WATER AND WASTEWATER SERVICES REPORT

Ryans Road Industrial Development

INTRODUCTION

Report To (Planner):	Francis White	**Address:**	104 Ryans Road
Report To (Engineering):		**Applicant:**	Carter Group Limited
Date:	08/07/2025	**Consultant:**	Pattle Delamore Partners
Council Nr.:	RMA/2025/1208	**Author:**	Michele McDonald
Record File Nr.:		**Team Leader:**	Michele McDonald
Zoning	Industrial	**# lots**	126 lots (55.5 hectares)
Legal Description			

Version Reference	Changes	Date
0	Drafted	10/07/2025
1	Amendments	25/07/2025

1. BACKGROUND AND SCOPE

1.1 Carter Group Limited submitted a substantive application for the Ryans Road Industrial Development under the Fast-track Approvals Act 2024.

1.2 The Council's Water and Wastewater Asset Planning Team was approached directly by the applicant's due diligence consultants to advise on the water and wastewater network capacity to service the proposed 55-hectare industrial development at 104 Ryans Road.

1.3 It was confirmed from the outset that the applicant intends to establish an industrial development with relatively low water demand and minimal wastewater generation, consistent with the characteristics of an Industrial Park zone. As outlined in the Council's Infrastructure Design Standards (IDS), wastewater generation from an Industrial Park is approximately 60% of that produced by a typical general industrial development, and only 24% of that associated with a typical heavy industrial development.

2. SUMMARY

2.1 Council has confirmed that its Northwest Water Supply Zone can service the water supply demand of the development; however, a booster pump station will be necessary to achieve the required pressure levels. The use of a Council vested and operated inline booster pump station to deliver the level of service is a departure from Council's standard design and operating conditions.

2.2 It is noted that the water infrastructure for the development will be designed to accommodate a maximum fire demand of **50 L/s (FW3)**, in accordance with the NZ Fire Service Fire Fighting Water Supplies Code of Practice **NZS 4509:2008**. This fire demand is lower than

is typically expected in industrial areas. To ensure transparency, Council proposes that future property owners be made aware of this limitation through a **consent notice** registered against each property title.

2.3 It is noted that the selected wastewater servicing option for this development will restrict the wastewater discharge from individual properties and will require the installation of individual pump sets. To ensure transparency, Council proposes that future property owners be made aware of the wastewater limitation and the servicing requirements through a consent notice registered against each property title.

2.4 The expected wastewater discharge flow rate from the industrial development will be higher than advised in the applicant's Three Waters Servicing Report, which bases its maximum flow rate on a residential application, whilst recognizing that dual pumps will be installed for larger lots.

2.5 Due to the location of the proposed discharge point at the upper end of Council's DN225 gravity pipe in Russley Road, the pipe will have capacity to receive the expected maximum flow rate of up to 15 L/s, but noting that this development will utilize the full capacity of the pipe.

2.6 Council advises that careful consideration must be given to the placement and design of the air extraction and odour treatment facility, which is to be located downstream of the wastewater discharge point. Due to the high flow rate within the DN225 gravity pipe, it may not be feasible to extract a sufficient volume of air for effective odour control. As a result, it may be necessary to upsize a portion of the downstream network or to design an alternative discharge arrangement upstream of the DN225 gravity pipe.

2.7 Council will assume responsibility for operating and maintaining new water- and wastewater infrastructure only where it is satisfied that all design, quality assurance, commissioning, and as-built documentation requirements have been fully met.

3. APPRAISAL OF EFFECTS

Water Supply

3.1 As outlined in the Three Waters Servicing Report (PDP) (Record 25/839742: RMA/2025/1208, Appendix 12), the proposed water demand for the development is based on the following assumptions:

a) A maximum development scenario comprising 126 light industrial lots, with a peak design flow of 58 L/s, calculated using a design usage rate of 0.46 L/s per connection in accordance with Chart 2 of the Infrastructure Design Standard (IDS) Part 7. A minimum water pressure of 25 metres is to be maintained at each lot boundary.

b) For FW2 fire demand, a combined flow of 65 L/s is required, comprising 60% of peak demand (35 L/s) plus 25 L/s fire flow, in accordance with SNZ PAS 4509:2008.

c) For FW3 fire demand, a combined flow of 90 L/s is required, comprising 60% of peak demand (35 L/s) plus 50 L/s fire flow, in accordance with SNZ PAS 4509:2008.

