

DELMORE

**WATER
WASTEWATER AND
UTILITY
INFRASTRUCTURE
REPORT**

Vineway Ltd



MCKENZIE & CO.

DOCUMENT CONTROL RECORD

PROJECT: Delmore

CLIENT: Vineway Ltd

PROJECT LOCATION: 53A, 53B & 55 Russell Road and 88, 130 & 132 Upper Ōrewa Road

Revision	Date	Originator	Checker	Approver	Description
A	23/01/25	JDK			DRAFT
B	03/02/25	JDK	SM	JDK	Substantive Application
C	11/02/25	JDK	SM	JDK	Substantive Application
D	12/02/25	JDK	SM	JDK	Substantive Application
E	11/12/25	RDC	LV	JDK	Substantive Application
F	17/12/25	LV	LV	JDK	Substantive Application
G	22/12/25	JDK	JDK	JDK	Substantive Application

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1. EXECUTIVE SUMMARY

This report outlines the proposal to service the Delmore development for Wastewater, Water and Utilities.

Wastewater

Due to current constraints at the Army Bay Wastewater Treatment Plant (ABWWTP) and Watercare Services Ltd's current position on the Delmore development's ability to utilise the increased capacity provided by the Stage 1 upgrade to the ABWWTP, three wastewater servicing options have been developed.

Option 1 involves a private low-pressure sewer (LPS) system that conveys wastewater to an onsite wastewater treatment Plant (WWTP). Treated wastewater ultimately discharges to land from the WWTP within the site, with a back-up system that diverts treated wastewater to a holding tank / fill point station for trucking away during dry periods.

Option 2 utilises a LPS system that pumps to a discharge manhole at the top of Grand Drive, which subsequently discharges to the existing gravity wastewater reticulation on Grand Drive, east of the site, that ultimately discharges to the ABWWTP.

Option 3 uses LPS to collect untreated wastewater and store it in a holding tank prior to tanker trucks coming to collect the raw sewage and trucking it to an off-site disposal facility.

In all options Stage 1 & 2 do not rely on each other to provide servicing for the other (with the exception of the bulk infrastructure, WWTP, WTP, etc). i.e. Stage 1 could be constructed first, or Stage 2 could be constructed first.

Water supply

Due to Watercare Services Ltd's current position on the Delmore development's ability to utilise the existing, available capacity within the public potable water network, two potable water servicing options have been developed.

Option 1 is an on-site, private potable water supply using four groundwater bores, a water treatment plan (WTP) and on-site reservoirs.

Option 1 would be delivered in 2 phases aligning with the two stages of the Delmore development. One phase services Stage 1 of the Delmore development via the 2 the groundwater bores located in the Stage 1 area pumping to the WTP and then a booster pump pressurizing the network.

The other phase of Option 1 services Stage 2 of the Delmore development by feeding the 2 groundwater bores in Stage 2 of the Delmore development into the WTP, and instead of using the booster pump to pressurize the network, it will be used to transfer treated water to proposed reservoirs from where potable water will be distributed around the site.

Option 2 is a two-phase approach connecting to the existing watermain adjacent to the site. Phase 1 is a connection to an existing main east of the site located on Grand Drive. Phase 2 is another connection to the south that is required at ~550 lots.

Watercare has confirmed that a reservoir to service the Grand Drive / Halls Farm BSP Zone is necessary to service the Delmore Development. Discussions have begun between Watercare and the adjacent Ara Hills Development to provide a site to locate the necessary reservoirs for the full catchment. Ara Hills are planning to begin construction on a reservoir to service their site in January 2027. A commercial agreement between Delmore and Ara Hills to increase the size of the proposed reservoir to enable it to also service the Delmore Development would enable the site to be serviced.

Other than the reservoir requirements, Watercare has confirmed there would be capacity in the existing network to service the Delmore development if connections were sought generally in accordance with the development timeline. However, despite this it has at this stage said it is unlikely to provide connections to the Delmore development because of how the site is referenced in the Auckland Future Development Strategy.¹ It has advised that a connection would be available approximately 2038.

In all options Stage 1 & 2 do not rely on each other to provide servicing for the other (with the exception of the bulk infrastructure, WWTP, WTP, etc). i.e. Stage 1 could be constructed first, or Stage 2 could be constructed first.

Utilities

Utility providers have confirmed that fibre and power can be provided.

2. INTRODUCTION

McKenzie & Co. Consultants have been engaged by Vineway Ltd Limited to provide a Water, Wastewater and Utilities report in support of the proposed 109ha development located at 53A, 53B & 55 Russell Road and 88, 130 & 132 Upper Ōrewa Road. The proposed development is a residential development for approximately 1,213 dwellings, delivered across two stages. However, for the purposes of assessing flows and for determining if there is capacity in the public network to service the development we have used a 1250 dwelling figure in order to take a conservative approach.

This report is prepared to support Vineway Ltd's application for approvals under the Fast-track Approvals Act 2024 by addressing the wastewater, water supply, and utility servicing matters that relate to the Delmore development. It is important to note that this report only covers the civil engineering aspects of wastewater and water supply, and utilities. Other infrastructure matters, including critical earthworks, sediment, and erosion control, roading and access, stormwater, overland flow paths, are addressed in separate infrastructure reports. Other technical inputs

¹ Watercare pre-lodgment meeting record in Appendix D

relating to wastewater and water supply are provided by other technical experts assisting with the Delmore development.

To fully comprehend this report, it should be read together with the application, plan drawings, and other supporting documents referred to in this report.

3. LEGISLATION, CODES OF PRACTICE, & STANDARDS

The network has been designed in accordance with the below requirements, and reports:

- Building Act 2004
- Auckland Unitary Plan (AUP)
- Watercare Code of Practice
- McKenzie & Co Flood Assessment Report, 2025
- Health and Safety at Work Act 2015
- Auckland Council's Future Development Strategy (FDS)
- On-site Wastewater Management in the Auckland Region GD006/2021

4. SITE DESCRIPTION

The proposed Delmore development site is legally described as Lot 1 DP 336616, Lot 1 DP 497022 & Lot 2 DP 497022, Lot 2 DP 418770, Lot 1 DP 153477 & Lot 2 DP 153477 as illustrated in Figure 1 below. The site is zoned as Future Urban in the AUP.

The site is accessed from Grand Drive in the northeast, and Russell Road and Upper Ōrewa Road from the south.

Currently, the site is used for agricultural purposes with livestock roaming across a significant portion of the site. Some existing bush areas within the site are subject to consent notices, and there are also areas of pine trees. For descriptions and the exact location of these areas refer to the reports prepared by Peers Brown Miller (arboriculture) and Viridis Consultants (ecology). The location of the Delmore development is shown below in Figure 1.

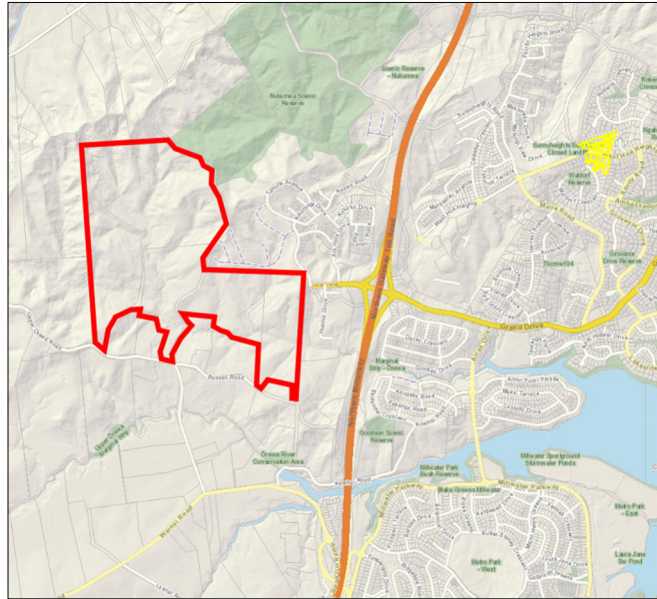


Figure 1 - Site Location – Extent of properties making up the site

5. FUTURE DEVELOPMENT STRATEGY

This Delmore development site sits within the Upper Ōrewa area within the FDS map, shown below in Figure 2. This map earmarks the site for development at approximately 2050+. The development site is marked with the blue star in Figure 2 below. The area directly adjacent to the site and marked as “Resource Consent Area” with a spotted overlay is the Ara Hills development. This is currently under construction and is serviced by the public wastewater and water supply networks.



Figure 2 – Development location within Auckland Councils' Future Development Strategy (Figure 44)

6. WASTEWATER

6.1. Existing Wastewater Network

There are currently no wastewater connections to service the site within the site boundary, however there is a wastewater reticulation network east of the site on the western side of State Highway 1, adjacent to the Ara Hills development.

The existing wastewater reticulation network has been analyzed using standard design criteria and considering the existing and anticipated developments within the wider contributing catchment. The reticulation has been analysed from the edge of the site to the pumpstation located adjacent to Millwater Parkway as shown in Figure 3.

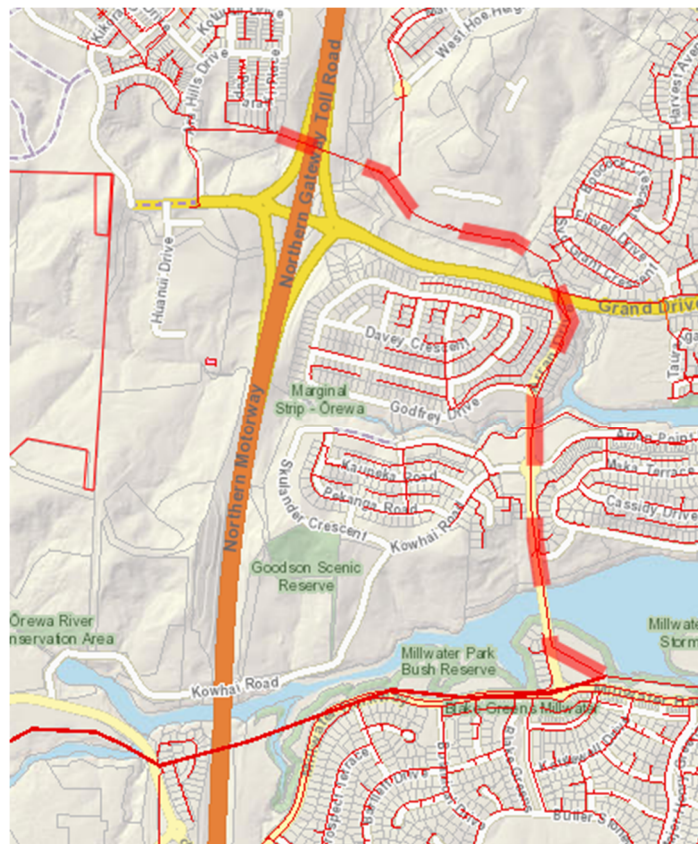


Figure 3 - Route along which pipe capacity has been analysed

Provisional calculations have determined that the existing reticulation has sufficient capacity to service the proposed Delmore development of 1,213 lots, with the exception of two sections of pipe which exceed Watercares' maximum Velocity values. Early engagement with Watercare has confirmed that mitigation methods for any excessive parameters that occur in the network due to these excessive velocities can be determined during the detailed design stage. This correspondence has been included in Appendix D.

Note the calculations show Ara Hills catchment 'A', which includes an estimated allowance for 900 total dwellings. The calculations are provided in Appendix B.

6.2.Wastewater Flows from the Delmore development

Infiltration (groundwater entering LPS pipes) should be minimal due to LPS being pressurized and sealed. Rainwater cannot enter through joints. There are no manholes that could allow stormwater to enter. The network is essentially airtight, so wet-weather flows are expected to be similar to dry-weather flows. A peaking factor of 1.2 has been allowed in accordance with Watercare's Code of Practice.

Provision for wastewater servicing up to 1250 residential lots of approximately 0.675 MLD ADWF (megalitres per day) using Watercare CoP figures of 3 people per dwelling at 180 l/p/d.

Table 1 - Wastewater flows

	Dwelling Unit Equivalents (DUE)	People	L/p/day	m ³ /day	ADWF (L/s)	pf	PDWF & PWWF (L/s)
Stage 1	483	3	180	243	2.8	1.2	3.4
Full Development	1250	3	180	675	7.8	1.2	9.4

Note, Watercare's Code of Practice excludes Peak Wet Weather Flow for LPS.

6.3.Reticulation Best Practicable Option (BPO) Assessment

A BPO assessment was performed for the development and ultimately determined a LPS reticulation was the best wastewater reticulation solution for the site.

LPS was assessed against a gravity reticulation. LPS was ultimately determined the BPO largely due to the site's undulating topography. The use of LPS would avoid deep excavations, pipe bridges, directional drilling, and infiltration risks.

The LPS network is also easier to stage and provides greater flexibility around sensitive areas. Overall, LPS offers a more practical, cost-effective, and resilient solution for wastewater reticulation at this site. For a detailed assessment refer to the advantages and disadvantages in the tables below.

