds, given the updated findings by WGA (31 October, 2025) of the unacceptably high ground water table (0.5m below ground level (bgl)) in the vicinity of the disposal fields – which may be further exacerbated by ground water mounding.</p>	<p>We propose to raise the land to achieve minimum 600mm vertical clearance above peak groundwater levels in the effluent flow dispersal field. This will be undertaken with excess topsoil. Refer to plan C2200.</p>
(c)	<p>Terrane’s report (31 October, 2025) has highlighted concerns relating</p>	<p>Please refer to response on groundwater matters under Annexure E.</p>

	<p>to the groundwater regime, specifically relating to the groundwater table and the potential impact of treated wastewater on bore water quality, supporting the above statement and the need for further investigation and/or design changes for disposal of treated wastewater.</p>	
(d)	<p>Pending the outcome of the above and the level of confidence in the viability of land disposal of treated wastewater, locations and areas of both land disposal area and associated reserve area site(s) should be confirmed before approval can be granted.</p>	<p>Based on the above responses, the investigations and design completed to date, we believe the proposed dispersal field and reserve field are viable and the location and area is confirmed as shown on Maven's updated engineering plans and scheme plans.</p>
(e)	<p>Terrane's reports have highlighted concerns relating to high groundwater levels and the impact on wastewater pumpstation risk/design as well as a high risk zone near the entrance (water tank location) and potential risk to services. This needs further investigation which may result in potential design changes.</p>	<p>Wastewater infrastructure below peak groundwater levels will be sealed (PVC piping, PE piping, manholes, tanks and chambers) to minimise infiltration and inflow into the wastewater system as well as the land disposal area.</p>
(f)	<p>It is also noted that, as a result of the high water table, flotation will need consideration when designing the wastewater treatment system (Innoflow) as this will mostly be buried up to 2.7m below ground level.</p>	<p>All wastewater treatment plant tanks and the wastewater pumpstation chamber will include anti-flotation. This may be in the form of concrete collars at the base of the tanks. Calculations and proposed means of anti-flotation will be undertaken at detailed design.</p>
1.2	<p><i>Water Supply</i></p>	
(a)	<p>MPDC has confirmed that the existing water supply network in Matamata will not have enough capacity to service the retirement village. This means that no water supply infrastructure within the development will be vested in council and potable water will therefore need to be sourced, managed and treated on site.</p>	<p>Noted</p>
(b)	<p>The proposal is to supply water from a new 120m deep bore on site, treat, store and distribute to the retirement village. Water bore modelling (by WGA) has indicated that there is likely to be less than minimum impact on existing bores or surface water bodies as a result of this bore and also less than minimum impact of disposed treated wastewater (50m away) on the</p>	<p>The evidence from Mr Sternberg states that feedback from Terrane indicates concern and further investigation is required for the bore water supply. WGA have responded to the queries raised by Mr Cowbourne above in response to Annexure E. WGA have prepared calculations with conservative parameters that show no effects on nearby bores, surface water and water quality as accepted by WRC reviewers. WGA have carried out an additional assessment</p>

	<p>bore water quality. However, recent feedback from Terrane (31st October, 2025) indicates concern and further investigation is required in this regard.</p>	<p>against ESR (2010) Guidelines for separation distances based on virus transport between on-site domestic wastewater systems and wells. WGA note that the pumice sand saturated aquifer has a very high virus removal rate and the ESR (2010) guidelines recommend a separation distance of 20 m to provide adequate log reduction. Therefore, a separation distance of 50 m exceeds this value. Our updated attenuation assessment with the conservative parameter (no aquitard layer) also shows no effect on water quality in the bore. WGA agrees that a Safe Drinking Water Plan will be required in accordance with Taumata Arowai.</p> <p>Mr Sternburg recommendation that further bore yield investigation be undertaken. WGA consider that given the size and depth of the proposed take that the testing is adequate for a resource consent application as confirmed by the WRC review.</p>
(c)	<p>Water quality will need to comply with Drinking Standards requirements, and monitoring and reporting will need to be in accordance with Taumata Arowai (regulator) requirements.</p> <p>Regarding the latter, an approved management organisation and protocol will be required to ensure monitoring, reporting and compliance. The applicant agrees.</p>	<p>Noted</p>

## 1.10 Annexure K – Infrastructure Funding Evidence

A peer review of the infrastructure funding evidence has been provided by Susanne Kampshof. The following table addresses comments raised by Ms Kampshof. The below table summarises responses to these matters provided by the Applicant and Civil Engineers at Maven Associates and is supported by relevant attachments.