3.2 Council proceeded to model the effects of the design demand on the existing water network on behalf of the developer. The modelling report is attached as Appendix D to the applicant's Three Water Servicing Report.

3.3 The recommended service connection for the development is the DN375 asbestos cement (AC) water main on Russley Road. The primary water supply will be sourced from the Avonhead Pump Station, which services the southwest corner of the Northwest zone.

3.4 Water hydraulic modelling was carried out based on current water demand, with no allowance made for future growth. This is due to the Council's growth projections not yet being incorporated into the water model. The modelling report notes the following:

> *"Council's water supply master plan (2023) has identified the need for additional wells and pumps to support future growth based on the existing growth projections. The Northwest and West Zones have limited well/pump capacity to accommodate future growth that has not previously been identified within the master plan."*
>
> *New wells/pumps will be required to service new development areas outside of the current master plan. The increase in household densities and intensification requires detailed assessment to confirm staging of infrastructure to service future growth and meet the timing of new developments."*

3.5 The water hydraulic modelling concluded that additional wells and pumps at pump stations north of the Avonhead Pump Station would need to be activated to meet the development's peak demand. This indicates that the Avonhead Pump Station alone does not have sufficient capacity to service the development.

3.6 Although the Russley Road trunk main has sufficient capacity to meet the development's peak demand, the minimum residual pressure at individual lot boundaries cannot be achieved due to the site's elevation relative to the Northwest Zone pressure. To comply with the Council's infrastructure design standards for industrial sites, a minimum of 25 metres of pressure must be supplied at each lot boundary. The developer has chosen to construct a water supply booster pump station to provide adequate water pressure, and which is a deviation from Council's standard design and operation requirements.

3.7 The fire flow assessment confirmed that an FW3 fire flow (50 L/s) can be achieved using two hydrants, each maintaining a residual pressure of 10 metres, in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008).

3.8 Since industrial buildings typically require fire demands exceeding 50 L/s or FW3, **it is essential to notify future property owners of the water network's design limitations.**

3.9 To assess the development's impact on the Northwest Zone's water supply capacity in the context of future growth, the Council evaluated its effect on the instantaneous flow demand across the entire zone, as well as on the pump stations required to service the development.

3.10 **Figure 3.1** below shows that the development will accelerate the need for additional water supply capacity by approximately five years. However, if the Council can maintain the water demand reductions achieved through excess water use charges, there will be sufficient capacity to meet the future projected demand as well as the additional demand introduced by this development. It should however be highlighted that the future growth projected in Figure 3.1 does not align with medium density residential standards nor does it account for additional greenfield development.