Gravity:

Advantages	Disadvantages (Challenges)
<i>Simple and Passive Operation: No power or moving parts; low risk of mechanical failure.</i>	<i>Deeper pipelines; Larger pipes and manholes; increases material and installation costs; higher earthworks costs; may be costly or impractical on sloped or varied terrain.</i>
<i>Low Long-Term Maintenance: Minimal infrastructure to service; easier for individual lot owners to manage.</i>	<i>High static lift – required pumps in pumpstation at low point of site.</i>
	<i>Requires pipe bridges across streams/directional drilling</i>
	<i>Requires Continuous Grade: Needs uninterrupted downhill flow, which may require deep excavation or pumping in undulating terrain.</i>
	<i>Susceptible to Infiltration: Open joints and manholes are vulnerable to groundwater/stormwater inflow.</i>
	<i>Higher truck movement to remove wastewater flow.</i>

Pressure Sewer:

Advantages	Disadvantages (Challenges)
<i>Shallow / small diameter pipelines: Reduces material costs and installation effort.</i>	<i>A cost to own and maintain for each property owner.</i>
<i>Flexible for Undulating Terrain: Performs well on rolling or rising land without requiring continuous downhill fall.</i>	
<i>Shallower Trenches: Requires less excavation compared to gravity systems, reducing construction costs in sloping areas.</i>	
<i>Eliminate the need for pipe bridges and directional drilling. LPS pipes can be installed to follow the ground closely.</i>	
<i>Reduced Infiltration: Closed, pressurised systems are less vulnerable to stormwater inflow or groundwater infiltration.</i>	
<i>Staged Development: Allows phased installation and expansion with less disruption to existing infrastructure.</i>	

Lesser truck movement to remove wastewater flow.	
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6.4. Low Pressure System

The LPS has been designed in a way that would allow either Stage to be built first. A ‘duplicate main’ or ‘parallel main’ design has been proposed for this reason. The duplicate main allows the system to operate efficiently in the interim scenario (maintaining appropriate velocities with lower flows) while also eliminating the need to excavate within the new road reserve to connect the next stage in the future.

A valve arrangement will be installed to allow LPS flows to be diverted in the future from the WWTP on-site to the ABWWTP.

LPS is sometimes vested in and publicly owned by Watercare Services Limited and sometimes privately owned infrastructure. If it is privately owned it will need to be maintained by a utility company and an encroachment license will be required for its placement under the public road reserve.

6.5. Wastewater Treatment Options

Three wastewater treatment options have been identified for the proposed development.

Option 1: LPS conveys wastewater to an onsite WWTP. Treated wastewater is discharged to land (infiltration trench and irrigation zones) on-site or, during the dry, low flow period (summer) some of the treated wastewater is diverted to a holding tank at a fill point station at the south of the site at the bottom of road 1 where it is collected by tanker and disposed of at a licensed facility. A valve arrangement will be provided on the LPS to allow it to connect to the eastern gravity reticulation in the future and ultimately discharge to the ABWWTP.

Option 2: LPS pumps to a gravity wastewater reticulation on Grand Drive, east of the site, that ultimately discharges to the ABWWTP.

Option 3: Option 3 uses LPS to collect wastewater and store it in a holding tank prior to tanker trucks coming to collect the raw sewage and trucking it to an off-site disposal facility.

Option 1 – Onsite Wastewater Treatment

Collection

LPS will convey wastewater from the lots to an onsite WWTP. A valve arrangement on the LPS allowing for future discharge to Army Bay WWTP will also be provided in this option.

This arrangement is shown on drawings included in Appendix A.

WWTP

The WWTP and how it operates is described in the report prepared by APEX. Working with APEX

we have prepared the plans for the WWTP area and these are provided in Appendix A. The treatment plant is intended to treat wastewater generated from Stage 1 in the first instance and can be resized to service the entire development.

Holding and disposing treated water that cannot be discharged on site

As outlined in the APEX report and the report prepared by Viridis Consultants about discharging treated wastewater to land, piping wastewater from the WWTP to a truck filling station will be utilised during periods where it is not possible to discharge all treated wastewater to land because of potential in-stream impacts. This involves a 4-inch 110 PE pipe and a 1,000m³ holding tank to store treated wastewater before collection. A sufficient turning circle has been provided within the cul-de-sac at the bottom of Road 1 and a vehicle crossing to Russell Road for the trucks has also been designed. The plans for this can be found in Appendix A. Refer to Figure 4 below for a visual demonstration of this arrangement.

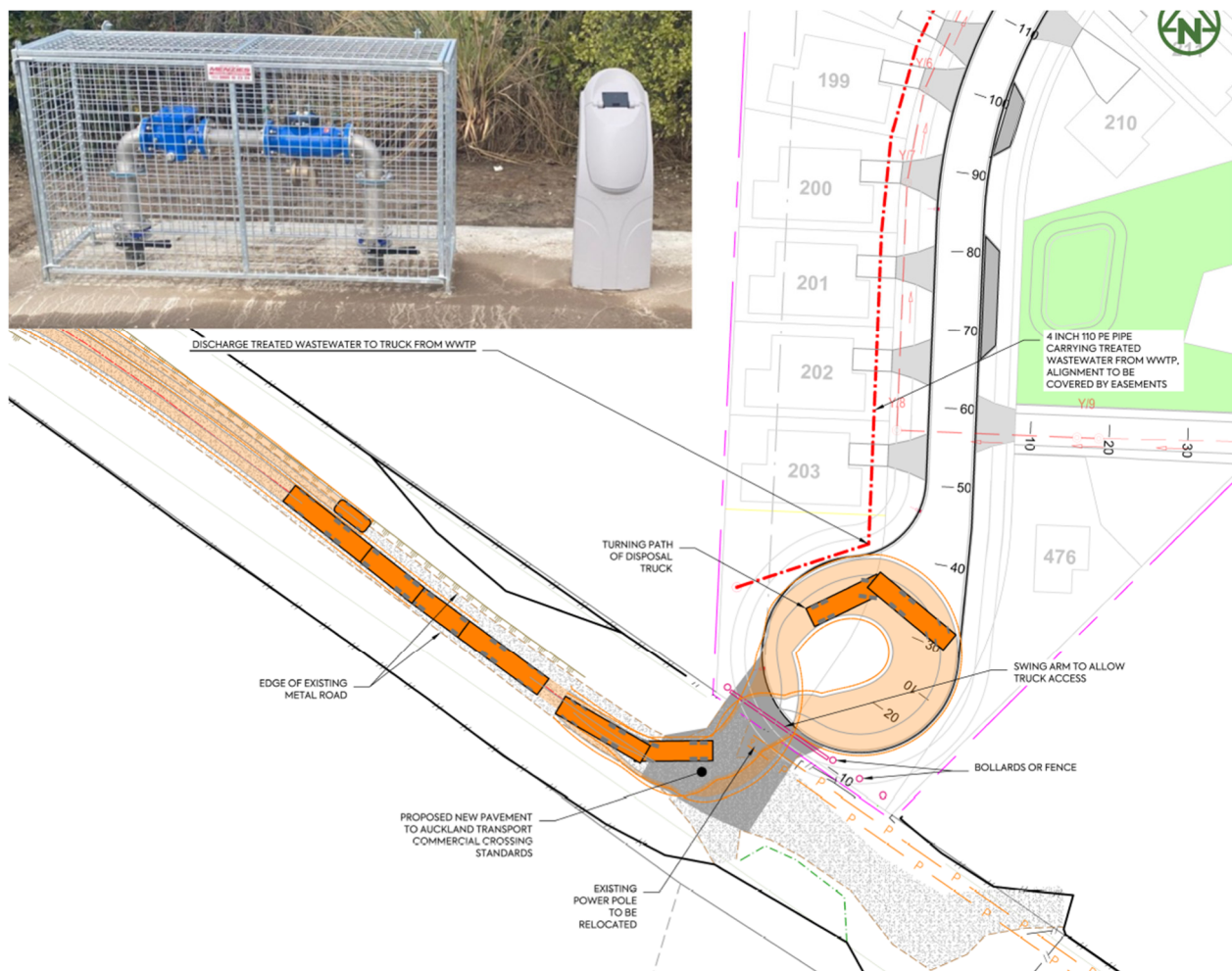


Figure 4 LPS and WWTP

Option 2: LPS and offsite connection to public gravity network

Option 2 provides for pumping untreated effluent from the Delmore development to a gravity network on Grand Drive, which drains to the ABWWTP. This option allows Delmore to connect to

public wastewater infrastructure without relying on onsite treatment. Refer to the drawings in Appendix A.

6.6 below provides an overview of the public infrastructure that could support the Delmore development.

6.6. Public Network Capacity Assessment

The site falls within the ABWWTP service area. See Figure 5 below:

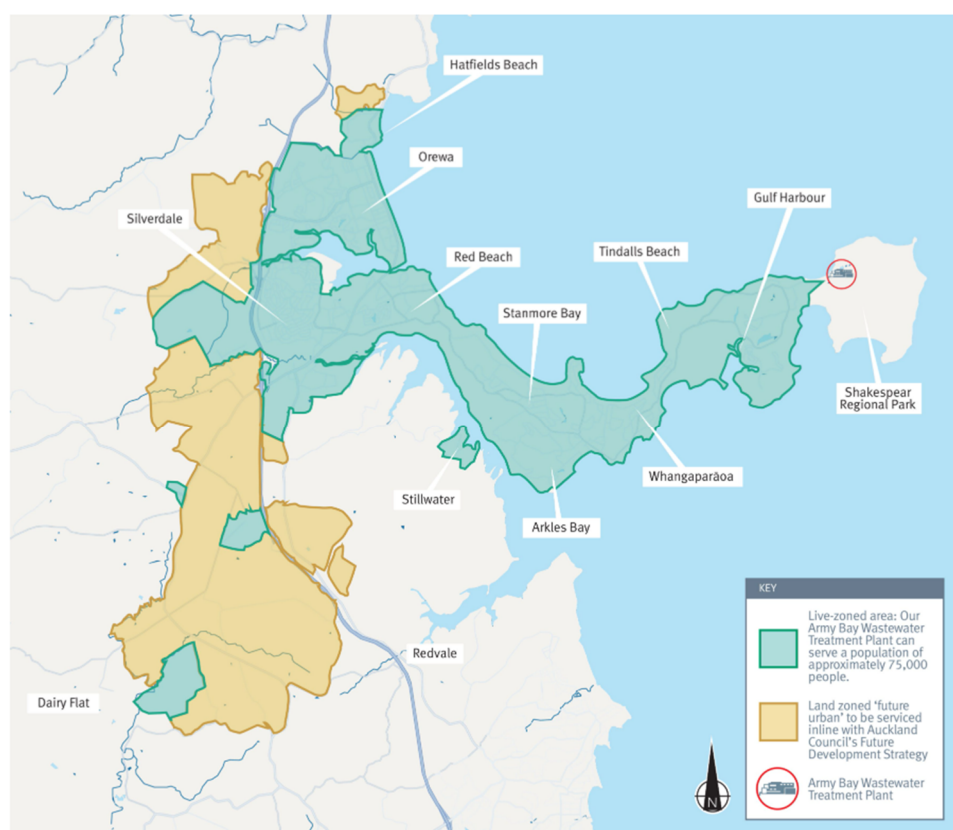


Figure 5 WSL Army Bay Wastewater Land Zoning

ABWWTP

Watercare has indicated that the current capacity of ABWWTP is ~75,000 Population Equivalent (PE), or roughly 25,000 connections, with ~3,150 connections still available².

With the planned 2031 Stage 1 upgrade on ABWWTP the capacity is expected to increase to 125,000 PE. An increase of 50,000 PE, or approximate increase of 16,666 connections.

The Stage 1 upgrade is intended to service the AGS (Auckland Growth Strategy) population forecast up to 2050 at which point a Stage 2 upgrade will be required to increase the capacity of

² From the information provided by Watercare included in Appendix D.

ABWWTP to a total of 175,000 PE.

Given the size of the proposed Delmore Development (up to 1,250 lots), there is, in practical terms, capacity for it to connect to the ABWWTP potentially before, and after, the Stage 1 upgrade to the ABWWTP.

If 1250 lots are serviced at the Delmore Development after the Stage 1 upgrade to the ABWWTP this would leave 18,566 connections available. Estimates undertaken by Vineway show that 4,536 connections required by currently consented dwellings and to accommodate the Milldale fast-track project. This leaves 14,030 connections available after the Stage 1 upgrade to the ABWWTP.

Wastewater Pumpstations

Watercare have also provided information on the capacity of the Stanmore & Orewa wastewater pumpstations (WWPS). These pumpstations are needed to service Delmore as they are part of the transmission network that ultimately transfers flows to ABWWTP.

The Stanmore WWPS has a current capacity of 450L/s and is being fully utilised from a practical sense i.e. the infrastructure cannot support further usage at the moment. A proposed 2031 upgrade will support the capacity upgrades at the ABWWTP and will increase the capacity to ~900L/s.