**Table 6: Annexure K – Infrastructure Funding Evidence Summary**

Summary of Comment (MPDC – Infrastructure Funding Evidence)	Applicant Response
Council acknowledges the importance of supporting growth while ensuring infrastructure costs are fairly and sustainably managed. The proposal from Ashbourne has been reviewed in detail, and Council is broadly supportive of	Unity have proactively been engaging with Matamata-Piako District Council to determine a fair and reasonable approach to financial contributions where

<p>the water and transport components, subject to further investigation into specific elements such as the booster pump and external roading upgrades.</p> <p>Regarding wastewater, Council's position is that development contributions must be upheld in accordance with the current policy. Council is open to considering offsets where developers undertake works that provide wider community benefits, but this must be done transparently and without compromising Council's overall funding position.</p> <p>Specifically:</p> <ul style="list-style-type: none"> <li>• Council is prepared to co-fund the additional storage at the Eldonwood Pump Station with a 33% contribution deemed fair</li> <li>• Council is willing to contribute to the renewal of the 150mm gravity main wastewater pipe on Burwood Road</li> <li>• Other network upgrades will need to be borne and completed by the developer.</li> </ul>	<p>infrastructure costs associated with Ashbourne are appropriately funded by the developer, thereby avoiding financial impacts on existing ratepayers.</p> <ul style="list-style-type: none"> <li>• Engagement has been underway on design, capacity, scenarios, etc between MPDC and Unity's design team (being led by the developer's engineers Maven) since the start of 2024 to land on the current design within the application.</li> <li>• Specific meetings and communications between Unity and MPDC have been undertaken to progress a Private Developer Agreement (PDA) which would clearly outline how the financial contributions for Ashbourne would be addressed. Not only along with the costs, the PDA would outline the staging, responsibility, maintenance, and a range of other items as expected in a PDA to set clear expectations.</li> <li>• Unity (and its representatives) have been actively working with MPDC (and its representatives) to develop the PDA towards being finalised and agreed, with MPDC positively engaging with Unity in this process.</li> <li>• MPDC has outlined its position in its s54 response under "Annexure K – Infrastructure Funding Evidence". We agree with the conclusions by Susanne Kampshof, MPDC, under section 9. With further comments as below.</li> <li>• Regarding scope of the PDA, Unity are in agreement with the scope of all public infrastructure with MPDC, apart from the following transport items listed in MPDC Memo within Annexure K:       <ul style="list-style-type: none"> <li>• Pedestrian Provision - Refuge Island on Smith Street           <ul style="list-style-type: none"> <li>◦ MPDC Position: Refuge island on Smith Street requested</li> <li>◦ Unity Position: Refuge island on Smith Street not required. Instead encourage the use of the school crossings, rather than a central refuge. Outlined in Commutes s55 response.</li> </ul> </li> <li>• Staging. Some responses to stage a certain transport item is required, or triggers for when this is required, have been outlined in Commutes s55 response.</li> <li>• Pedestrian Provision - Footpath upgrades</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>○ Unity and MPDC may be in agreement on this item, but await further response from MPDC.</li> <li>○ MPDC Position: Footpath upgrades on Jellicoe Street and Hampton Terrace where there is no footpath. Stage 1.</li> <li>○ Unity Position: Provision of pram crossing and footpath connections from existing Jellicoe Road footpath to existing Hampton Terrace footpath, Stage 1. Outlined in Commutes s55 response</li> </ul> <p>Regarding Financial Contributions, Unity are in agreement as to the costs and approach outlined in MPDC Memo within Annexure K, subject to the above traffic item. This includes agreement on the contribution to water, wastewater and transport, and contribution or DC offset to development contributions for the items listed which will provide wider community benefit – refer MPDC Memo in Annexure K for further detail:</p> <ol style="list-style-type: none"> <li>1. Eldonwood Pump Station - MPDC to co-fund or DC offset for 33% of additional storage at the Eldonwood Pump Station</li> <li>2. Burwood Road Wastewater Line - MPDC to contribute to the renewal portion of the Burwood Road gravity main wastewater pipe based on remaining asset life if replaced early.</li> <li>3. Firth Street Connection; Firth Street/SH27 Upgrades - DC offset for a portion of this work is proposed by MPDC (Annexure K: <i>“a 50% discount is proposed for the specific DCs related to the Firth Street to Station Road capital costs in the DC Policy”</i>).</li> </ol> <p>Unity have prepared and drafted 3x PDA's and sent these through to MPDC for review and comment. For commercial sensitivity, these can not go to the Panel or into the public domain. The 3 PDA's cover off:</p> <ol style="list-style-type: none"> <li>1. Day 0 Subdivision</li> <li>2. Residential Development</li> <li>3. Retirement Village Development</li> </ol>
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		Unity are proactively working to finalise these PDAs with MPDC with the intent of having them finalised as early as possible, targeting the end of November 2025, which would be conditional on the approval of the Panel on the Ashbourne Fast-track application.
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## 1.11 Annexure L - Acoustic Evidence