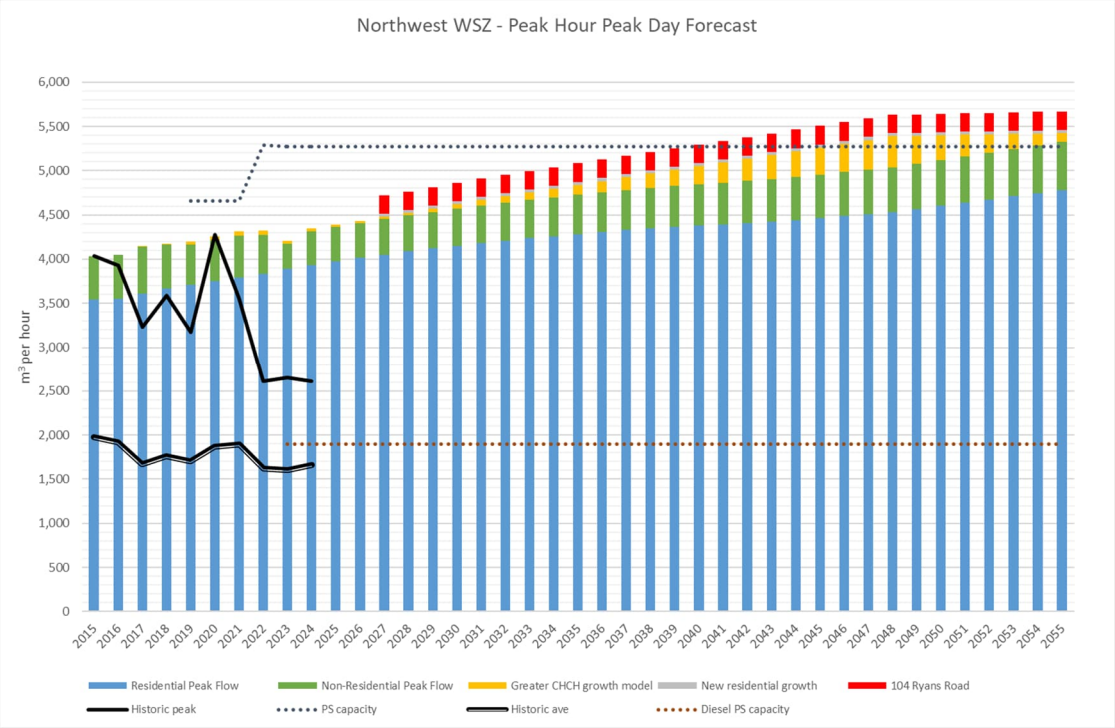

Figure 3.1 – Northwest future water demand projections including 104 Ryans Road

3.11 As illustrated in Figure 3.2, the development's impact on the primary water source and the adjacent pump station is a concern. If the development's peak water demand should coincide with the existing peak demand on these pump stations, there will be no surplus capacity to accommodate future growth. This is corroborated by the water model, which indicates that meeting the development's peak water demand will require activating additional wells and pumps at both the Crosbie and Burnside pump stations.

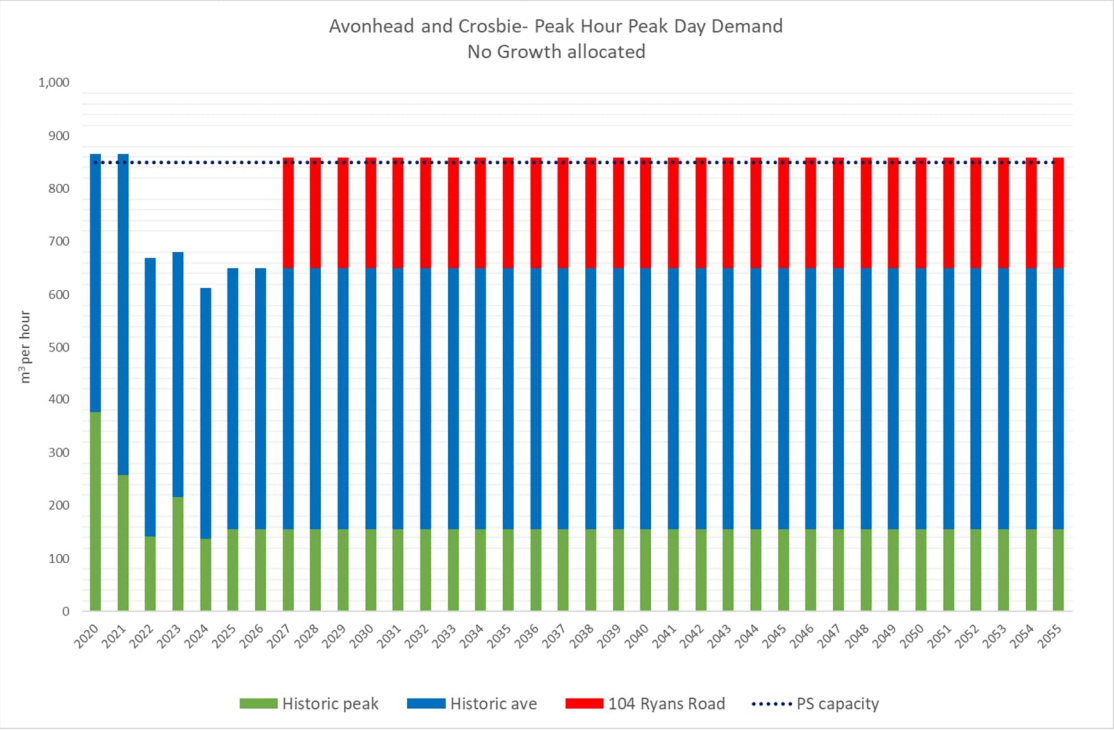

Figure 3.2 – Impact of development on the capacity of the immediate water source (no growth)