The Orewa WWPS currently has 300L/s capacity available with current max flows of around 280L/s, or a remaining capacity of 20L/s. An upgrade to the WWPS is also proposed in 2033 to increase the capacity to 1,200L/s.

Given the size of the proposed Delmore Development (up to 1,250 lots / 9.4L/s), there is, in practical terms, capacity for it to connect to the Orewa WWPS potentially before, and after, the upgrade to the Orewa WWPS. There is not capacity, in practical terms, to connect to the Stanmore WWPS until after the upgrade occurs.

If 1250 lots are serviced at the Delmore Development this equated to approximately 9.4L/s. After the upgrades to the Stanmore WWPS and Orewa WWPS this would leave ~450L/s and 920L/s available respectively. Estimates undertaken by Vineway show that 4,536 connections required by currently consented dwellings and to accommodate the Milldale fast-track project, or ~190L/s required capacity. This leaves ~260L/s & 730L/s available after the upgrade to the Stanmore WWPS and Orewa WWPS respectively.

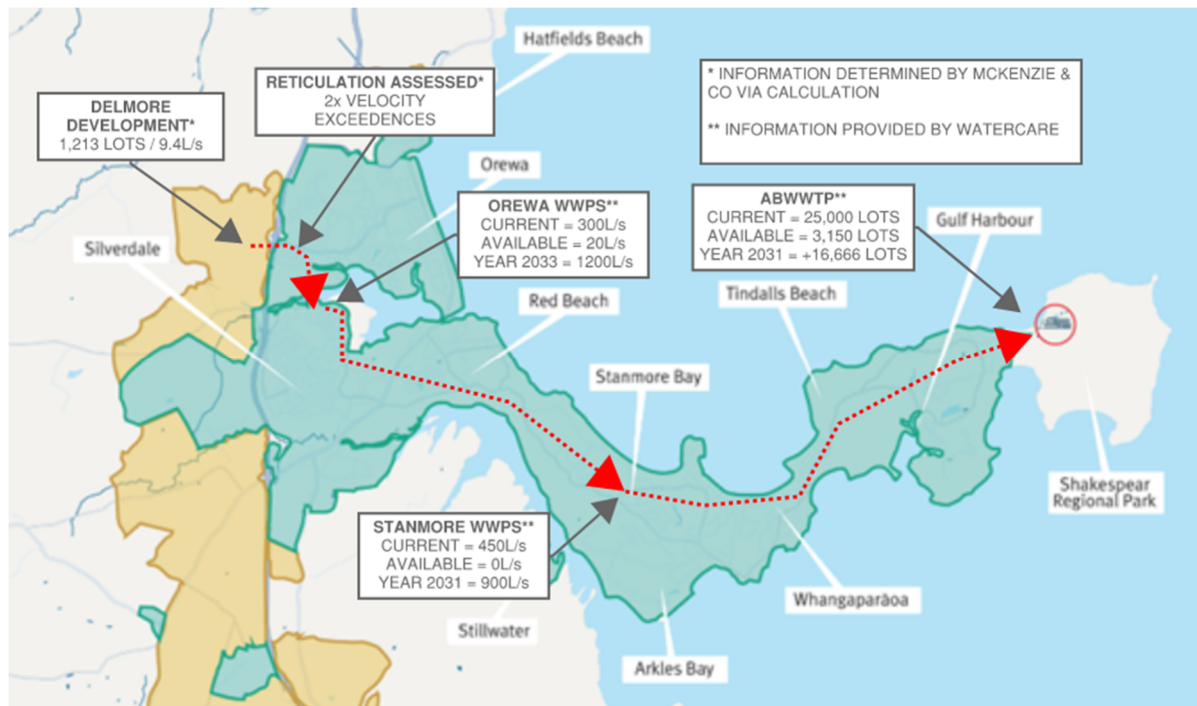


Figure 6 Visualisation of wastewater capacity assessment

Except where stated otherwise, the figures used in the analysis in this section was provided by Watercare and is provided in Appendix D and Vineway's estimate of currently consented dwellings is included in Appendix E.

Option 3 – Tanking of Raw Sewage

Option 3 will also use an internal LPS reticulation to collect untreated wastewater. The raw sewage will be screened first and then held in a 1,000m³ tank prior to being loaded into tankers and trucked off-site for disposal. The tank will be located in the same location as the WWTP in Option 1 and the fill point station will be located in the same area as Option 1. The piping required to send the wastewater to the fill point station is also the same as Option 1.

See APEX's report for further detail on the proposed solution.

7. WATER SUPPLY

Two water servicing options have been identified for the proposed development.

Option 1 is an on-site supply option through the use of 4 groundwater bores, a WTP, and two reservoir sites located within the development site.

Option 1 services Stage 1 of the development via 2 of the groundwater bores pumping to the WTP and then a booster pump pressurizing the network.

Stage 2 will be serviced by 2 further ground water bores also feeding into the WTP, and instead of using the booster pump to pressurize the system, it will be used to pump treated water to proposed reservoirs at a higher elevation to pressurize the network.

Neither stage has a reliance on the other, so either stage could be delivered first. The WTP and surrounding infrastructure would need to be provided with the first stage delivered, but there wouldn't be anything that would prevent one stage from being delivered before the other.

Option 2 consists of connecting to the existing watermains adjacent to the site, with a two phase approach. Phase 1 is a connection to an existing main east of the site located on Grand Drive to service the first 550 homes. Phase 2 is another connection to the south that is required at ~550 homes.

7.1. Option 1: On-Site Supply Option via Groundwater Bore

Option 1 involves abstracting 229,634 m³/year of groundwater from the Orewa Waitemata aquifer via bores. Resource consent for this has been applied for, and approval is expected late 2025 or early 2026, authorising water take and use of the bore for water supply purposes.

The Delmore Stage 1 component of this scheme sees a dedicated 100 mm rising main will connect 2 of the 4 bores (PB1 & PB2) to the on-site WTP at ~20 m RL. A submersible pump at the bores will lift groundwater through the mains into a collection tank, then to the WTP and treated water buffering tank. A booster pump will subsequently pressurise the Stage 1 reticulation to an appropriate level to service Stage 1, ensuring reliable supply and adequate pressures across the development for supply and firefighting pressures.

For Stage 2, two different bores (PB3 and PB4) will feed the WTP in a similar way to Stage 1 but a booster pump will lift the treated water to reservoir tanks located northeast of the future Stage 2 area at 85 m RL, from which water will be gravity-feed across the development 2 and ensure reliable supply and adequate pressures across the development.

Neither stage has a reliance on the other, so either stage could be delivered first. The WTP and surrounding infrastructure would need to be provided with the first stage delivered, but there wouldn't be anything that would prevent one stage from being delivered before the other.

This proposal and phasing can be seen in Appendix A. The layout is shown in Figure 7 below.

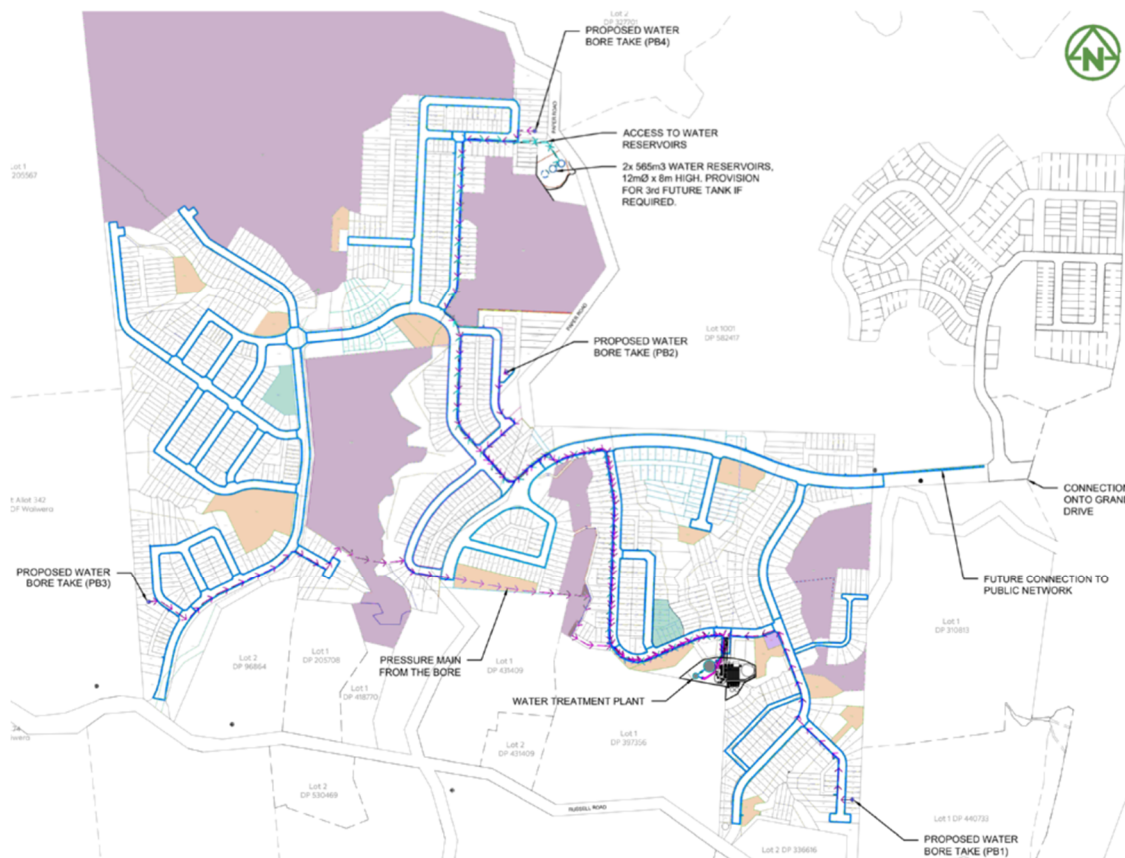


Figure 7 Proposed layout for Stage 1 & 2

The system will incorporate monitoring, backflow prevention, and controls to comply with consent conditions and maintain sustainable abstraction rates. This option provides a self-contained solution, independent of the public water network.

Water Treatment Plant

For detailed information relating to the treatment infrastructure, refer to the report prepared by APEX.

Water Conservation Measures

Water conservation measures for Stage 2 will be required to ensure adequate water supply can be provided. This includes –

- 1) Water efficient fittings
- 2) Water recycling system, such as ‘Hydroloop’ or similar approved
- 3) Rainfall harvesting tanks.

The Hydroloop enables on-site water attenuation by capturing, treating, and re-using approximately 30–40% of household greywater. This internal recycling significantly reduces potable water demand.

In addition to greywater reuse, each dwelling will also be fitted with a rainwater harvesting tank. Collected roof runoff will be stored and utilised for non-potable household uses such as toilet flushing, garden irrigation, and external cleaning. This supplementary supply further offsets reliance on groundwater sources, improving long-term sustainability and resilience of the development's water supply strategy.

Modelling

An EPA-net model has been developed to demonstrate the proposed private network with bores and treatment plant will deliver the required flows and pressures to satisfy the development. A screen shot of the model is shown below in Figure 8 below. This model has been prepared to size the required pipe network, pumps and reservoirs. Calculations are included in Appendix B.

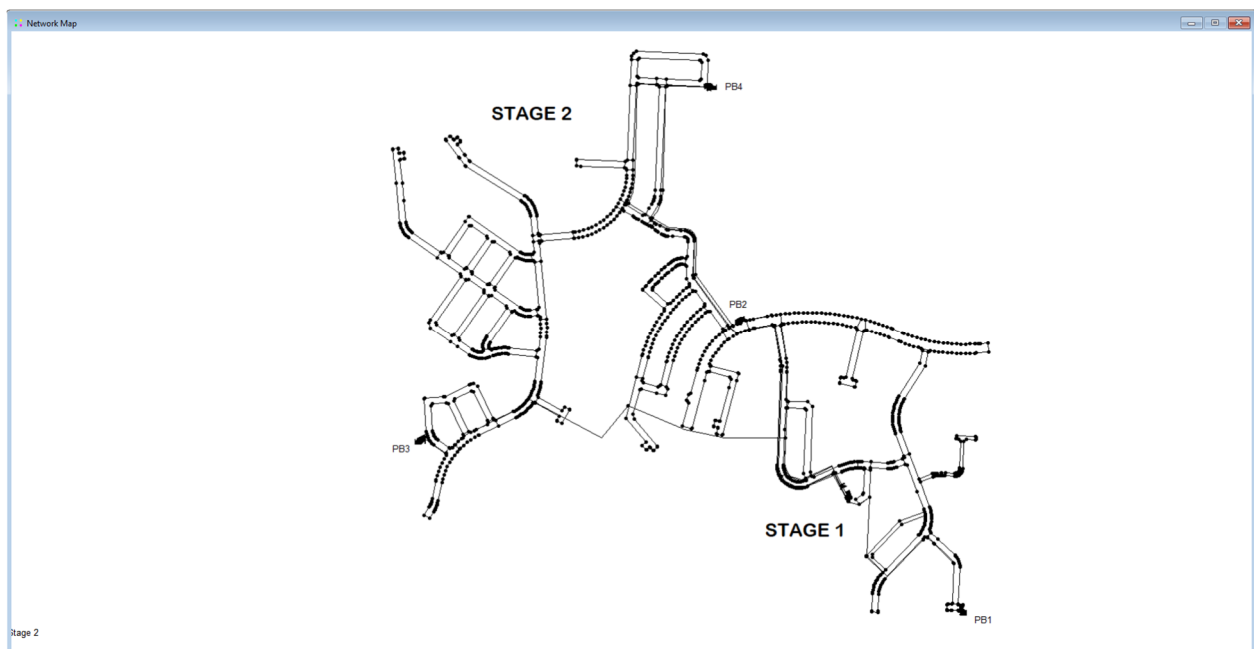


Figure 8 - EPA-net model for private network

7.2. Option 2: Public Network Option

This section provides an assessment of the available capacity within the existing public infrastructure and evaluates how the Delmore development can be integrated into the current network. It examines key components such as supply availability, conveyance capacity, and potential upgrade requirements. The analysis outlines how the existing system can support the projected demands of the Delmore development and identifies any constraints or considerations that must be addressed to ensure reliable and compliant servicing.

