

Memorandum

To: Andrew McCarthy, Oyster Capital
From: Crang Consulting Limited
cc: Barker and Associates
Date: February 16, 2021
Re: Civil Engineering and Servicing Memo – Oyster Fast Track Consenting Referral Application

1.0 Introduction

Oyster Capital ("Oyster") propose to lodge an application for a referred project under the Covid-19 Recovery (Fast-track Consenting) Act 2020 (the "Act") to utilise the fast track consenting process via an expert consenting panel. This application relates to the development of a contiguous landholding at 76, 76A, 116, 136 and 140 Waihoehoe Road ("the site"). This landholding forms part of a larger land area within Drury East that is currently subject to a private plan change process - Waihoehoe Precinct Private Plan Change ("PC50") - to rezone the land from Future Urban to the Terraced Housing and Apartment zone under the Auckland Unitary Plan ("AUP") which will enable quality urban development and well-functioning urban environments. Oyster has a sale and purchase agreement for the site, and has full control of the site for the purpose of rezoning and future residential development. This proposal for a referred project will give effect to the purpose of the Act to promote employment and New Zealand's recovery to the economic and social impacts of Covid-19 through the enabled construction and delivery of a comprehensive development that offers employment opportunities and an accelerated supply of quality housing choice and diversity.

To support the application for a referred project, this memo provides a high-level review of the civil engineering and servicing infrastructure that would be required to service the development as shown on the masterplan and the solutions available to achieve this, including:

- Summary of the proposal and site description;
- Summary of work completed to date;
- High level Civil and Servicing assessment of proposal; and
- Overview of works required to achieve the proposal.

2.0 Site Description and Proposal

2.1 Site Description

The site comprises 34.65ha of land at 76, 76A, 116, 136 and 140 Waihoehoe Road which is currently zoned Future Urban ("FUZ") under the AUP.

The development site is predominantly rural in nature and currently contains a several lifestyle blocks and an industrial facility (South Auckland Forging Engineering Ltd). The vast majority of the site is in pasture.

The site has a gentle rolling topography with a network of existing natural gullies interspersed throughout the site. The southern portion of the site falls gently from East to West via an existing gully. The northern portion of the site generally falls from South to North through a series of existing gullies toward the Waihoehoe Stream. The development site locality plan is shown in Figure 1 below.