A peer review of the acoustic assessments has been provided by Neil Savory.

Mr Savory is in general agreement with the assessments provided by Styles Group. The two matters raised by Mr Savory are:

1. Recommendation to reference of the most recent 2008 noise standards.
2. Recommendation for an operational noise commissioning report

Styles Group comments are set out below.

**Table 7: Annexure L - Acoustic Evidence Summary**

Summary of Comment (MPDC – Annexure L)	Applicant Response
<p><i>The operational noise and construction noise assessments have been carried out to the noise standards in the Operative District Plan (ODP). This is understandable. However, these noise standards have been superseded, thus I recommend that Resource Consents reference the current versions of these standards. The main change is that the L<sub>A10</sub> descriptor is updated to the L<sub>Aeq</sub> descriptor. This change may assist with some areas of minor non-compliance.</i></p>	<p>The 1991 versions of the NZS standards NZS6802 and NZS6802 have been superseded by the 1999 and 2008 versions. However, the operative Matamata Piako District Plan (MPDP) noise assessment criteria requires an assessment against the 1991 standards. Rule 5.2.1 requires that the noise levels are measured and assessed in accordance with the requirements of NZS6801:1991 Measurement of Sound and NZS6802:1991 Assessment of Environmental Sound. The noise limits in Rule 5.2.6 use the L<sub>A10</sub> noise descriptor.</p> <p>The change from the L<sub>A10</sub> descriptor to the L<sub>Aeq</sub> descriptor and retaining the same numerical noise limits is likely to give rise to a higher level of effect. For example, a measured level of 50dB L<sub>Aeq</sub> is approximately equivalent to a level</p>

	<p>of 53dB <math>L_{A10}</math> for noises that vary in level over time. This means that just changing the descriptor would technically require a resource consent. This reason for consent has not been sought.</p> <p>A further complication arises when other noises are considered. For example, a measured level of 50 dB <math>L_{Aeq}</math> is approximately equivalent to a level of 50 dB or 51 dB <math>L_{10}</math> for a noise source that is constant over time, such as the noise from the solar farm. Given that the relationship between <math>L_{10}</math> and <math>L_{Aeq}</math> is complex and variable, it is not possible to change the descriptor <b>and</b> the numerical limit to ensure that changing the descriptor doesn't allow a different level of effect.</p> <p>Again, the application does not include any variation from the operative noise standards as reasons for consent. We therefore don't support the change in descriptors and standards.</p> <p>Furthermore, changing the descriptors and standards would require revised noise modelling, a revised assessment of effects and more comprehensive resource consent conditions (because there can be no reliance on the District Plan). We therefore consider that the change would require significantly more work than may have been anticipated by Mr Savory.</p> <p>Accordingly, we consider that the noise assessment should continue to assess the noise levels against the operative district plan noise assessment criteria. We are not aware that there are any fundamental problems with this approach, other than not adopting the most recent standards</p>
Operational Noise Commissioning report	<p>The highest unmitigated predicted daytime noise rating level at the notional boundary of 164 Station Road is 47 dB <math>L_{A10}</math>. Mr Savory identifies that the margin of compliance at 164 Station Road of 3 dB is relatively low and recommends that:</p>