3.12 Due to the wastewater discharge limits that would be associated with the selected servicing option as aligned with the demand from an industrial park development, it is unlikely that the peak design water demand of 58 L/s (or 0.46 L/s per lot) will coincide with the actual demand patterns from the predominant residential areas served by the pump stations. While sizing the pipe network based on peak IDS design parameters remains appropriate, the impact on the water source should rather be evaluated using the IDS wastewater discharge rate for industrial warehouse zoning. If only 80% of water consumed will be discharged as wastewater, the estimated peak demand for assessing the water source impact is reduced to approximately 112 m³/hour or 31 L/s.

3.13 **Figure 3.3** presents the peak demand as calculated by the above methodology and which confirms that by limiting the wastewater discharge allowance of each lot, a residual water supply capacity will be available to service an additional 750 to 1,200 residential units, depending on whether the reduced water demand achieved through excess water use charges, can be retained. This aligns with growth projections for the surrounding area but does not cater for intensification aligned to Medium Density Residential Standards.

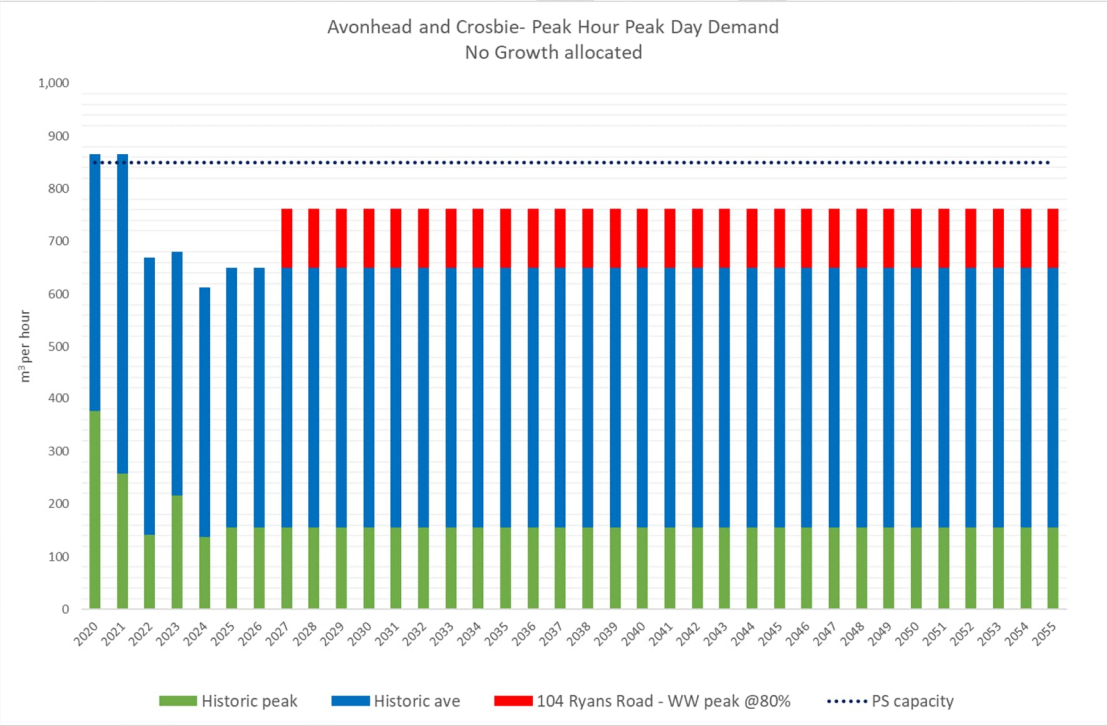

Figure 3.3 – Impact of development on the capacity of the immediate water source (alternative peak, no growth)

Wastewater

3.14 According to the Three Waters Servicing Report (PDP) (Record 25/839742: RMA/2025/1208, Appendix 12), the proposed wastewater demand for the development is based on an industrial park or limited discharge scenario, estimated at **0.09 L/s/ha**. This will be managed via a local pressure sewer system, using individual sewage pumps to accommodate a maximum flow of **9.1 L/s**. The maximum flow has been calculated by assuming that dual E-one pumps, each with a flow rate of **0.7 L/s** will service the industrial demand with a probability that up to **13 pumps** will operate simultaneously.

