

77 AND 109 KAPITI ROAD

SITE INFRASTRUCTURE MEMO

TO	New Central Park Limited	DATE	29 April 2026
PROJECT NAME	77 Kapiti Road	ENVELOPE REF	1942-02
ATTENTION	c/o Stephanie Blick	FROM	Louis Freeland

1.0 INTRODUCTION

The proposed development is located at 77 and 109 Kapiti Road, Paraparaumu. This memo provides commentary on the civil engineering aspects of the proposed development to support a Fast-Track Consent referral application for development at the site and covers the following:

- Earthworks and Erosion and Sediment Controls
- Three Waters Infrastructure including Stormwater Management
- Utilities Servicing

Envelope Engineering have been engaged as civil engineers on the project for three years, and we have progressed design work including preparation of infrastructure design for a previous iteration of the project. This involved substantial work to understand the engineering constraints and opportunities of the site as well as engagement with key stakeholders including Kapiti Coast District Council (KCDC) and Greater Wellington Regional Council (GWRC).

This memo is intended to provide sufficient information at the referral stage to demonstrate that the proposed development can be appropriately serviced. Should the referral application be granted, more detailed technical reporting will be prepared to support the Fast-Track resource consent application, including an infrastructure Report, Flood Risk Assessment, and Earthworks Management Plan.

2.0 PROPOSED DEVELOPMENT

It is proposed to develop the site into a mixed-use, town centre precinct with various retail and office and residential areas. A wetland offset area with a secondary function of flood storage will be formed to mitigate the loss of wetland values and flood offset volumes as a result of earthworks at the site that are necessary to facilitate the project. Crossing this will be a link road connecting Kapiti Road and Ihakara Streets in line with the indicative road connections illustrated on the Paraparaumu Town Centre Structure Plan. Various roads will be formed off this central link road to enable development of the site. The draft masterplan is shown in Appendix 1.

3.0 EARTHWORKS

Envelope Engineering prepared the earthworks design for a previous iteration of the proposal and was actively involved in the associated resource consent applications to both KCDC and GWRC. Through that process, a detailed understanding of the site constraints, receiving environments, and regulatory expectations was developed. The Fast-Track consent application will build on this work and will appropriately respond to and incorporate the matters raised through Requests for Information (RFIs) issued by both KCDC and GWRC in relation to the earlier earthworks applications.

3.1 EARTHWORKS APPROACH

The site is relatively flat except for two existing sand dune features in the central portion of the site. The flat parts of the site are underlain by 1 – 2 m of shallow peat material over deeper sands. It is required to undercut this peat material and replace it with competent materials. Sand from the dunes will be excavated and filled into the peat undercut areas. Excess topsoil and peat from the works will be formed into a dune feature. This allows the peat to be undercut while balancing earthworks volumes to ensure that excess material from the site is minimised (i.e. achieving balanced earthworks) and achieving flood free building platforms.

It is our view that earthworks design can be adequately addressed through the future fast track consent application.



3.2 EROSION AND SEDIMENT CONTROL

Any disturbance to existing ground removes the existing vegetative cover and potentially allows erosion of the bare ground to occur. The granular sandy soils found on site are less prone to erosion than more clayey materials found in hillier areas of the Kapiti region. In addition, the relatively flat nature of the site means there is likely to be less mobilisation of soils. The risk of generating erosion is proportional to the surface area exposed, the duration of earthworks, the steepness of the earthworks area and the rainfall occurrences during the earthworks process.

Principles of Erosion and Sediment control that will be assessed at the fast-track consent stage include:

- Minimise disturbance – Minimise the extent of earthworks as much as is practicable.
- Stage construction – Minimise the amount of area open at one time and the time that these areas are left un-stabilised.
- Protect receiving environments – Apply additional protection (e.g. silt fences) and work methodologies around sensitive receiving environments (near stream corridors etc).
- Rapid stabilisation – Progressive stabilisation of disturbed areas as soon as practicable.
- Perimeter controls – Installation of perimeter controls for the diversion of clean water around the earthworks extent and separate this from sediment-laden water within the site.
- Employ sediment retention devices – Install treatment devices to maximise the efficiency of sediment removal within treatment devices.
- Review – Review and revise the effectiveness of erosion and sediment controls on a regular basis to ensure that they are still effective and applicable to the current site conditions.

These are the fundamental elements of good practice that should be common to all sites. These limit the opportunity for erosion, however even with best practice, there will always be the risk of some sediment being mobilised during and immediately after rainfall events. Therefore, it is equally important to put in place control measures to contain, collect, and manage any sediment that is generated before it can leave the site. The GWRC guideline document “Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region” details control measures and is widely used as the appropriate standard for management of erosion and sediment control in the Wellington Region.

It is our view that the erosion and sediment control design can be adequately addressed through the future fast track consent application to ensure that potential adverse effects can be managed and mitigated to an acceptable level. We consider that subject to employing the measures outlined above there will be no significant adverse effects relating to the proposed earthworks.