	<p><i>... the applicant includes a post construction operational noise commissioning report. This is to be made at the boundaries/notional boundaries of worst affected sites around the solar farms. Should non-compliance be identified then mitigation such as a suitable designed noise wall(s) could be installed around the offending plant or at the site boundaries as appropriate.</i></p> <p>We do acknowledge that the margin of compliance is relatively low at only 3 decibels. But in our opinion the potential level of effects is low, and the risk of non-compliance is low. As a result, we consider that a commissioning report is not required.</p>
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## 2.0 Waikato Regional Council

### 2.1 Planning

**Table 8: Evidence of Sheryl Roa Summary**

	Summary of Comment (WRC – Sheryl Roa)	Applicant Response
4.2 – 4.3	In Sections 4.2-4.3 of the submission, WRC note that the proposal should consist of three separate and independent suits of consents for the three distinct parts of the project and set out the resource consents that they consider are required for each part.	<p>The applicant agrees that the proposal should consist of separate and independent suits of consents, however, considers that this should be split into four distinct elements:</p> <ol style="list-style-type: none"> <li>1) The Northern Solar Farm</li> <li>2) The Southern Solar Farm</li> <li>3) The Retirement Village</li> <li>4) The Residential Subdivision and Greenway</li> </ol> <p>The separation of the solar farms allows for the nuanced monitoring regime required for a development of this scale and is considered necessary due to the different consent requirements and timings associated with each of the solar farms.</p>

		The applicant generally agrees with the required resource consents set out by WRC, with a complete list provided within the Planning Response at Section 2.1 of <b>Attachment 2</b>
4.6	The applicant has applied for a bore consent (well drilling) but it is unclear whether this is needed given there is an existing bore on site. The applicant is requested to advise whether new bores will be constructed in addition to the existing bore or if the existing bore will be utilised for the purposes stated in the application documentation.	The applicant confirms that no new bores will be constructed in addition to the existing, and that the existing bore will be utilised for the purposes stated in the application documents.
	<i>Solar Farm Earthworks</i>	
4.7 - 4.9	WRC considers that the Solar Farm earthworks activities fit within the Permitted Activity rule for earthworks as the site is not considered to be a high erosion site. Potential adverse effects from the earthworks associated with the Retirement Village and Residential Development/Greenway can be suitably avoided and/or minimised with suitable consent conditions	The Applicant agrees that the earthworks for the Solar Farms sites fit within the Permitted Activity rule for earthworks and have removed these consents as set out in <b>Attachment 2</b> .
	<i>On-Site Wastewater: Retirement Village</i>	
4.10 - 4.13	WRC reiterate the points raised in evidence supplied by Trisha Simonson from Ormiston Associates Limited. WRC request that the matters raised by Ms Simonson are addressed by the applicant and note that WRC support the conditions proposed by Ms Simonson.	A technical response has been provided by WGA and Maven at Section 2.2 and supported by a technical memorandums at <b>Attachment 4</b> and within Engineering updates included as <b>Attachments 9-20</b> .  The proposed conditions of consent have been incorporated into the updated suite of consent conditions provided at <b>Attachment 10</b>
	<i>Bore Water Supply: Retirement Village</i>	
4.15 - 4.16	WRC notes that there is some uncertainty within the application documentation on whether or not more bores will be constructed and what the water taken from these bores are to be used for.	The applicant confirms that the existing bore is to be utilised, and no new bores are to be drilled.
	<i>Stormwater</i>	
4.17 - 4.19	WRC request that a response is provided to the evidence supplied by Megan Wood on the stormwater proposal.	A technical response has been provided by WGA and Maven at Section 2.4 and supported by a technical memorandum at <b>Attachment 4</b> and within Engineering updates included as <b>Attachments 9-20</b> .