3.15 Council advises that where dual pumps are proposed to service a property, they are typically configured to operate simultaneously, resulting in a combined flow rate higher than that of a standard single residential pump. If the volume of wastewater to be discharged exceeds the standard residential demand of **597 litres per day**, it is recommended that a commercial-grade pump with a higher flow capacity be installed.

3.16 Based on the proposed discharge limit of **0.09 L/s/ha**, a single residential local pressure pump would be adequate for servicing a lot sized at approximately 768 m². As the development includes several larger lots—and with the applicant's engineer noting that smaller lots may be amalgamated—appropriate pump selection will need to reflect the actual lot sizes and anticipated discharge volumes.

3.17 Based on an industrial peak flow factor ranging between **2.0 and 3.0**, Council advises that the local pressure sewer system must be designed to accommodate flow rates between **10 L/s and 15 L/s**. This design capacity reflects an updated assessment of the likelihood that **up to 9 commercia-grade pumps or dual residential pumps** may operate simultaneously.

3.18 Given the selected service option and the industrial nature of the development, the local pressure mains must be appropriately sized to avoid service disruptions and pumping constraints at individual sites. It also means that the average volume of wastewater that can be discharged from each site must be strictly limited to 0.09 L/s/ha. As a result, Council will need to manage and regulate the types of industrial activities permitted within the development to ensure compliance with these discharge limits.

3.19 The maximum flow rate outlined above does not include allowances for inflow and infiltration. Therefore, strict adherence to Council bylaws will be required. In particular, uncovered wash pads will not be permitted, as they would allow stormwater to enter the wastewater network.

3.20 Council carried out wastewater network modelling on behalf of the developer to assess whether sufficient capacity exists in its downstream network to accommodate the wastewater discharge from this development, both currently and in the foreseeable future. The outcomes of this modelling are detailed in the report provided as **Appendix B** of the applicant's **Three Waters Servicing Report**.

3.21 The wastewater modelling report determined that there is some capacity available to receive wastewater into the Council's DN225 RCRR gravity pipe in Russley Road, but that more capacity is available downstream at the DN375 RCRR gravity pipe in Yaldhurst Road.

3.22 The applicant proposes to discharge wastewater into the closest location being the **DN225 RCRR gravity pipe** in Russley Road and has provided justification in the Three Waters Servicing Report for this approach. The pipe has a **full-flow or surcharged capacity of 20 L/s**, and a **gravity (free-flow) capacity of approximately 14.5 L/s** as aligned to Council's Infrastructure Design Standard (IDS) that limits the depth of flow to 70% of the pipe diameter. Based on this, the applicant considers the pipe to have sufficient capacity to accommodate the proposed **maximum discharge rate 9.1 L/**s (as calculated by the applicant).

3.23 As explained above, Council advises that the pressure mains should be sized to accommodate a maximum discharge rate of at least **15 L/s**. Assuming this represents the peak flow rate and noting that the discharge point is located at the upstream end of the DN225 gravity sewer, it can be concluded that compliance with the Infrastructure Design Standard (IDS) requirements can be achieved.

3.24 A local pressure sewer system attenuates wastewater, which increases septicity due to longer retention times. Therefore, the system must be provided with the ability to extract and treat hydrogen sulfide (H_2S) downstream of the discharge point. Effective odour control requires sufficient air volume to be extracted from a wastewater pipe. Typically, air extraction systems are designed with the wastewater flow depth limited to 50% of the pipe diameter to maintain adequate airflow.

3.25 Hydrogen sulfide (H_2S) released from wastewater is highly corrosive to concrete manholes and pipes, significantly reducing the service life of Council's infrastructure. To mitigate this risk, Council generally requires H_2S extraction and additional protective measures for concrete components. In accordance with the Infrastructure Design Standard (IDS), all manholes within 400 metres of the discharge point must be protected against corrosion.