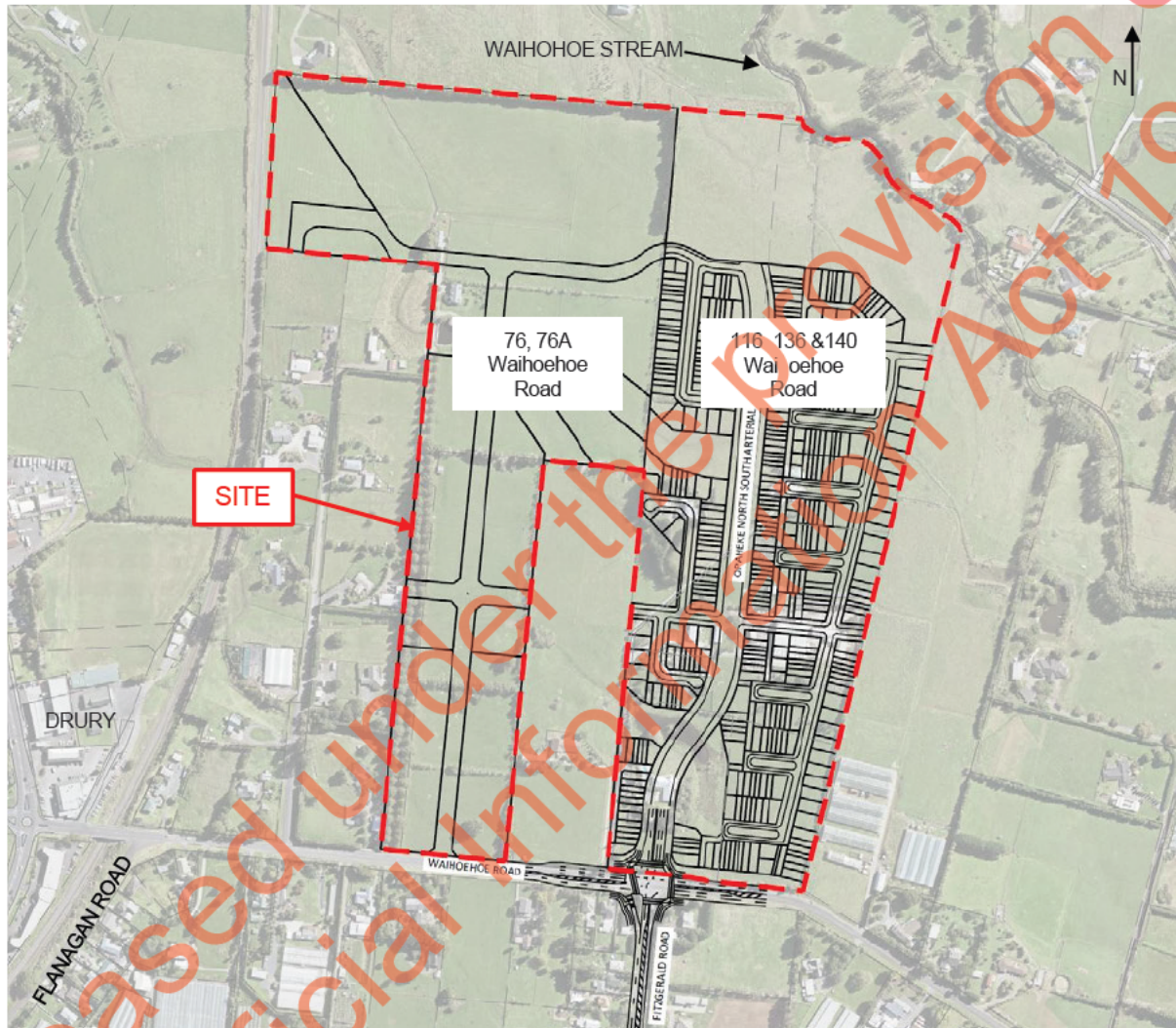


Figure 1 Locality Pla

2.2 Proposal

Oyster are proposing the staged development of this land into a mix of terrace and detached housing, 9 residential superlots and supporting roading and servicing infrastructure. A total of 376 dwellings are proposed. A plan of the proposed development is shown in Figure 2 below.

Civil construction works will be required to prepare the site for residential buildings. These works will include:

- Site wide earthworks necessary to build the roads and prepare building platforms
- Construction of onsite and offsite wastewater drainage
- Construction of onsite and offsite potable water supply
- Construction of onsite stormwater drainage

- Construction of a local road network
- Construction of an arterial road in the location agreed with Supporting Growth Alliance
- Installation of power and telecommunications to service the development
- Protection and enhancement of existing onsite wetlands



Figure 2: Plan of proposed development

3.0 Background Analysis

Investigations regarding the required civil engineering aspects for the project area have been completed. In summary the site has relatively low levels of existing infrastructure servicing - primarily due to its current land use as pasture and life style blocks. The site is serviced with power, telecommunications and potable water however these are not sufficient to enable development in their current state.

Offsite upgrades will be required to facilitate this development. Coordination with Watercare has been completed to confirm an acceptable solution exists for potable water and wastewater servicing. A potable watermain is proposed along Waihoehoe Road to the Bulk Supply Point on Flanagan Road which will supply potable water to the wider area. Similarly, the wider site will be serviced with

wastewater by construction of a gravity wastewater pipe along Fitzgerald Road and connected to a recently completed Watercare trunk sewer.

It has been recognised that upgrades will also be required to the telecommunications and power networks. These upgrades will be completed to the service providers requirements. Construction of a stormwater network to collect, treat and discharge rainwater will also be required and can be provided for without any offsite upgrades. The aforementioned infrastructure upgrades will be constructed to facilitate this development (Refer to Section 5 for details)

4.0 The Masterplan

The development as shown on the masterplan is suitable for efficient utility and drainage servicing. Sufficient road reserve widths have been provided for to ensure standard utility and drainage clearances can be achieved.

As discussed in the background analysis, all residential dwellings can be serviced with a potable water supply, wastewater and stormwater. A number of key offsite upgrades are required to facilitate this however there are not believed to be any significant technical or regulatory hurdles to prevent this from occurring. Agreement in principle has been reached with Watercare to supply capacity to this development area for potable water and wastewater.