4.0 STORMWATER

4.1 EXISTING INFRASTRUCTURE

There are several water courses which run through the site including the Wharemauku Stream on the southern boundary, and various drainage channels which run through the site including a channel which conveys stormwater from the reticulated Council stormwater network discharging adjacent to Kapiti Road. These watercourses have been assessed and classified by Bioresarches as part of the ecological investigations for the site.

The Wharemauku Stream catchment is a large catchment area in Paraparaumu and comprises a range of land areas including portions of hill-land scrub and native bush. A significant portion of the catchment is the urbanised area of Paraparaumu.

4.2 EXISTING FLOOD HAZARD

There is an identified current flood hazard across parts of the site. This has been the subject of previous investigation and is reflected in the KCDC GIS hazard mapping, as illustrated in Figure 1.





Figure 1. KCDC flood hazard mapping (GIS).

A brief description of the relevant items in the legend is as follows:

- **Stream Corridor** – The areas identified on the hazard map as stream corridors are expected to function as streams during a 1% AEP event. They include natural streams and artificially formed drains. The extent shown on the map is the expected width of the stream during the storm event. The Wharemauku Stream is clearly visible near the bottom of the image. The stream corridors shown within the site are primarily open drains.
- **Overflow Path** – These act as channels for floodwaters. They can be natural or artificially formed.
- **Storage** - Areas adjacent to streams providing temporary storage of floodwater during storm events. Filling or development of these areas is likely to have a direct effect on flood levels elsewhere. There is a significant existing storage area identified on the site just to the north of the Wharemauku Stream.
- **Ponding** – These areas are similar in function to storage but not necessarily directly connected to a stream. Within the site they are typically low-lying open ground.

Flooding issues are not confined to the site itself, with known (and mapped) constraints both upstream and downstream within the wider catchment. Accordingly, any development of the site must incorporate appropriate mitigation measures to ensure that these existing flood risks are not exacerbated.

4.3 PRELIMINARY FLOOD MODELLING

Similar to the previous masterplan, the management of both on-site and off-site flood effects has been a central consideration in the development of the revised masterplan. This has occurred alongside the application of the effects management hierarchy in relation to wetland values, with the layout and design of the development responding iteratively to both flood management requirements and ecological constraints.

Updated flood models have informed the revised masterplan and will be continually refined to determine flood hazard post-development, with mitigation measures implemented within the model to assess on and off-site effects.

Based on the modelling already undertaken to inform the revised masterplan, flood mitigation will be required. As illustrated on the revised masterplan, this will be in the form of dedicated flood storage areas on site to allow for natural detention of flood waters in these areas.

Based on the preliminary flood modelling results, the proposed improvement measures (including the flood storage areas) will appropriately address the existing flood hazard at the site.

It is our view that flood modelling and assessment of flood hazards can be adequately addressed through the future fast track consent application. In short, the assessments and modelling undertaken to date confirms that appropriate measures can be employed (as have been allowed for in the masterplan design) to ensure potential adverse effects associated with stormwater discharge or with undertaking earthworks and development within the existing flood areas can be adequately mitigated.



4.4 PROPOSED STORMWATER INFRASTRUCTURE

Hydraulic neutrality will be achieved using local and/or centralised soakage devices (where ground soakage rates permit) and storage ponds which may be integrated into the flood mitigation areas where this is possible.

Stormwater runoff from public roadways would need to pass through a treatment device prior to connecting to the new public stormwater network and ultimately discharging to the natural environment at the stormwater channels. This is likely to be by roadside rain gardens or centralised treatment wetlands.

The stormwater system will be designed with the principles of Te Mana o te Wai and Water Sensitive Urban Design in mind. This will be done by preserving various watercourses and vegetated areas around the property, treating stormwater runoff and peak flow attenuation.

As the wetland offset area is required to function as a natural wetland system, all stormwater discharging to it will be appropriately treated prior to entering the wetland. As such, the wetland itself is not intended to operate as an engineered treatment device, but rather as a natural ecological feature, and will not rely on ongoing maintenance for water quality treatment.

It is our view that the design of stormwater infrastructure can be adequately addressed through the future fast track consent application. Based on the assessments undertaken to date, it is our view that no significant adverse effects will arise as a result of the proposed stormwater servicing and flood hazard mitigation works.

5.0 WASTEWATER

5.1 EXISTING INFRASTRUCTURE

There is an existing 450mm asbestos cement rising main running through the centre of the site. We understand from our discussions with KCDC, that this is very shallow at portions of the existing alignment. This rising main runs from the Rata Road pump station, southwest of the site and provides a direct connection to the wastewater treatment plant.

There are several gravity wastewater pipes adjacent to parts of the site including 150mm pipes on Kapiti Road, Brett Ambler Way, Rimu Road, Ihakara Street and Rata Road.