3.26 In light of the above and recognizing that a discharge rate that exceeds approximately **8 L/s** would result in wastewater flows that exceed **50% of the pipe diameter**, particular care must be taken in the placement and design of the air extraction and odour treatment facility to ensure that sufficient air volume can be effectively extracted downstream of the discharge point. This may require modifications to the downstream network or the construction of dedicated discharge infrastructure upstream of the existing manhole in Russley Road.

4. IMPLEMENTATION REQUIREMENTS

Water

4.1 The following water infrastructure will be required to service this development:

a) DN355 PE100 water main to be connected to Council's existing DN375 asbestos cement water main in Russley Road, including appropriate valves;

b) A new water booster station at the entrance of the development;

c) Water mains and submains to service each lot within the development, including appropriate valves and hydrants.

4.2 Council's requirements for water infrastructure are outlined in the following specifications:

a) Infrastructure Design Standard (IDS)

b) Construction Standard Specifications (CSS)

c) Water Supply Treatment, Pumping Station and Reservoir Design Specification

d) Pumping Station O&M manual (OMM)

e) General electoral and automation specification

4.3 Council will accept the vesting of infrastructure that complies with its design standards, including any applicable local requirements—such as adjustments to the vertical alignment of water mains to avoid existing services. As such, all infrastructure designs intended for vesting and operation by Council must be submitted for Council's review and engineering approval. The Infrastructure Design Standards set out the requirements for quality assurance, commissioning, handover, and project sign-off of infrastructure to be vested in Council.

4.4 While Council's standard water supply conditions (outlined below) are sufficient for the design and construction of water pipes intended for vesting, the design of the new water

booster pump station will require a more complex and multidisciplinary approach. This is due to the involvement of multiple engineering disciplines—including civil, mechanical, electrical, and electronic/SCADA—in the construction of a booster pump station.

4.5 For Council to assume responsibility for the operation and maintenance of a new water booster pump station, its operational and maintenance requirements must be fully addressed. This includes considerations such as access for large maintenance vehicles and ensuring the safety and security of maintenance personnel.

Wastewater

4.6 The following wastewater infrastructure will be required to service this development:

a) Local pressure sewer boundary kits at each individual site connected to local pressure sewer pressure submains and mains, including appropriate valves;

b) Flow meter on the collective pressure discharge main;

c) An air extraction and odour treatment facility that is adequality sized and accessible for Council operations and maintenance, to be placed downstream of the discharge point (as opposed to at the discharge point);

d) Corrosion protection of existing concreate manholes up to 400 metres beyond the discharge point.

4.7 Council's requirements for water infrastructure are outlined in the following specifications:

a) Infrastructure Design Standard (IDS)

b) Construction Standard Specifications (CSS)

c) CCC Odour and Corrosion Management Design Guideline

d) SCIRT Protective Coating for Concrete Wastewater Structures Designers Guideline

4.8 The design of the local pressure sewer pipes will have to consider the wastewater allowance of individual lots (based on the size of each lot) and must allow industries to install commercial pumps as opposed to having to install multiple residential pumps. Commercial pumps have a higher pump rate than residential pumps. Pressure mains will have to be sized adequately to avoid service issues.

4.9 Council will accept the vesting of infrastructure that complies with its design standards, including any applicable local requirements. As such, all infrastructure designs intended for vesting and operation by Council must be submitted for Council's review and engineering approval. The Infrastructure Design Standards set out the requirements for quality assurance, commissioning, handover, and project sign-off of infrastructure to be vested in Council.

4.10 Council requires regular access to the air extraction and odour treatment facility to undertake the operation and maintenance of its various components. The proposed location of the facility on the central island of Russley Road does not provide adequate access for these purposes. Council therefore advises that the odour treatment facility be relocated to a site where safe and unrestricted access can be achieved without the need for traffic management measures.

4.11 The removal of hydrogen sulfide (H_2S) from a local pressure sewer system must occur after the gas has been released at the discharge point. As such, locating the air extraction and odour treatment facility directly at the discharge point is not appropriate and will not achieve effective H_2S release and removal.

4.12 To facilitate the ongoing management of downstream network capacity, the applicant will be required to install a magnetic flow meter on the collective pressure main. The meter must be integrated with Council's SCADA system. It is proposed that the flow meter be located in alignment with the New Water Booster Pump Station to enable shared use of electricity and communications infrastructure.