<i>Other Matters</i>		
4.21	<p>The National Policy Statement for Freshwater and National Environmental Statement for Freshwater are relevant to this application. Since the application was lodged, WRC understands that there has been changes to the stormwater management which indicates that the discharge to the Waitoa River will occur more frequently than stated in the application documentation. No detail on the impact of this increased discharge to the Waitoa River has been supplied. Further information is requested from the applicant on the nature of the stormwater discharges to the Waitoa River.</p>	
4.22	<p>Noogoora burr has been found within one of the properties, therefore compliance with Section 6.6 of the Waikato Regional Council's Pest Management Plan needs to occur. WRC has advised the landowners of 127 Station Road of these requirements earlier this year.</p>	
<i>Applicant's Proposed Conditions</i>		
4.23 – 4.30	<p>WRC request that the Applicant provide a suite of consents aligned with WRC's assessment, and associated conditions</p> <p>In summary, the following is raised:</p> <ul style="list-style-type: none"> <li>4.24 - Terrestrial ecology management plans provided for within the application are not relevant to WRC</li> <li>4.25 – Proposed review clauses do not align with WRC's general review clauses nor are the proposed review windows practicable. WRC would expect reviews to be provided for every 5 years and for the review to be enacted either anytime within that calendar year or within a 3-6 month window</li> <li>4.26 – Proposed wastewater discharge conditions should be aligned to Trisha Simonson's conditions.</li> <li>4.27 – The proposed stormwater discharge conditions need to be reviewed in light of the conclusions from the applicants ground model</li> <li>4.28 – Relevant conditions to be provided if domestic water supply is to be taken from a different bore</li> </ul>	<p>The Applicant agrees that the NPS-F and NES-F are relevant to this application. Assessment under the provisions of these documents has been included in the Planning Response at <b>Attachment 2</b>, and is supported by a Greenway Memo prepared by Maven Associates at <b>Attachment 21</b> and an Ecological memo prepared by Ecological Solutions at <b>Attachment 26</b>.</p> <p>The requested condition of consent has been added to the Residential Land Disturbance Consent in order to manage biosecurity risk.</p> <p>An updated list of reasons for consent required under WRC are supplied within the Planning Response as <b>Attachment 2</b>.</p> <p>An updated suite of consent conditions has been included as <b>Attachment 10</b>, and incorporates the comments made by WRC at Sections 4.24 – 4.30 of the evidence.</p> <p>In summary, the following is noted:</p> <ul style="list-style-type: none"> <li>4.24 – Terrestrial ecology management plans have been removed from proposed WRC conditions</li> <li>4.25 – We note that the review period provided for is 2 years post construction (which is undertaken in multiple stages), and that two years is sufficient time to determine if a material adverse effect is occurring. We also note that WRC do not elaborate on why 5 years is a more suitable period.</li> <li>4.26 – Wastewater conditions have been updated to align with Trisha Simonson's recommendations.</li> </ul>

	<ul style="list-style-type: none"> <li>4.29 – Query whether a Memorandum of Partnership or Kawenata between the Applicant and relevant iwi should be included.</li> <li>4.30 – Noogoora burr has been found within 127 Station Road, and a condition requiring a Biosecurity Management Plan is required.</li> </ul>	<ul style="list-style-type: none"> <li>4.27 – The stormwater conditions have been reviewed based on updated designs.</li> <li>4.28 – As noted above, the water supply will be taken from the existing bore and therefore no additional consent conditions are considered necessary.</li> <li>4.29 – A Memorandum of Partnership or Kawenata has been included within the CIA condition where relevant.</li> <li>4.30 – Conditions for a Biosecurity Management Plan have been included at Section 6.3.3 of Appendix 50, included at <b>Attachment 10</b>.</li> </ul>
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## 2.2 On-Site Wastewater Servicing – Retirement Village

**Table 9: Summary of WRC Appendix B - On-Site Wastewater Servicing Evidence of Trisha Simonson**

Summary of Comment (WRC – On-Site Wastewater)		Applicant Response
15.	On-site domestic wastewater treatment and disposal for the proposed retirement village is expected to be achievable in this location, however there are many aspects of the proposal that warrant further consideration and potentially the provision of further information:	Maven have worked closely with Innoflow to provide further design details for the on-site wastewater design. Refer Maven s53 Technical Response Memorandum, the updated Retirement Village Infrastructure Report, updated Maven Wastewater engineering plans and updated Innoflow design plans and report for further information regarding the proposed on-site wastewater design. Also see response 50 above.
(a)	The design guideline used as a basis for the volume calculations and loading rates has not been defined	AS/NZS1547:2012 has been used as a design guideline and is the basis for the volume calculations and loading rates.
(b)	There appears to have been no specific site investigation in the location of the proposed disposal area to confirm soil types and depth to groundwater. The soil category has not been stated. This may impact the size of the disposal area which has been set aside. Previous investigations only provide geotechnical information which is not completely relevant to on-site wastewater design. Only one confirmed groundwater level is provided (25-p4) within the proposed disposal area. Standard on-site wastewater design would require multiple borehole investigations across the proposed disposal and reserve disposal areas.	<p>Testing across the site has indicated a persistent surficial layer of a recent alluvial/colluvial deposits comprised silt/sand/clay mixtures. We recommend a soil category of 3 (loams) is adopted for the surficial soils encountered on site.</p> <p>It is noted that the disposal area is intended to be built up with additional topsoil and sand soil material. This material is likely to have a higher</p>