Consultation With Watercare

A meeting was held with Watercare representatives on 27 November 2025 to discuss the proposal.

Minutes of this meeting are included in the consultation overview lodged with the application. In relation to Water supply, the key points in relation to servicing for water are –

- Detailed property-level servicing data is currently being undertaken.
- North Harbour 2 Water Supply Project: target completion 2034.
- Orewa 3 Water Supply Project is targeting completion 2038 (dependent on North Harbour 2).
- When both the Northern Harbour 2 and the Orewa 3 projects are complete, capacity is anticipated for all developments zoned for 2050 and beyond.
- The main constraint is capacity into the region through North Harbour 2 which is expected to be completed by 2034.
- Once resolved, remaining capacity in Orewa 1 & 2 should accommodate growth until Orewa 3 completion.
- Watercare confirmed there would be *technical* capacity (i.e., enough water supply) available to service the Demore development now / ahead of the 2034/2038 upgrades. Its position that it will not provide a connection until those upgrades is based on the indicative timing for development of 2050 in the FDS, not on practical availability of water to be supplied or any infrastructure constraints inhibiting supply to the site.

After the pre-application meeting, a further meeting occurred with Watercare on 16/12/2025 to discuss the network infrastructure (servicing between the Delmore site, and the transmission mains). The key takeaways from that meeting were:

- A reservoir is required on the adjacent Ara Hills Development at 500 lots which they are rapidly approaching.
- Ara Hills are in discussions with Watercare currently.
- A reservoir location has been requested by Watercare that is large enough to construct infrastructure necessary to service the full catchment.
- The reservoirs will be located on the very west of the Ara Hills Development.
- The latest construction programme from Ara Hills shows construction beginning on the reservoir in January 2027.
- Connection to the Milldale Reservoir is purely for redundancy.

Water Capacity Assessment

Based on the information received from Watercare, the Orewa 1 & 2 watermains currently have a total capacity of 25MLD with the current highest peak observed being 17.3MLD. This 7.7MLD of

remaining capacity roughly translates to approximately 7,777 available connections.

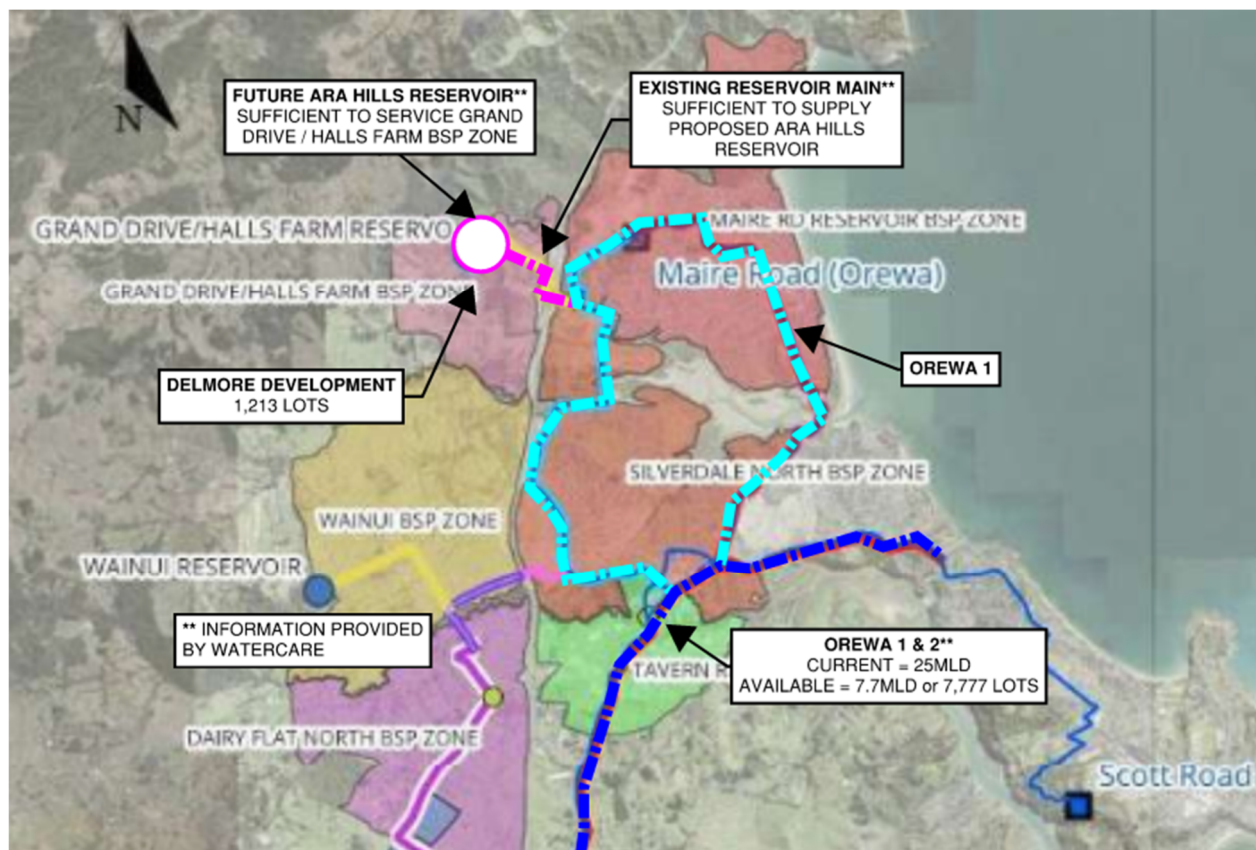


Figure 9 Visualisation of water capacity assessment

If 1250 lots are serviced at the Delmore Development the Orewa 1 & 2 mains would have ~6,527 connections available. Estimates undertaken by Vineway show that ~4,536 connections required by currently consented dwellings and to accommodate the Milldale fast-track project. This leaves ~1,991 connections available after connection.

Except where stated otherwise, the figures used in the analysis in this section was provided by Watercare and is provided in Appendix D and Vineway's estimate of currently consented dwellings is included in Appendix E.

Water Servicing Assessment

Based on the information received from Watercare, all the remaining capacity in the existing watermain east of the site on Grand Drive will be used by the Ara Hills Development and that connection to the proposed reservoir on the Ara Hills Site will be necessary to service the Delmore Development.

Watercare is currently working toward securing the land necessary for reservoir infrastructure to service the full Grand Drive / Halls Farm BSP Zone.

AV Jennings has indicated it is currently scheduled to begin construction of the reservoir necessary to service its site in January 2027. Once constructed, the reservoir will be vested.

To service the Delmore Development with public infrastructure a connection from the reservoir to the site will be necessary. Vineway Ltd is actively working with Auckland Council and Watercare on addressing servicing infrastructure requirements and the reservoir and a main from the reservoir to the Demore site is an important part of this.

Except where stated otherwise, the figures used in the analysis in this section was provided by Watercare and is provided in Appendix D and Vineway's estimate of currently consented dwellings is included in Appendix E.

Internal watermains will be provided for potable/firefighting purposes. Local water reticulation will be designed and constructed in accordance with The Auckland Code of Practice for Land Development and Subdivision Water and Wastewater Code of Practice for Land Development and Subdivision Chapter 6: Water, and in accordance with the standard Engineering Plan Approval process. Engineering drawings showing the proposed water reticulation are included in Appendix A.

7.3. Water Supply Conclusion

Vineway Ltd proposes to provide water to Delmore through an on-site system (Option 1). However, the on-site infrastructure has been designed to enable connection to the public network at any time (Option 2). Given the information provided by Watercare, it is concluded that there is no infrastructure related reason for not enabling the Delmore development to connect to the public network as houses reach the point where a connection is required.

8. UTILITY SERVICES

Indicative positions for electricity and telecommunications utilities are shown on the drawings.

Utility companies have been approached, and positive early discussions are underway, with correspondence attached in Appendix C.

The road cross sections show the proposed lay positions of the various utilities to ensure there is sufficient room to accommodate them within the road corridors.

8.1. Power

Initial discussions have been held with Vector who are still working through the capacity planning for this development, based on the staging and lot numbers provided.

8.2. Chorus

Initial discussions have been held with Chorus & Tuatahi Fibre, and its network checked for type of services at the development site. Both providers have confirmed its fibre network is able to be extended to provide connection and capacity.

8.3. Gas

Piped medium pressure gas supply is present in Wainui Road and no upgrade work is required to supply the proposal.

9. CONSULTATION

Consultation with Watercare undertaken before lodging this application is detailed in the consultation overview report.

Chorus and Tuatahi Fibre have both been consulted with and confirm that the development can be serviced for fibre.

Vector has been consulted with and are working through the servicing of the development.

Correspondence with utility providers and Watercare is included in Appendix C & D respectfully.

10. CONCLUSION

The proposed development is able to be adequately serviced in terms of wastewater, water and utilities.

The design has taken into consideration the possible impact of the proposed development and has minimised impacts to the receiving environment using accepted engineering practices.

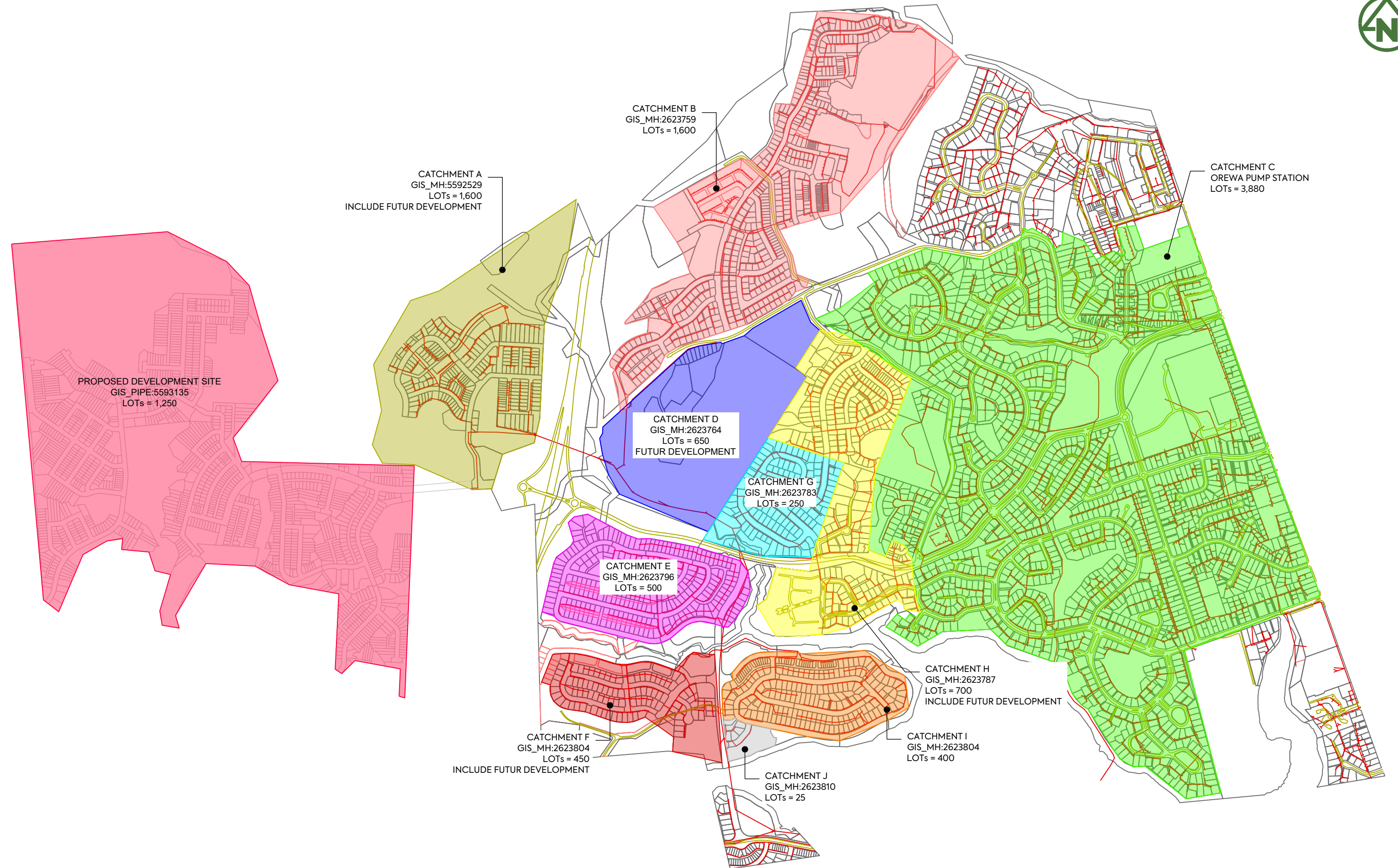
Overall, the servicing strategy demonstrates that the development can be supported by appropriate and resilient infrastructure, with sufficient capacity and provisions for future growth. The proposed measures ensure that the development can proceed in a safe, sustainable, and environmentally responsible manner.