5. PROPOSED CONDITIONS

Water

5.1 The development can be serviced by the Northwest Water Supply Zone, subject to the establishment of a **New Water Booster Pump Station**. This pump station to be supplied from the existing DN375 asbestos cement water main located in Russley Road.

5.2 The applicant shall enter into an Infrastructure Provision Agreement with the Christchurch City Council (CCC) on the form reasonably required by CCC to be provided by the Council's solicitors for review and comment, for the design and construction of the **New Water Booster Pump Station.** The Infrastructure Provision Agreement will provide (without limitation):

a) that the Design Engineer shall be approved on the Three Waters HDM (hybrid delivery model) Professional Services Panel;

b) that the design shall be in accordance with the design standards and requirements as per the Council Design Guides/Standards Master List and for Council to advise any such further specifications, standards and requirements during each phase of the design;

c) for the Developer to obtain Council Engineering Acceptance for each stage of the design including Concept design, Preliminary design and Detailed design;

a. that the Developer shall complete the necessary investigations and assessments to adequately inform the design including geology, topography, ground contamination, archeological, ecological and visual aspects.

b. that the design shall be comprehensive in terms of civil, mechanical, structural, electrical, SCADA and controls, landscaping, access, security, and water safety disciplines;

c. for incorporation of risk assessments (inclusive of water safety) and safety in design in the design process;

d. that the work shall be carried out by a Council Three Waters HDM (hybrid delivery model) Potable Water Tier One Contractor;

e. for Council participation and review of the Contract Quality Plan, Health and Safety Plan, Environmental Management Plan, Contract Method Statement, Testing & Commissioning Plan including Handover checklist;

f. for the assignment of a Council contracts engineer to audit the construction phase;

g. for specifying any additional As-Built, Testing and Commissioning and Operations and Maintenance Manual requirements;

d) for the Developer to undertake all design and construction work at its sole cost and to meet the reasonable costs of CCC involved including all legal, external and internal consultants.

5.3 The **New Water Booster Pump Station** shall be installed on land to be vested in Council as a Utility Lot. The size and configuration of this Utility Lot, including all associated facilities, must be approved by Council. In making this determination, Council will consider factors such as site accessibility, feasibility of maintenance activities, and the ability to meet service objectives.

The final size and location of the Utility Lot shall be adjusted as necessary to satisfy the requirements of Council. Council's Water Supply and Wastewater Asset Planning Team will confirm the land requirements in accordance with the **New Water Booster Pump Station** Infrastructure Provision Agreement, which will include one of the following outcomes:

a) Confirmation that no changes to the Utility Lot size or configuration are required if the design work demonstrates adequacy for the New Water Booster Pump Station; or

b) Confirmation that the Utility Lot must be increased in size, specifying the additional land necessary to accommodate the New Water Booster Pump Station.

Should additional land be required, the applicant must enlarge the Utility Lot accordingly.

5.4 The water supply network must be designed by a suitably qualified person in accordance with the Infrastructure Design Standard and in general in accordance with the NZ Fire Service Fire Fighting Water Supplies Code of Practice NZS 4509:2008, subject to Council engineering acceptance. Engineering drawings supported by hydraulic model outputs must be sent to the Subdivisions Planning Engineer for Engineering Acceptance by the Water Supply & Wastewater Asset Planning Team prior to the commencement of any physical work.

5.5 All water mains and submains for the subdivision shall be installed in road to be vested in Council. Minimum DN200 water mains shall be extended along the full length of all roads to be vested and terminated with temporary hydrants in accordance with the requirements of the Infrastructure Design Standard.

5.6 All lots shall be provided with water supply connections extending to their boundaries. Submains shall be installed to extend at least 1 metre beyond each lot boundary.

5.7 Construction of water infrastructure to be vested in Council must be performed by a Council-approved water supply installer and undertaken at the applicant's expense.