		<p>permeability than the underlying natural subgrade. Therefore, adopting a soil category of 3 is considered conservative approach to this aspect of design.</p> <p>Additional testing of soils to be completed prior to detailed design to confirm soil category.</p>
(c)	The required groundwater separation distance is not met by the proposal, however potential mitigation via raising the disposal area is available (although not currently proposed), and the effects of the discharge on groundwater have been assessed by the applicant's technical expert as less than minor. An assessment of the potential effects of the wastewater discharge on the production bore using the ESR 'Guidelines for separation distances based on virus transport between on-site domestic wastewater systems and wells' could further address this issue.	Ms Simonsen recommended that WGA carryout an additional assessment against ESR (2010) Guidelines for separation distances based on virus transport between on-site domestic wastewater systems and wells. WGA note that the pumice sand saturated aquifer has a very high virus removal rate and the ESR (2010) guidelines recommend a separation distance of 20 m to provide adequate log reduction. Therefore, a separation distance of 50 m exceeds this value.
(d)	The use of a per capita flow rate of 165 litres per person per day requires the installation of water reduction fixtures which have not been specified.	Water fixture requirements will be in accordance with note 2 of table H3 of AS/NZ1547.
(e)	The potential for pharmaceutical content in the wastewater to be higher than standard given the presence of the aged care hospital has not been noted in the treatment system design.	Innoflow has designed a robust system and to date none of their existing systems have experienced performance issues due to pharmaceutical concentrations.
(f)	The location of the wastewater treatment plant has the potential to generate some odour when servicing and the management of this has not been addressed. I consider this should be addressed within the site management plan.	The plant will have activated carbon vents both on the Pump Station and the main plant. All gases that are vented from the plant will be scrubbed through activated carbon to mitigate any odours.
(g)	There is no designated reserve disposal area included in the design and shown on any site plan. I consider a reserve area equivalent to 100% of the primary disposal area is required.	Per AS/NZS1547:2012, a 100% reserve field is normally applied to septic tank units followed by a conventional trench land application system. However, where approved by the regulatory authority, the reserve area may be reduced if an improved wastewater treatment and improved land application system is provided. The proposal is a two Stages system AdvanTex (AX1000 +AX300) wastewater system which is an advanced secondary treatment system. A 50% reserve is commonly consented for this type of treatment system and is therefore proposed for this development. Refer to attachment X which

		includes the proposed reserve field location and updated scheme plans to widen the easement for the disposal field to include the reserve field.
(h)	The cumulative effects of the development in terms of the wastewater discharge, in particular the loads of nutrients discharged in comparison with current land use, have not been addressed.	Please refer to WGA memo included as <b>Attachment 4</b>
(i)	The proffered consent conditions do not incorporate standard Waikato Regional Council conditions for on-site wastewater discharge	The consent conditions have been tailored to the specific wastewater treatment process proposed and meets WRC discharge parameters as outlined in Innoflow's design.

## 2.3 Bore Water Supply – Retirement Village

**Table 10: Summary of WRC Appendix C – Evidence of Nicola Jane Wilson on Bore Water Supply**

Summary of Comment (WRC – Bore Water Supply)	Applicant Response
<p>The assessment's provided by the applicant's consultant are fit for purpose, methodologically sound and appropriate for the scale and nature of the proposed activity.</p> <p>No concerns over the effect on other groundwater users, surface water, and aquifer sustainability from the proposed groundwater take via existing bore 72_12812 and the dewatering associated with construction activities.</p>	<p>WGA agrees with the conclusions of the review by WRC. We note the addition of one shallow bore that was added to the WRC database since our initial assessment was carried out (72_13002). This bore is located 900 m to the northeast and will not be affected by the drawdown.</p> <p>The ongoing abstraction for irrigation and/or domestic supply is proposed to be from bore 72_12812 and this was used for the basis of our effects assessment. Therefore, we consider that we have covered the requirements as stated in Ms Wilson's evidence in paragraph 7.3 and no further conditions are required.</p>