APPENDIX A – ENGINEERING PLANS

BOUND SEPARATELY

APPENDIX B – CALCULATIONS

WASTEWATER DEMAND CALCULATIONS																		
PROJECT NAME:		Delmore										REVISION:		CREATED BY:		CHECK BY:		DATE:
PROJECT NUMBER:		3920										A		RC		SL		24/11/2025
Type of Wastewater system		Low Pressure Sewer																
																		
LANDUSE AREA			Gross Floor Area (m2)	Net Floor Area (m2)	No. Personnel			Table 6.1.b - Other facility design occupancy allowances & Table 6.1.c – Wet and dry commercial assumed design allowances, Watercare COP	Design wastewater flow allowance (L/p/d)	Occupancy per residence	No. Lots/Dwellings	Population	Average Dry Weather Flow - ADWF (m3/d)	Peaking factor: Self-cleansing design flow (Normal PDWF)	Peak Dry Weather Flow - PDWF (m3/d)	Peak Dry Weather Flow - PDWF (l/s)	Peak Wet Weather Flow - PWWF (l/s) (Excluded, as per WC COP 5.3.12.3.3 for LPS)	
Residential																		
Watercare COP 5.3.5.1.1			Stage 1						180	3	483	1,449	261	1.2	313	3.6	3.6225	
			Stage 2						180	3	767	2,301	414	1.2	497	5.8	5.7525	
Total											1,250		675		810	9.4	9.38	



CLIENT:				PROJECT:		TITLE:		PURPOSE OF ISSUE:	
VINEWAY LIMITED				DELMORE 53A, 53B & 55 RUSSELL RD OREWA		WASTEWATER CATCHMENT ASSESSMENT OVERALL PLAN		FOR RESOURCE CONSENT	
								SCALE: 1:12000m @ A3	
								DO NOT SCALE	
								DRAWING NO:	
								3725-0-5100	
								REV:	
								A	

A	FOR CONSENT	ZW	JK	31/01/25	
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE





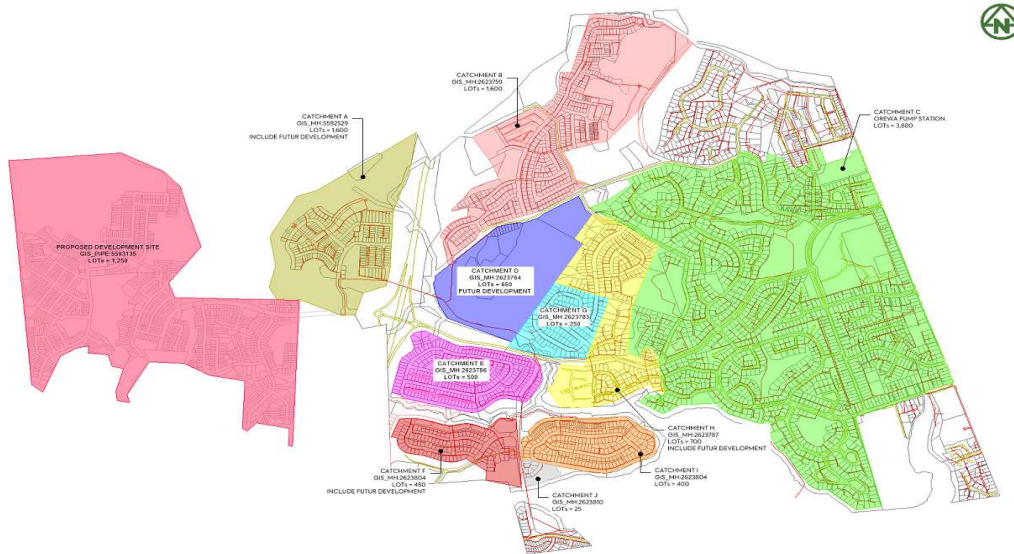
WASTEWATER CATCHMENT PARAMETERS

CATCHMENT AND FLOW DEMAND ASSESSMENT

PROJECT NAME:	DELMORE 53A, 53B & 55 RUSSELL RD	CREATED BY:	ZW	DATE:	18/12/2025
PROJECT No:	3725	CHECKED BY:	JK	DATE:	18/12/2025
LOCAL AUTHORITY	Auckland City Council				

PAGE NO: 1 of 2

Catchment Area - Wastewater Assessment (GIS_5592529 - GIS_2623818)



CATCHMENT FLOWS

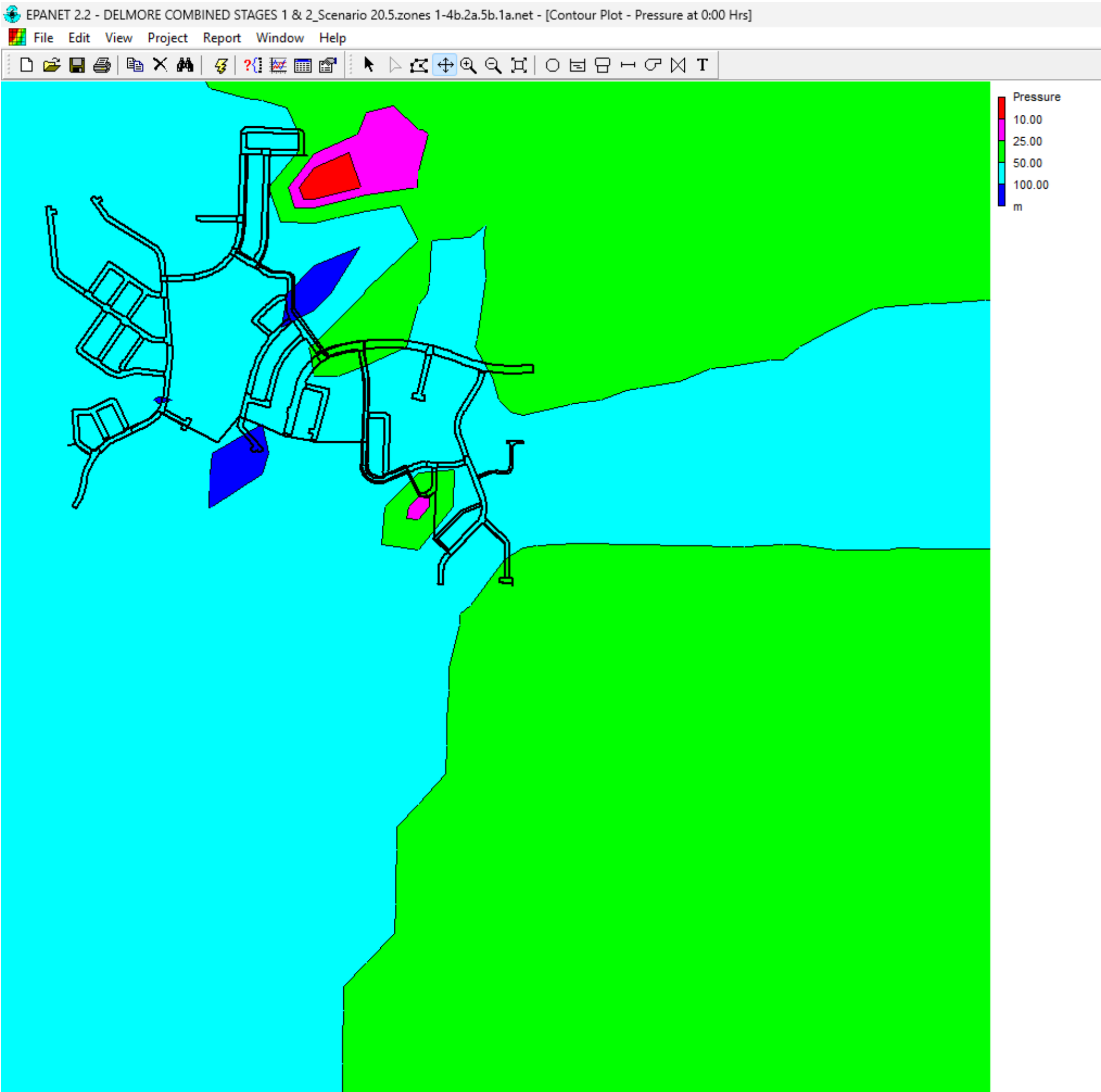
Domestic/Residential	DESIGN CRITERIA			Assumption
Daily demand	180	I/p/d		
Total population	3	p/LOT		Assumption 3 people/dwelling
Peaking factor: Self-cleansing	3.00			
PF - Peaking factor - Gravity	6.70			
PF - Peaking factor - LPS	1.20			
DELMORE GIS_PIPE: 5593135				
LOTS NO.	1250			
Total population	3750	person		
ADWF - Average Dry Weather Flow	7.8125	I/s		
PDWF - Peak Dry Weather Flow	7.813	I/s/p		Self-cleansing design flow
PWWF - Peak Wet Weather Flow	9.38	I/s		
CATCHMENT A - Ara Hills GIS_MH: 5592529				
LOTS NO.	900			
Total population	2700	person		
ADWF - Average Dry Weather Flow	5.6250	I/s		
PDWF - Peak Dry Weather Flow	16.875	I/s/p		Self-cleansing design flow
PWWF - Peak Wet Weather Flow	37.69	I/s		
CATCHMENT B GIS_MH: 2623759				
LOTS NO.	1600			
Total population	4800	person		
ADWF - Average Dry Weather Flow	10.0000	I/s		
PDWF - Peak Dry Weather Flow	30.0000	I/s/p		Self-cleansing design flow
PWWF - Peak Wet Weather Flow	67.00	I/s		

CATCHMENT C		OREWA PUMP STATION		Discharge to pump station directly	
LOTs NO.		3880			
Total population		11640	person		
ADWF - Average Dry Weather Flow		24.2500	l/s		
PDWF - Peak Dry Weather Flow		72.750	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		162.48	l/s		
CATCHMENT D		GIS_MH: 2623764			
LOTs NO.		650			
Total population		1950	person		
ADWF - Average Dry Weather Flow		4.0625	l/s		
PDWF - Peak Dry Weather Flow		12.188	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		27.22	l/s		
CATCHMENT E		GIS_MH: 2623796			
LOTs NO.		500			
Total population		1500	person		
ADWF - Average Dry Weather Flow		3.1250	l/s		
PDWF - Peak Dry Weather Flow		9.375	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		20.94	l/s		
CATCHMENT F		GIS_MH: 2623804			
LOTs NO.		450			
Total population		1350	person		
ADWF - Average Dry Weather Flow		2.8125	l/s		
PDWF - Peak Dry Weather Flow		8.438	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		18.84	l/s		
CATCHMENT G		GIS_MH: 2623783			
LOTs NO.		250			
Total population		750	person		
ADWF - Average Dry Weather Flow		1.5625	l/s		
PDWF - Peak Dry Weather Flow		4.688	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		10.47	l/s		
CATCHMENT H		GIS_MH: 2623787			
LOTs NO.		700			
Total population		2100	person		
ADWF - Average Dry Weather Flow		4.3750	l/s		
PDWF - Peak Dry Weather Flow		13.125	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		29.31	l/s		
CATCHMENT I		GIS_MH: 2623804			
LOTs NO.		400			
Total population		1200	person		
ADWF - Average Dry Weather Flow		2.5000	l/s		
PDWF - Peak Dry Weather Flow		7.500	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		16.75	l/s		
CATCHMENT J		GIS_MH: 2623810			
LOTs NO.		25			
Total population		75	person		
ADWF - Average Dry Weather Flow		0.1563	l/s		
PDWF - Peak Dry Weather Flow		0.469	l/s/p		Self-cleaning design flow
PWWF - Peak Wet Weather Flow		1.05	l/s		