5.8 The following conditions must be recorded pursuant to Section 221 of the RMA in a consent notice registered on the titles of each **Lot:**

a) The water supply network for this allotment can accommodate a maximum FW3 fire demand (50 L/s), as defined in the NZ Fire Service Fire Fighting Water Supplies Code of Practice NZS 4509:2008.

b) This allotment shall be served by the Christchurch City Council's pressurized water supply network and requires the installation of a high-hazard backflow prevention device. An application for water connection must be submitted to Christchurch City Council either online or by completing a WS1 form (application for water supply), including a water supply site plan. The water connection will not be activated until confirmation is provided that an approved backflow prevention device has been installed. The backflow prevention device must be installed within the property boundary, on private land, as close as practicable to the water meter at the point of supply.

Wastewater

5.9 The development may be serviced by a Local Pressure Sewer System that is designed in accordance with the Council's Infrastructure Design Standards and Construction Standard Specifications and to discharge into the DN225 RCRR gravity main in Russley Road.

5.10 The Local Pressure Sewer System must be designed so that larger industrial lots can be serviced with non-residential local pressure pumps.

5.11 The collective pressure main must be fitted with a magnetic flow meter that complies with Council's standards and specifications and is fully integrated into the Council's SCADA system.

5.12 An odour treatment and corrosion management system shall be provided in accordance with the following requirements:

a) The design shall be in accordance with the CCC Odour and Corrosion Management Design Guideline, the SCIRT Protective Coating for Concrete Wastewater Structures Designers Guideline, the Infrastructure Design Standards, the Construction Standard Specification and such other specifications or operations requirements to be provided / issued by Council as part of the engineering acceptance process.

b) The local pressure sewer system discharge shall be into a new corrosion resistant manhole and corrosion protection shall be provided to downstream manholes withing a distance of 400 metres of the discharge point.

c) The location of the odour treatment facility must be approved by Council. In making its determination, Council will consider factors such as site accessibility, feasibility of maintenance activities and the ability to meet service objectives. The final location of the odour treatment facility shall be adjusted as necessary to satisfy the requirements of Council.

d) The necessary investigations, assessments and tests shall be carried out to inform the design.

e) A concept and preliminary design will be presented to Council for review and acceptance by the Three Waters team prior to embarking upon the detailed design phase.

f) The detailed design complete with engineering drawings shall be sent to the Subdivisions Engineer for Engineering Acceptance by the Three Waters team prior to the commencement of any physical work.

g) Council to review and accept a draft Operations and Maintenance Manual as part of the design.

h) Smoke testing is required during the commissioning of the odour treatment unit to confirm negative pressure is achieved at the design air entry point.

5.13 The applicant must put in place measures to enable the initial operation of the local pressure sewer system within and from the development during the build phase, including (but not limited to) ensuring self-cleansing flow and limiting sewage retention time within the system when the design number of pressure sewer tanks are not yet in operation. These measures must be reported to the Subdivisions Engineer prior to seeking section 224(c) certification.

5.14 Each industrial lot must have an appropriately sized Boundary Kit located within the legal road or Right of Way outside the boundary of the lot. The pressure lateral from the Boundary Kit is to extend at least 600mm into the net site of each lot.

5.15 Installation of the pressure sewer mains and boundary kits must be carried out by a Council Authorised Drainlayer (Pressure Sewer Reticulation).

5.16 The following conditions must be recorded in a consent notice registered on the titles of each Lot:

a. The property is connected to a local pressure sewer system that has been designed to accommodate specific wastewater flow limits. Wastewater discharge from the property shall not exceed an average daily flow of **0.09 litres per second per hectare**.

b. This allotment shall be serviced by a local pressure sewer unit consisting of a pump, remote monitoring control panel and storage chamber capable of accommodating at least 24 hours of wastewater flow. The unit must be supplied by either Aquatec or EcoFlow and installed at the building consent stage by a Council-authorised drainlayer (Pressure Sewer Tanks), in accordance with the requirements for local pressure sewer units as specified under a Building Consent.

c. The owner must enter into a management agreement with the supplier of the local pressure sewer unit. This agreement shall provide Council with the necessary rights to monitor and control (as may be required) the pumping regime to support the operation and maintenance of the local pressure sewer catchment.

d. The owner is responsible for the ongoing operation and maintenance of the local pressure sewer unit and control panel.

Advice Note: This is an on-going condition and a consent notice will be issued under section 221 of the Act at the time of section 224(c) certificate.