## 2.4 Stormwater Management

**Table 11: Summary of WRC Appendix D – Evidence of Megan Wood on Stormwater Management**

Summary of Comment (WRC – Stormwater Management)	Applicant Response
The applicant has included an allowance for climate change when assessing their pre-development peak flow rates as well as their post-development	Pre-development peak flows have been assessed (without climate change) and compared against post-development peak flow rates (with climate change)

	<p>peak flow rates. This is contrary to relevant guidance documents in the Waikato. By including a climate change allowance in the pre-development peak flows, it means that the attenuation function for the stormwater management system has been under-sized. If the applicant was applying to Waikato Regional Council for resource consents, they would be required to reassess their proposal without a climate change allowance in their pre-development peak flows.</p>
	<p>The applicant has designed a stormwater management system that relies on soakage of runoff on-lot for up to the 10-year ARI event, and centralised soakage basins for Catchments A, C and D that soak runoff from up to the 100-year ARI event to ground.</p> <p>Through onsite monitoring, groundwater levels have been determined to be higher than the applicant expected. With elevated seasonal high groundwater levels, Basins C and D have lower infiltration rates than previously estimated. These findings mean that the applicant will not be able to rely on infiltration to manage stormwater runoff from new impervious surfaces across large areas of the site, as is currently proposed in the 'Stormwater Management Plan, Ashbourne Developments' (Maven, 30 May 2025). The applicant will need to reconsider their proposed stormwater management approach and provide an updated Stormwater Management Plan.</p> <p>RCP8.5 2100-2120) to size our stormwater management devices. Devices have been sized to discharge at 80% of pre-development historical (existing) flows (without climate change).</p> <p>To assess impacts on surrounding lands in regards to flood extents, RCP8.5 climate change adjustment has been used in both pre-development and post-development so as to compare extent of future flooding with and without the development taking place. This is to illustrate that overall, the proposed development reduces the extent of flooding on surrounding lands outside the project boundaries as can be seen on drawings C411 and C412.</p> <p>See Maven's updated SMP for updated pre and post-development discharge flows.</p> <p><u>Updated stormwater management approach due to high groundwater levels:</u></p> <p>The proposed stormwater solution for the residential development catchments C and D have been updated for the higher than initially expected peak groundwater levels such that areas of high groundwater are no longer reliant on soakage. Roadside raingardens and soakage trenches have been replaced with catchpits, lot connections and pipe networks. Dry basins C and D have been replaced with wetlands C and D, which reduces the number of roadside raingardens needed.</p> <p>Wetlands C and D have been designed to treat the water quality volume, provide extended detention (1.2xWQV) for their corresponding catchments as well as manage peak flows for the 10 and 100-year return period storm event (including climate change) to release at 80% pre-development flows (not including climate change).</p> <p><u>Greenway Outlet to Waitoa River:</u></p> <p>Refer to latest Maven engineering plans C490-1 and C152 for proposed channel connection between Greenway and Waitoa river. The following bullet</p>

	<p>points are specific responses to quires raised by Megan as it relates to the Greenway Design Memo:</p> <ul style="list-style-type: none"> <li>• Confirming the 100-year ARI even orifice at the outlet is 1050mm in diameter, embedded for fish passage.</li> <li>• Further detailing of the riprap lined channel has been provided in the above drawings. The route of the channel is within private land and therefore has control over this land to undertake the works.</li> <li>• Riparian vegetation will be planted along the full length of the proposed channel as requested.</li> </ul> <p><u>Retention:</u></p> <p>Following further consultation with Megan, given the new stormwater management approach does not rely on soakage for a portion of the site, retention and how it can be achieved in accordance with TR20/07 guidelines has been questioned.</p> <p>For the residential development, areas of soakage (all areas except the northern sub-catchment) will have raingardens and soakage trenches providing retention well in exceedance of the initial abstraction. This offsets the northern sub-catchment where soakage can not be achieved due to high groundwater. As mentioned above, the retirement village stormwater solution has been updated such that no soakage is proposed due to a high peak groundwater levels, however 4 centralised raingardens are proposed which will provided retention.</p> <p>In addition, wetlands have been sized for the full water quality volume and extended detention (1.2xWQV) for their respective catchments. I.e. WQV calculations do not allow for a reduction in volume due to initial abstraction. The extended detention volume from wetlands will be released slowly over 24hours.</p>
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