In terms of civil infrastructure, the residential development shown on the masterplan will be able to be serviced by local water supply, reticulated wastewater and stormwater infrastructure.

5.0 Assessment

5.1 Earthworks

Earthworks are needed on site to create suitable road alignments and building platforms for residential development. Earthworks will also be required to ensure the northern extent of the development area is set above the flood plain. The earthworks area for the entire development is expected to be in the vicinity of 34.6ha (inclusive of flood offset mitigation earthworks). Earthworks will be staged over multiple earthwork seasons.

The earthworks will be undertaken to comply with the best practice sediment and erosion control guidelines. The sediment and erosion controls will be regularly inspected by Council and the site Engineers to ensure continuous compliance.

5.2 Stormwater Servicing

The development area will be serviced with a reticulated stormwater system to collect, treat and discharge rainwater from the development site. The stormwater system will be designed in accordance with Auckland Councils Stormwater Code of Practice and will be built to industry best practice. Treated stormwater will be directed to outfalls which will discharge to existing gully systems and to the Waihoehoe Stream. Further details on stormwater management can be found in the Tonkin and Taylor technical memo.

5.3 Wastewater Servicing

Given the existing land use of pasture and life style blocks, the site is currently not serviced with a reticulated wastewater network. A reticulated wastewater network is proposed and will be designed and constructed in accordance with the Watercare Code of Practice to provide each residential lot with a wastewater connection.

The gravity wastewater reticulation will be directed to a pumpstation on the northern periphery of the site (see Figure 3 below). The pumped flows will be conveyed via a proposed rising main to the intersection of Waihoehoe Road and Fitzgerald Road where it will discharge to a gravity network to be constructed by Oyster (refer to Section 5.3.1 Offsite Wastewater Upgrades).

5.3.1 Offsite Wastewater Upgrades

Offsite upgrades are required to connect the wastewater rising main at the intersection of Waihoehoe Road and Fitzgerald Road to the recently constructed Watercare trunk main located at 91 Fitzgerald Road. The offsite upgrade will consist of the construction of a new gravity sewer to link the development site to the Watercare network. The gravity sewer will be constructed within the Fitzgerald Road corridor and will service the wider project area. Watercare have confirmed there is sufficient capacity in their trunk sewer to enable discharge from the development area to their trunk sewer.

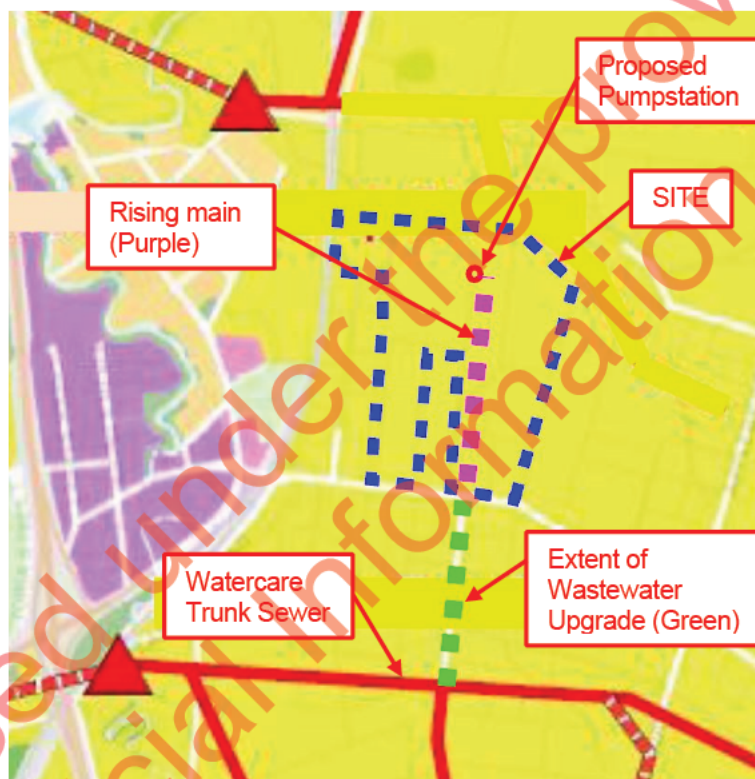


Figure 3 - Offsite Wastewater Upgrades

5.4 Potable Water Supply

The site will be serviced with a reticulated potable water supply with connections to every residential dwelling. Watercare have confirmed that there is sufficient capacity to service the development site from their Bulk Supply Point (BSP) on Flanagan Road (see Figure 4 below). The potable water network will provide for adequate flow rates and pressures for domestic use and firefighting including provision for fire hydrants.