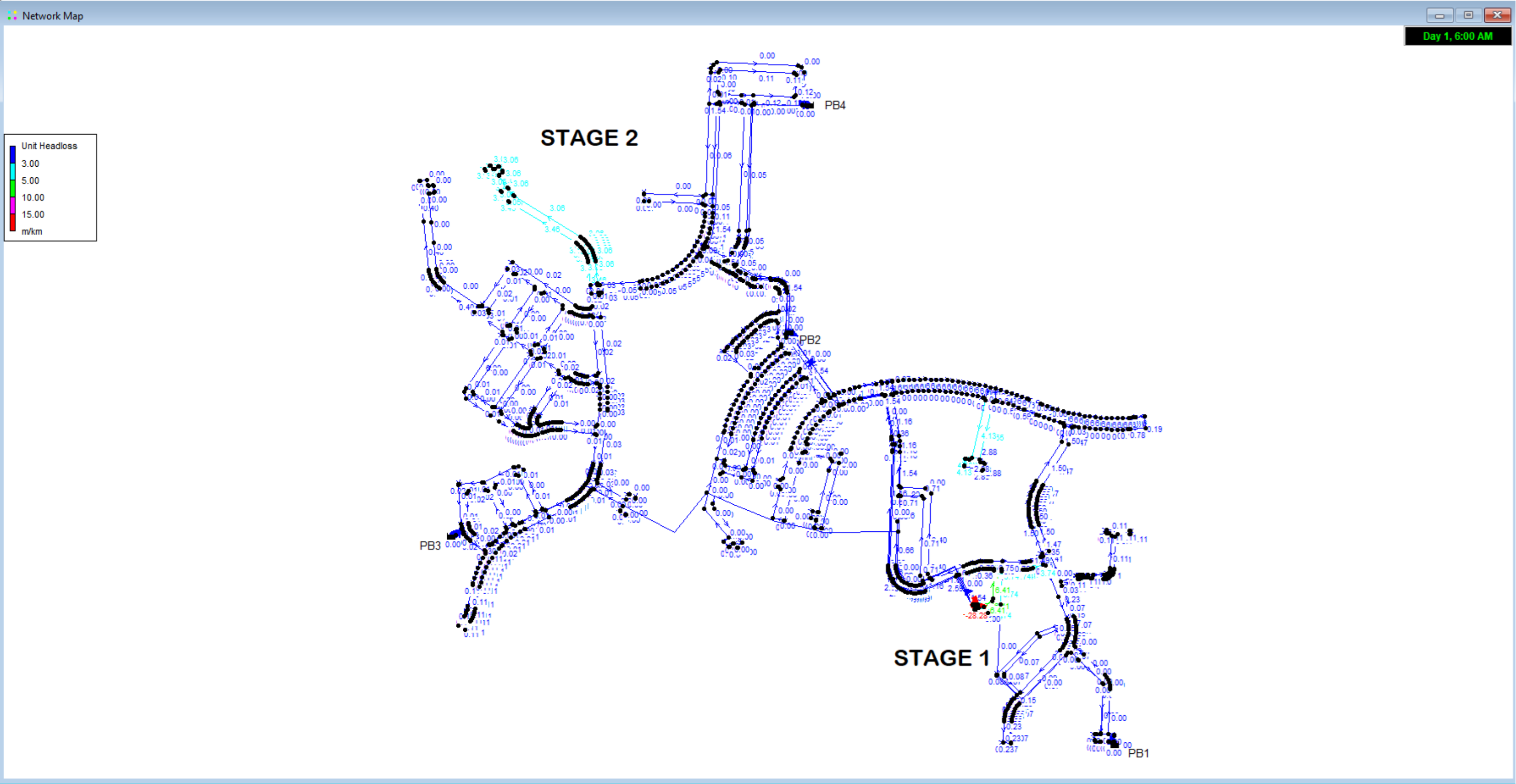
Refer to catchment spreadsheet

\\12d5\data\MCKFS01\3725 Delmore - 53A, 53B & 55 Russell Road, Orewa. Delmore_4684\06. Engineering Design\6.2. Engineering Calculations\5000 Wastewater Overall\Main pipe Ara Hills to the orewa pumpstaion

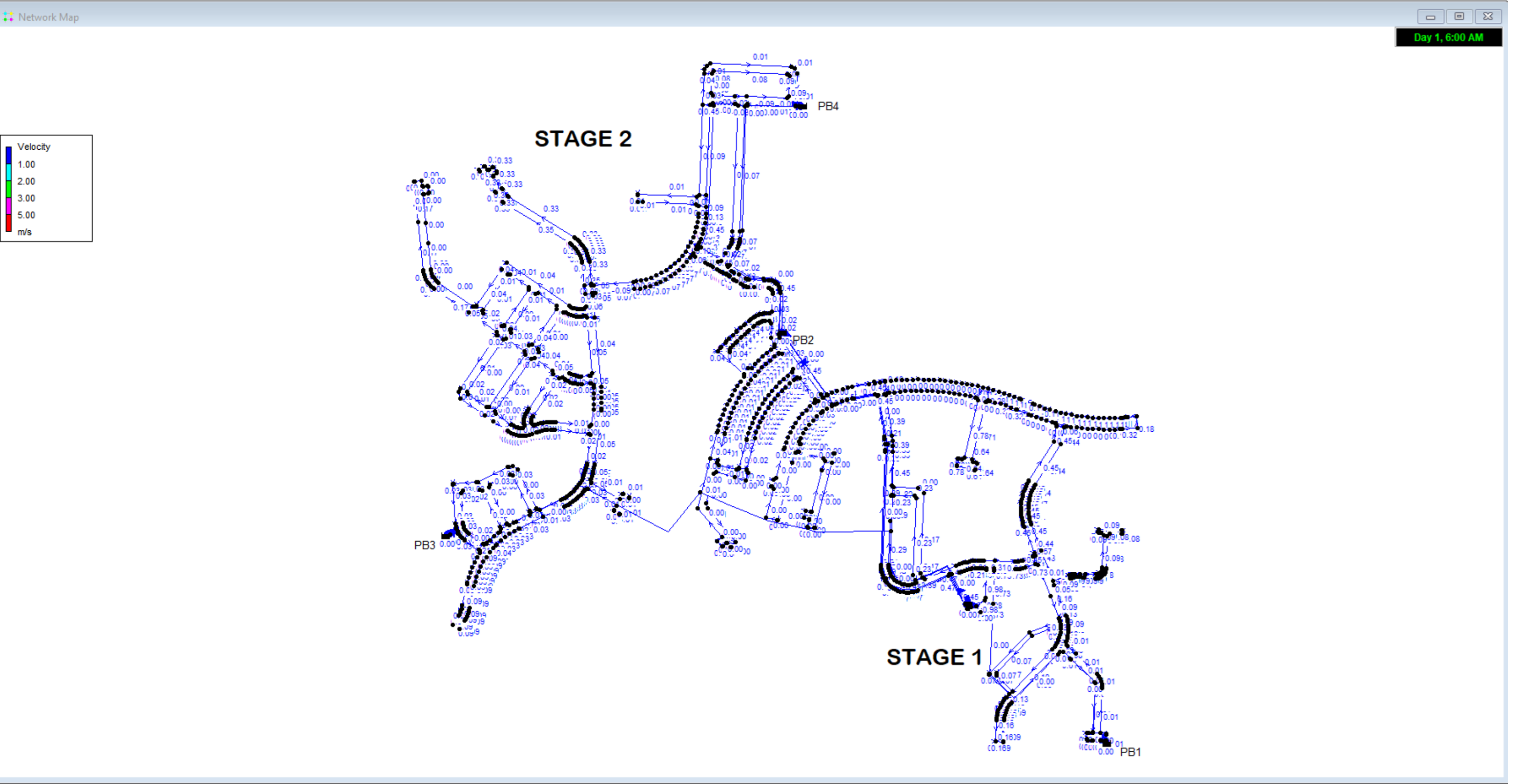
DELMORE PRESSURE ASSESSMENT - PEAK FLOW + FIRE FIGHTING



DELMORE HEADLOSS ASSESSMENT - PEAK FLOW



DELMORE VELOCITY ASSESSMENT - PEAK FLOW



APPENDIX C – CONSULTATION AND CORRESPONDENCE WITH UTILITY PROVIDERS

Chorus NZ Ltd
4 Graham Street
Auckland CBD
Auckland

James Kitchen
McKenzie and Co
PO Box 259 309
Botany
Auckland 2163

11th November 2024

Hi James,

Thank you for providing an indication of your development plans in the Orewa, area. I can confirm that we have infrastructure in the general land area that you are proposing to develop at South of Ara Hills, Grand Drive and Russell Road, Orewa

Chorus will be able to extend their network to provide connection availability. However, please note that this undertaking would of course be subject to Chorus understanding the final total property connections that we would be providing, roll-out of property releases/dates and what investment may or may not be required from yourselves and Chorus to deliver the infrastructure to and throughout the site in as seamless and practical way as possible.

The cost can only be finalised at the time that you are ready to proceed.

Chorus is happy to work with you on this project as the network infrastructure provider of choice. What this ultimately means is that the end customers (business and homeowners) will have their choice of any retail service providers to take their end use services from once we work with you to provide the physical infrastructure.

Please reapply with a detailed site plan once you are ready to proceed.

Kind Regards,

Margaret Singh
Group Account Manager
Chorus NZ Ltd
021 560 418

29/11/2024

CONDITIONAL ACCEPTANCE BY TUATAHI FIRST FIBRE LIMITED AS TELECOMMUNICATIONS OPERATOR

Development: Delmore, Orewa
Location: 88, 130, 133 Upper Orewa Road & 53a, 53b, 55 Russell Road

1. Tuatahi First Fibre Limited (TFF) confirms that a TFF telecommunications connection will be made available for each lot in the development, **providing the developer was to sign a TFF Installation Agreement**. Upon approval of this agreement, TFF will undertake to become the telecommunications operator of the telecommunications reticulation in the proposed development (the “**Subdivision**”), to provide network connections to the lots, in the Subdivision (the “**Reticulation**”).
2. The Reticulation will be installed in accordance with:
 - (a) the requirements and standards set by the Auckland Council and advised to TFF via the Council’s website; and
 - (b) the requirements of the Telecommunications Act 2001 and all other applicable laws, regulations and codes (as amended).
3. The Reticulation will be installed by our preferred provider to TFF’s satisfaction.
4. TFF will be the owner, operator and maintainer of the Reticulation.
5. One or more retail service providers will be available to supply telecommunications services over the completed Reticulation when service is available, provided that TFF shall not be responsible if the retail service provider’s offer to supply such telecommunications services or the number of such providers varies from time to time.

SIGNED for and on behalf of **TUATAHI FIRST FIBRE LIMITED** by:

Signature: *JCampbell*

Name: Jonathan Campbell
Business Development Manager
027 539 4587
Jonathan.Campbell@tuatahifibre.co.nz



Delmore

1 Project Site
88 / 130 / 133
Upper Orema Road

2 Project Site
53A / 53B / 55
Russell Road

3 Ngrt 6

4 Area hit by AV leavings
Under Construction

5 Streamline by Myland Partners
433 lots under construction

6 Development
Under construction

7 Ecological
Covenant

8 Significant
Ecological Area

Total Lots
1150



James Kitchen

From: Nina Hinic-Jegier <Nina.Hinic-Jegier@vector.co.nz>
Sent: Wednesday, 20 November 2024 11:28 am
To: Ed Hall
Cc: James Kitchen; Neil Parker
Subject: RE: [#3725] Orewa development

Hi Ed,

Thanks for your email.

Please note we are in the midst of our busiest season, and unfortunately the high volume means longer wait times as we try our best to work through all our customers using a fair queue system.

You are on my list, and I will aim to call you this afternoon.

This will likely need to go through to our projects team to progress. However I will need to understand what capacity the development requires first.

Regards,

Nina Hinic-Jegier | Business Relationship Manager
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023
DDI: 09 215 0355 | Mob: +64 21 507 492
Nina.Hinic-Jegier@vector.co.nz | www.vector.co.nz



connect with us



From: Ed Hall <Ed.Hall@mckenzieandco.co.nz>
Sent: Wednesday, November 20, 2024 11:07 AM
To: Nina Hinic-Jegier <Nina.Hinic-Jegier@vector.co.nz>
Cc: James Kitchen <james@mckenzieandco.co.nz>; Neil Parker <Neil.Parker@vector.co.nz>
Subject: FW: [#3725] Orewa development

Hi Nina, could you give me a call this morning about this please.

We have a Client meeting tomorrow morning and need to update them on these comms.

Regards
Ed

Ed Hall
Senior Development Manager
0275 428 873

mckenzieandco.co.nz

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From: Neil Parker <Neil.Parker@vector.co.nz>
Sent: Wednesday, 20 November 2024 10:53 am
To: Ed Hall <Ed.Hall@mckenzieandco.co.nz>
Cc: Nina Hinic-Jegier <Nina.Hinic-Jegier@vector.co.nz>
Subject: FW: Orewa development

Hi Ed,

As discussed.

Cheers

Neil

From: Neil Parker
Sent: Monday, November 11, 2024 10:01 AM
To: Nina Hinic-Jegier <Nina.Hinic-Jegier@vector.co.nz>
Subject: FW: Orewa development

Hi Nina,

This is the one we discussed. Are you able to respond or direct it to the correct person.

I have advised James that I cannot help but someone will contact him.

Thank you.

Neil

From: James Kitchen <james@mckenzieandco.co.nz>
Sent: Friday, November 8, 2024 2:15 PM
To: Neil Parker <Neil.Parker@vector.co.nz>
Cc: Ed Hall <Ed.Hall@mckenzieandco.co.nz>
Subject: Orewa development

Hi Neil,

We are working on a 1250 lot development just west of Orewa, and would like to engage with vector to provide a letter confirming electrical supply and start working through network requirements and layout.

We are aiming to submit for Resource Consent early in the new year.

Are you the right person to coordinate this with?

Many thanks !

Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
021 951 230



[mckenzieandco.co.nz]mckenzieandco.co.nz



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APPENDIX D – WATERCARE CONSULTATION

Minutes

Project: Delmore

Date: 27 November 2025

Time: 9am

Location: Online

Attendees: Note, BA meeting record template to ensure consistent approach to all meetings but no BA representative attended this particular meeting

(Draft meeting notes circulated to Auckland Council 4 December 2025. No changes confirmed by C Hinde. Final notes circulated 14 December 2025, identical to draft as circulated).

Name	Role/Organisation
Andrew Allsopp-Smith	Vineway (applicant)
Andrew Fawcett	Vineway (applicant)
Madeleine Wright	Mills Lane Chambers (legal counsel for applicant)
Babette Morris	Berry Simons (legal counsel for applicant)
James Kitchen	McKenzie & Co (civil engineer for applicant)
Carly Hinde	PPL – Auckland Council
Dylan Pope	Planner – Auckland Council (DCS)
Samuel Holmes (provisional)	PM – Auckland Council
Dylan Walton	GWE Consulting
Anna Jennings	Watercare - Planning
Tim Scheirlinck	Watercare – Water Planning
Andrew Deutsche	Watercare – Wastewater Planning
Matthew Hill	Watercare – legal counsel

Person	Detail	Action
Introductory points		
CH	Will the application be lodged based on all three options?	
AAS	If option one (connection to public network) was acceptable for both water supply and wastewater, would pursue this option.	
MW	There is a separate application going through the resource consenting process for water supply to ensure the infrastructure is viable for both options. In terms of wastewater, will have conditions that provides for the final decision to be made down the track with evidence in the application supporting the different options (which was the	

	same as the original application). Noting that the third option is only for stage 1 to manage the way in which construction rolls out.	
AJ	The information provided during the meeting is a high-level summary and Watercare (WC) will provide further information after the meeting. WC position has not changed since original application as Delmore is sitting on FUZ land and timed for 2050. WC does not provide connections within FUZ.	
MW	The applicant has a difference of view on the legitimacy of banking capacity within the FUZ and regarding the FDS. Applicant understands and notes WC policy position but wants to understand the practical capacity available.	
Wastewater points		
AD	Notes will send written response to the applicant's requested information sheet after the meeting. Item 1(a) Discusses developed areas currently serviced by Army Bay WWTP. Areas not developed are guided by the timing set out in FDS to see when they are planned for release. Utilises GIS viewer and responses are formed around this. Item 1(b) 25,578 properties currently serviced by plant. Of that, 1,277 are commercial. Item 1(c) Analysis of and assumptions on estimated timing for development on areas not developed is per the FDS and timing of development is based on Auckland growth scenario.	Andrew to send written response to the applicant's requested information.
MW	Practicably speaking does it make a difference whether an area with a later FUZ FDS date (like the Delmore site) is delivered before an area with an earlier FUZ FDS date? Are there any practical location-based constraints?	
AD	No. The treatment plant does not care where comes from, just cares that it comes to the plant.	
MW	Requested confirmation that from a physical infrastructure perspective, wastewater could be coming from Delmore or somewhere else in the serviced area and this would not impact the treatment plant infrastructure?	
AD	Yes. Wastewater could be coming from anywhere, for example from the Rosedale catchment, or elsewhere.	
AJ	But we may end up with capacity constraints as the area if development that was timed for earlier delivery comes forward too or is delivered.	
MW	If the physical treatment infrastructure is not impacted by where the wastewater is coming from within the service area	

	why is WC opposed to delivering wastewater to a project that is here and now? It does not affect its infrastructure.	
AJ	WC position is directed by the Council group, and Mayor – this is a question for Auckland Council. Noted, that Council considers that if development is brought forward then infrastructure may need to be brought forward too.	
AD	Item 1(d) WC does not assess at property level to assess flows broadly. WC looks at the number of properties and applies standards based on current practice.	
AD	Item 1(f) WC is committed to remaining behind the 13,500m3 per day as this is a requirement for the discharge consent for that site.	
AD	Will supply material and maps per item 2(a) and (b) and (d). Item 2(c) assumptions are based on the timing from the FDS. Item 2(e) the stage 1 upgrade takes this to 22,500m3.	Andrew to supply material and maps as part of response to the applicant's requested information.
MW	The public messaging has been that timing for stage 1 Army Bay upgrade is looking at 2031, is this still on track?	
AD	Yes. Exploring opportunities to create additional capacity before then. A public update will be provided shortly. Progressing demonstration at smaller scale, delivered over 18 months. Depending on how the tech performs in demonstration, could possibly release more than the 2031 date but no commitment there, overall upgrade still on track for 2031.	
JK	In terms of network capacity are there any issues from that perspective putting aside treatment plant?	
AD	Haven't seen personally. From bulk conveyance perspective, have upgrades from Stanmore Bay to wastewater treatment plant to enable growth across catchment, which will be staged as well. There is the second upgrade, network from pump station from Orewa to Stanmore Bay necessary for growth at the Peninsula. Pump station upgrades further where there is programme of upgrade work outside of what's happening at plant over 10-15 years. Necessary for growth long term as the same for upgrades for plant. The delivery of upgrades staged so gradually increase capacity over network over time.	
JK	The 22,500m3 - will this be delivered on time due to upstream constraints?	

AD	It will be delivered on time. It will take the plant further but also need to update other aspects as well. Do not need capacity in the network right away.	
MW	With the 22,500m3 discharge volumes with the Stage 1 upgrade to Army Bay if Delmore is connecting in 2031 after those upgrades do you agree that from a practical standpoint there would be capacity?	
AD	Yes, there would be capacity. Noted, that this is the case if looking just at the individual development and not taking other matters like FDS dates into account.	
Water supply points		
TS	Item 3(a) current area of service is Silverdale, north up to Hatfields Beach to Waiwera, all of the Peninsula, and smaller area west of the motorway, in Milldale. Item 3(b) planning is to the Auckland Council growth scenario. Item 3(h) it is hard to provide the number of properties being serviced. Need to do a more detailed analysis as it is difficult when looking at individual properties. Item 3(c) this answer is lumped in with the question around associated capacity.	Written response to all points also to be provided as part of response to the applicant's requested information.
TS	Item 4(a) the estimated timing is published publicly. Orewa 3 is anticipated completion 2038. This is dependent on North Harbour 2, which is further progressed, and works are underway at various stages. Current anticipated completion date is 2034. Item 4(b) future capacity and timing of Orewa 3 and North Harbour 2 was designed in line with FDS timing. There is sufficient capacity to cover everything zoned 2050+ once the two projects are complete.	
JK	Even if the 2050 FDS date is considered to determine when a project can access capacity in the public system, is it correct that there is capacity from 2038 onwards following the completion of the two projects?	
TS	Yes, that is correct. If both of those projects are complete by 2038, additional capacity will be gained from that infrastructure being built. This will cater for all developments 2050+ and potentially beyond.	
TS	Item 4(c) the relevant planning documents that capture this information are the business plan and asset management plan which are publicly available. As to interdependencies, Orewa 3 relies on North Harbour 2 which have different staging times.	Tim to provide maps as part of response to the applicant's requested information.

	Item 4(d) the Orewa 3 transmission pipeline is not built yet. Planned to service the Dairy Flat FUZ areas. There is a map that best articulates this, and the sub-points regarding developed and undeveloped land covered in the map. Maps to be provided after the meeting. Item 4(e) refers to previous statement on Auckland Council growth scenario. Preliminary findings showing remaining capacity in Orewa 1 and 2 should take us beyond the completion date of Orewa 3.	
JK	Will you be able to share that with us?	
TS	Not currently in a format which is shareable but can hopefully share how they have worked through remaining capacity numbers as it relates to Orewa 3. Gets complex and hard to describe for what growth from now until 2038 might look like. If we get out of sequence growth, the assumptions may not be as reliable for growth up until 2038.	
JK	If this extends beyond Orewa 3 coming live, is there spare capacity beyond zoned land?	
TS	The constraint more moves to the capacity in North Harbour 1. North Harbour 1 supplies all water through Orewa 1 and 2, if we run out of spare capacity there then we cannot supply. Even if there is capacity in Orewa 1 and 2, if we cannot get water there then it is not useful. The primary constraint is getting enough water to this part of Auckland (North Harbour 1). Anticipated to be resolved by 2034.	
JK	Assuming the constraint by 2034, is there spare capacity outside the zoned area?	
TS	Yes. Once the North Harbour 2 is complete we anticipate that there will be some additional capacity remaining in Orewa 1 and 2 to get through until Orewa 3 is complete.	
MW	Putting the zoning and FDS considerations to one side, and looking at the practical capacity that is currently available in the water supply network, if Delmore sought to connect Stage 1 houses in a few years, it sounds like practicably there is capacity available to service the development. Is that correct?	
TS	Yes, there technically there would be capacity to service the development then. WC would not run out of water if it serviced the development. Noted (like AD) that this is the case if looking just at the individual development and not taking other matters like FDS dates into account.	

General points

AJ	Item 5 – as this is not an official LGOIMA they will not be providing that information unless officially requested.	
MW	Will take instructions and come back to WC. Would like to know if there are any fees associated with this but will make a note of this when confirming via email.	Vineway to confirm LGOIMA request with AJ.
CH	Agenda item 4 - wastewater field proposed management & back-up reserve field details. Has not seen detail on what is proposed for wastewater field / irrigation field and infiltration.	
MW	This detail was provided for specific areas in the last application. Have discussed with the ecology team and are further considering this.	
DP	While there is an irrigation field, is there a requirement to have a reserve area as well?	
MW	Vineway's technical advice it is a combination of an irrigation field and an infiltration trench which sits south of the treatment plant site. The discharge is split with the majority going to infiltration trench and not the irrigation field. There are percentage allocations between Viridis and Apex teams, as well as terrestrial input. From applicant side, there is no recommendation for backup or reserve as there is significant holding take capacity in holding plant as well.	
DP	When final design comes through, if the main field goes wrong what will happen then? Is there a back-up plan?	
MW	It is helpful to look at onsite options. Understand that WC has strong views on on-site options, especially with receiving a portion of the treated water. WC has however been comfortable taking treated water from other developments, neighbouring ones, drinking water standards. Directing question to whether Anna has any further comment on this? E.g. in the context of Rosedale.	
AJ	WC's position has not changed on this.	
MW	Why is this the case?	
AJ	WC does not support any more tankering.	
AAS	Even from treated wastewater product which is significantly higher quality?	
AJ	Position has not changed.	
AD	This is a practical issue as they have significant challenges managing tankering into Rosedale. There is a burden for the team on site. It is already busy and do not want to increase tankering at this point in time as cannot practically support.	

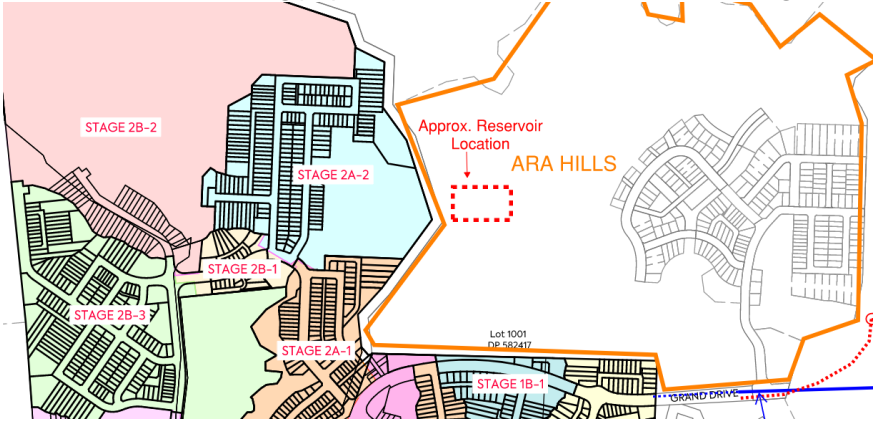
	Also references history that came before this position. Grounded in poor outcomes for WC communities and developers, as well as with tankering arrangements. Here, the effluent quality is not a consideration, rather it's the practicalities as seen before with previous issues.	
CH	Is there any further detail the applicant wanted to provide with untreated wastewater from site?	
MW	Applicant working with Apex to determine ways to run system to reduce number of vehicles. Can look at providing those is draft form, which is evidence based and driven by transport experts. Traffic effects are negligible from the information provided. Noting that if the applicant is transporting drinking water, the hazardous substances risk is not an issue. Working with WWLA to make sure all aspects are managed.	
CH	Is it still the applicant's intention to look at potential individual tanks for each unit?	
JK	Applicant is still proposing on site water tanks for stage 2. Noted there he has a couple of questions regarding connections from the site to transmission infrastructure before lodging and will look to organise a discussion with WC about this.	JK to contact AD to organise meeting.
AJ	Can co-ordinate with Andrew's team. Noted that very busy at this time of the year.	