5.4.1 Offsite Potable Water Upgrades

Offsite upgrades are required to link the Bulk Supply Point (BSP) on Flanagan Road to the development area. A public watermain will be installed from this BSP to the site (see Figure 4 below) to provide the development area with a reticulated water supply.

The offsite upgrade of the watermain is consistent with the watermain strategy in Auckland Councils Opāheke -Drury draft structure plan. Future extensions of this watermain will service the wider Drury development area with potable water. This watermain will be installed within existing road corridors. The final pipe size and alignment within the road corridor will be agreed with Watercare.

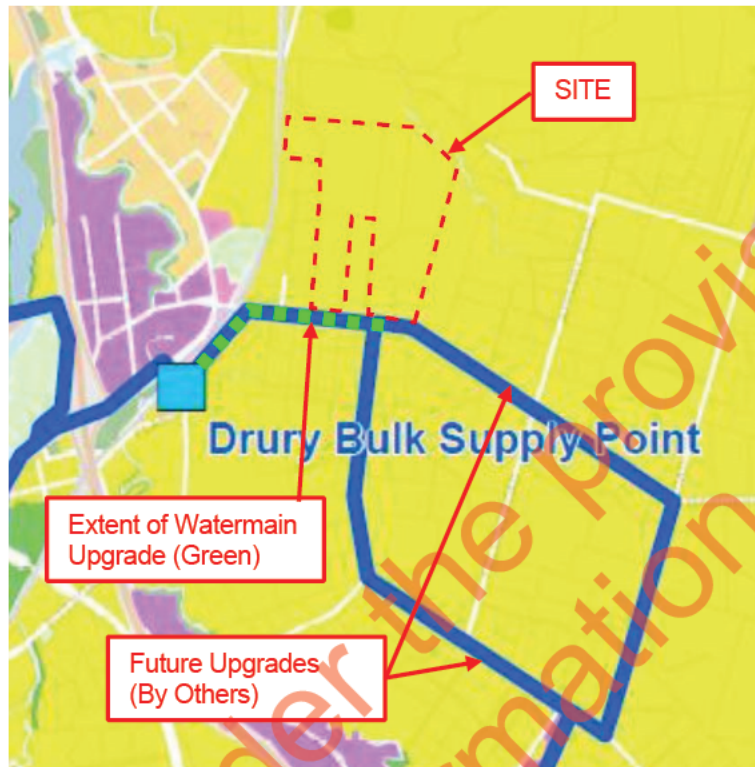


Figure 4 - Offsite Watermain Upgrades

5.5 Utility Servicing

There is existing overhead power and telecommunications infrastructure on Waihoehoe Road. It is anticipated that upgrades to both networks will be required to service the proposed development. Vector and Chorus will be engaged to provide these designs which will ensure power and telecommunications infrastructure will be available for the site.

For information regarding roading and stormwater aspects of the proposal, please refer to memos prepared by Stantec and Tankin and Taylor (respectively).

6.0 Conclusion

The civil engineering for the development of 76, 76A, 116, 136 and 140 Waihoehoe Road in this fast track referral application can be summarised as follows:

- Earthworks will be required to form suitable lot platforms and appropriately graded proposed public roads. The earthworks can be conducted in a manner which complies with Auckland Councils strict environmental requirements.
- The development area can be serviced with a reticulated stormwater network to industry best practice standards.
- The development area can be serviced with potable water and wastewater
- Offsite upgrades are required to enable both wastewater discharge and potable water supply. These have been agreed with Watercare and will be constructed at Oysters cost.

- Power and telecommunication upgrades will be required to provide connections to the site.

We conclude that that there is adequate existing infrastructure in the immediate vicinity to allow for development in the project area as shown in the masterplan.

Yours faithfully

CRANG CIVIL



Cameron Gifford

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