MEETING MINUTES

Project:	3725 – Delmore
Meeting No:	01
Date :	16-12-2025
Time:	1300-1330
Location:	Online / Teams

Attendees:	Name	Representing	Email
	James Kitchen	MKC	James@mckenzieandco.co.nz
	Lachlan Van der Meij	MKC	Lachlan@mckenzieandco.co.nz
	Shabneez Hussain	WSL	Shabneez.Hussain@water.co.nz
	Maria Utting	WSL	Maria.Utting@water.co.nz
	Edzard Verseput	WSL	Edzard.Verseput@water.co.nz
	Anna Jennings	WSL	anna.jennings@water.co.nz
	Annika Swanberg	WSL	annika.swanberg@water.co.nz
	Jing Qi	WSL	jing.qi@water.co.nz
Apologies:	Charlotte MacDonald	B&A	charlottem@barker.co.nz

No.	Item	Action	Date
1.	Intro & Purpose of Meeting Putting aside the policy of enabling development in accordance with FDS, and transmission infrastructure, can the network infrastructure support the Delmore Development, if developed in 2027/2028 for example.		
2.	Wastewater - Mckenzie & Co calculations indicate that there are 2x pipes that exceeded 3m/s velocity CoP limit for Peak Wet Weather Flow when doing a capacity assessment of the down stream network. 1 x under Motorway (315 PE). 1x near Syd Grant Crescent SW Pond (782 Conc.). - Velocities appear to be around 3.3m/s, ie 10% excess. - Calculations include additional lots from the Ara Hills Private Plan Change 119.		

	• There are no capacity concerns for the downstream network. • WSL indicated that a detailed assessment for potential failures (hydraulic, etc) would need to occur and if there was an appropriate mitigation for the scenario then it could be acceptable. • Acceptance would require dispensation from OPs Team		
3.	Potable Water • According to PC119, the Ara Hills Development needs a reservoir at a trigger of 500 lots. They are rapidly approaching this trigger and as such are in active discussions with Watercare. • WSL indicated that they are in active discussions with Ara Hills. ○ The location of the reservoir hasn't been finalised but will be broadly located at the highpoint within the Ara Hills Development on the western side adjacent to the existing paper road across from Delmore's Stage 2A-2.  ○ WSL indicated that they are requesting a piece of land that is large enough for the Ara Hills Reservoir and a future reservoir to service rest of the Grand Drive / Halls Farm BSP Zone, i.e Delmore. ○ Latest programme shows construction is aimed to begin in Jan 2027 on the Ara Hills Reservoir. Ara Hills are delivering infrastructure. • MKC inquired about Milldale Reservoir and the connection to the south of the area. • WSL indicated the connection is purely for resilience and as of now there is no road to install this connection and there is no timing for this connection.		

4.	Other • WSL raise the question of vesting of assets for the development. ○ MKC indicated that the proposal is to provide on-site servicing, with private networks within the road reserve. The alternative option is to connect to the public network, if agreed by Watercare. ○ As per standard operational requirements, WSL advised that it is ideal for infrastructure to be installed and in the ground for no more than six months prior to vesting and/or connection. ○ A new process would need to be developed for vesting after the interim period, this may involve monitors/sensors, inspections, remediation and/or replacements. ○ WSL and MKC agreed that infrastructure such as treatment plants, pumpstations, bores, etc. wouldn't be vested in the future.		
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12 December 2025

Carly Hinde
Planning & Resource Consents – Premium Unit
Auckland Council



Dear Carly,

Delmore Fast-track Application v2
88 Upper Orewa Road, Upper Orewa 0992

Introduction

Vineway Limited ("Applicant") sent a list of questions to Auckland Council who sent them to Watercare on 12th November 2025. Watercare have been working on answering the questions and talked them through with the Applicant at the pre-application meeting held on the 27th November 2025.

Watercare's written response to the questions is provided below.

Watercare notes that in line with the comments provided to the Delmore Fast-Track Application v1, the following pre-requisites are identified as being required to enable servicing of the Upper Ōrewa Future Urban Area, including the Application Site:

- The Orewa 3 Watermain scheme (transmission watermain, reservoir and pump station) which is currently anticipated to be completed by 2038 and is dependent on the completion of the North Harbour 2 (NH2) watermain;
- The NH2 watermain, currently anticipated to be completed by 2034;
- Army Bay WWTP Stage 2 Upgrade, currently anticipated to be delivered in line with the FDS timing of 2050+;
- Orewa to Stanmore Wastewater Trunk Network Upgrade, currently anticipated to be completed by 2033.

Attachments

Attachment 1 Bulk infrastructure requirements – 2050+ Future Urban Areas, Army Bay Growth Area

Attachment 2 Water-3ai

Attachment 3 Water-4d

Questions from Applicant

Wastewater network

1. Existing network:

a. The area that is currently serviced by the Army Bay WWTP. Including:

- Parts of that area that are developed.
- Parts of that area that are not developed.

This information is publicly available via our GIS viewer. Areas with existing public wastewater pipes and connections are serviced by the Army Bay WWTP. Areas without wastewater pipes are either undeveloped or developed without requiring public wastewater service (e.g., large lots). This data and GIS information can be extracted via our Application Programming Interface (API).

<https://www.arcgis.com/apps/webappviewer/index.html?id=3944a60cbf864b9494087cd39094e114>

b. Number of properties that are currently being serviced by the Army Bay WWTP, distinguishing between residential and business/industrial if possible.

The Army Bay WWTP services 25,578 connections, of which 1,277 are commercial.

c. Analysis of and assumptions on estimated timing for development of land within this area that is not currently developed, including both greenfield and infill areas

Watercare plans to the Auckland Council's growth scenario (AGSv1.1) and the timing and sequencing set out in the Future Development Strategy (FDS). Please request this information from Auckland Council.

d. Analysis of estimated wastewater flow from each serviced property.

Watercare does not have this information.

e. Existing flow data for wastewater entering the Army Bay WWTP.

The annual average dry weather flow for the 2024-2025 reporting period was 11,996.69 m³ /day.

f. Existing flow data for treated wastewater discharged from the Army Bay WWTP.

Please refer to the answer to question e. above – on average the inflow and outflow are similar

g. Analysis of ability for the Army Bay WWTP to accept and discharge treated wastewater that meets or exceeds the discharge parameters applying to the Army Bay WWTP.

We are committed to ensuring that inflows into the Army Bay WWTP remain below the threshold of 13,500m³/d rolling annual average dry weather flow until Stage 1 is completed.

2. Stage 1 upgrade network:

a. All materials relating to the timing of the Stage 1 upgrade to the Army Bay WWTP.

Refer to Attachment 1 “Bulk infrastructure requirements – 2050+ Future Urban Areas, Army Bay Growth Area” document for some of the information.

b. The area that will be serviced by the Army Bay WWTP after the Stage 1 upgrade. Please include any maps, plans, or GIS datasets showing the areas described, as well as associated capacity or infrastructure data layers.

This is any live zoned land or future urban land timed for release in 2030+ or 2035+ under the FDS.

c. Analysis of and assumptions on estimated timing for development of land within this area that is not currently developed.

Watercare plans to Auckland Council’s growth scenario (AGSv1.1) and the timing and sequencing set out in the FDS. Please request this information from Auckland Council.

d. Total wastewater flow the Army Bay WWTP will be able to receive after the Stage 1 upgrade.

e. Total allowable discharge of treated wastewater after the Stage 1 upgrade.

For answers to both d and e, see below snippet from our resource consent.

Table 4: Treated Wastewater Discharge Volumes from the Staged Upgrades to the Army Bay WWTP.

Flow Type	Stage 1	Stage 2	Stage 3
Average Dry Weather Flow	22,500 m ³ /d	31,500 m ³ /d	42,410 m ³ /d
Peak Dry Weather Flow	65,400 m ³ /d	92,000 m ³ /d	129,000 m ³ /d
Maximum Instantaneous Flow (Peak Wet Weather Flow)	1,010 L/s	1,417 L/s	1,964 L/s

Water supply

3. Existing network:

a. The area that is currently serviced by the Orewa 1 and Orewa 2 transmission pipeline. Including:

- **Parts of the area that are developed.** Refer to Attachment 2 “Water-3ai”.
- **Parts of the area that are undeveloped.** Please refer to the answer for question 1a above.

b. Analysis of and assumptions on estimated timing for development of land within this area that is not currently developed, including both greenfield and infill areas.

Watercare plans to Auckland Councils growth scenario (AGSv1.1) and the timing and sequencing set out in the FDS. Please request this information from Auckland Council.

c. The number of properties being serviced within this area distinguishing between residential and business/industrial if possible.

This information is not available without detailed analysis. If the Applicant would like Watercare to undertake this analysis then we will need to engage a consultant at the cost of the Applicant. Please advise if you would like this to be done.

d. Analysis of and assumptions of water use by each serviced property. Please include any maps, plans, or GIS datasets showing the areas described, as well as associated capacity or infrastructure data layers

Refer to Watercare’s Code of Practice for water demand assumptions.

4. Future network with the Orewa 3 transmission and North Harbour 2 pipelines

a. Estimated timing of these upgrades.

Refer to Attachment 1 “Bulk infrastructure requirements – 2050+ Future Urban Areas, Army Bay Growth Area” document. Orewa 3 Watermain Scheme (transmission watermain, reservoir and pump station) is currently anticipated to be completed by 2038 but is dependent on NH2. The NH2 watermain, currently anticipated to be completed by 2034.

b. The future capacity and timing of

- **Orewa 3 pipeline construction,**
- **North Harbour 2 pipeline,**

Orewa 3 and NH2 will be designed to support live zoned areas and all FDS areas, including those timed for 2050+.

- c. Any capacity modelling or strategic planning documents relating to the Orewa 3 and North Harbour 2 pipelines. Any interdependencies (e.g. upgrades to reservoirs or pump stations that enable full operation of Orewa 3).**

Please refer to Watercare's Business Plan and Watercare's Asset Management Plan. Both of which are publicly available.

- d. The area currently serviced by the Orewa 3 transmission pipeline. Including:**

Orewa 3 watermain not in service, completion estimated for 2038.

Orewa 3 proposed service area planned for Dairy Flat FUZ areas and the areas serviced by the Maire Road Reservoir (live zone). Please refer to Attachment 3 "Water-4d".

- **Parts of the area that are developed.**
- **Parts of the area that are undeveloped.**

Orewa 3 watermain not in service, completion estimated for 2038.

Please include any maps, plans, or GIS datasets showing the areas described, as well as associated capacity or infrastructure data layers

Data layers are available on Watercare public GIS viewer, please refer to the link in the answer to question 1a.

- e. Analysis of and assumptions on estimated timing for development of land within this area that is not currently developed.**

Watercare plans to Auckland Councils growth scenario (AGSv1.1) and the Future Development Strategy timing and sequencing. Please request this information from Auckland Council.

Delmore fast-track application

- 5. All internal Watercare Services Ltd correspondence, memoranda, filenotes, reports, advice, and other documents relating to the Delmore fast-track application.**
- 6. Any external reports or advice or other documents provided to Watercare Services Ltd about the Delmore fast-track project.**

This has now been confirmed as an official LGOMIA and will go through that process.

Appendix E – Estimate of Currently Consented Dwellings

Development Breakdown					
5/08/2025				Remaining to connect (Not built out)	
Greenfield	Total Zoned Capacity	Granted Resource Consent (Subset of Zoned)	Built out (Subset of Granted RC)	Zoned	Granted Resource Consent (Subset of Zoned)
Milldale	4642	2818	2376	2266	442
Millwater	610	610	494	116	116
Ara Hills	575	575	196	379	379
Pacific Heights	550	358	224	326	134
East Coast Heights	655	655	287	368	368
Strathmill	433	443	0	433	443
Woodlands Rise	91	91	0	91	91
Millwater South	409	0	0	409	0
Total Greenfield	7965	5550	3577	4388	1973
Whangaparāoa Brownfield					
1-29 Anehana Place	29	29	29	0	0
Pamu Wera Drive	50	50	50	0	0
5 Daisy Burrell Drive	89	0	0	89	0
20 Melia Place	59	0	0	59	0
Te Kauaue Rise	28	28	28	0	0
Awanui Road	33	33	33	0	0
Total Brownfield	288	140	140	148	0
Total Combined Development	8253	5690	3717	4536	1973