5.2 WASTEWATER MODELLING

Hydraulic Analysis Limited conducted an analysis for KCDC on behalf of Envelope Engineering to understand existing capacity constraints in the wastewater network and the impact that the proposed development would have on the wastewater network.

The assessment confirmed that while the local network had capacity constraints, there were design solutions that would appropriately mitigate effects of additional development.

5.3 PROPOSED WASTEWATER INFRASTRUCTURE

The proposed wastewater network at the site will consist of gravity pipe networks with pump stations where required due to topography and/or for wastewater mitigation.

It is our view that the design of wastewater infrastructure can be adequately addressed through the future fast track consent application.

6.0 POTABLE WATER

6.1 EXISTING POTABLE WATER INFRASTRUCTURE

There are existing water mains at various locations around the site, which provide a range of connection points which can be utilised to provide redundancy for the proposed development. These include 350 mm ID water mains on Rimu Road and Kapiti Road, 150 mm ID water mains on Ihakara Road and Iver Trask Place and a 100 mm water main on Brett Ambler Way.

6.2 POTABLE WATER MODELLING

Stantec conducted an analysis for KCDC on behalf of Envelope Engineering to understand existing capacity constraints in the potable water network and the impact that the proposed development would have on the potable water network. The report makes the following conclusions and recommendations:

- The impact of the proposed development is expected to be minor for the current peak day and future scenarios.
- The network provides sufficient resilience against outages or shutdowns including for fire supply.



6.3 PROPOSED POTABLE WATER INFRASTRUCTURE

Based on the modelling conducted, the development can meet water supply requirements (potable and fire), with sufficient pressures and flows for the proposed development and anticipated land uses. Notably, the analysis and assessment was undertaken at a time when a larger development yield was being contemplated. As such, the current proposal, which reflects a more refined and moderated yield, is unlikely to give rise to any additional constraints in terms of network capacity or servicing requirements.

It is our view that the design of potable water infrastructure can be adequately addressed through the future fast track consent.

7.0 UTILITIES

Envelope has previously engaged with the Telecommunications, Power and Gas Network Utility Operators (Chorus, Scanpower and Firstgas) who have confirmed that they have network adjacent to the site and that this can be extended to serve the proposed development.

It is our view that the design of utilities infrastructure can be adequately addressed through future consents.

8.0 CONCLUSION

This memo has been prepared to provide an overview of the existing infrastructure surrounding the Kapiti Road site, and to demonstrate the ability for these services to support the proposed development.

If the referral is accepted, the future fast-track consent application will include a detailed Infrastructure Report, along with supporting technical documentation including a Stormwater Management Plan, Flood Risk Assessment and Earthworks Management Plan, which will provide full detail on the proposed servicing and infrastructure design for the Project.

Importantly, the engineering investigations and network engagement undertaken to date have been carried out over a number of years and were based on a development yield greater than that currently proposed. As such, the current refined proposal sits well within the bounds of what has previously been assessed, and there is a high level of confidence that servicing can be satisfactorily achieved.

In addition, flood hazard management has been a primary driver in the evolution of the masterplan. The layout has been iteratively developed in response to flood modelling, with appropriate provision made for flood storage and conveyance. This ensures that both on-site and off-site flood effects can be effectively managed, and that existing flood risks are not exacerbated.

Overall, the work undertaken to date demonstrates that the site can be appropriately serviced, and that potential adverse effects, including those relating to stormwater and flood hazard, can be avoided, remedied, or mitigated through achievable engineering design measures. These matters can be appropriately resolved through the subsequent Fast-Track consent process.



APPENDIX 1. DEVELOPMENT MASTERPLAN





Preliminary Development Concept for Stakeholder Discussion



Preliminary Development Concept for Stakeholder Discussion



Client: TWC Scale: NTS @ A3
Project No: UA 26 084 Date: April 26

77 Kapiti Road Fast Track Referral
Paraparaumu

Disclaimer: This is a concept sketch only, stakeholder consultation and engineering, traffic and planning advice is required to confirm yield, compliance and feasibility.



Preliminary Uses and Yield

Indicative areas and yield for discussion only

The proposal includes a diverse range of land uses consistent with a town centre zone including:

- large formal retail
- speciality retail
- office
- apartment buildings up to 6 storeys high
- medium density dwellings over a range of housing typologies

The location/distribution of these uses has been informed by:

- the physical characteristics of the site
- the existing and anticipated future structure of the town centre
- the economic report
- best practice urban design

.....with the following intentions/outcomes:

- transitioning from large building footprints and associated car parking through smaller scale commercial and speciality retail to medium density residential and open space
- promoting legibility of key connections to town centre through mixed uses and higher residential density (and greater building height)
- locating large format retail in highly visible locations and adjacent to high traffic routes which are challenging for residential use/amenity/access and adjacent to the aquatic centre which has a similar scale/built form
- establishing a clear central heart/node which leverages off attraction of large format retail, speciality retail/food + beverage, higher density residential and public open space
- promoting residential amenity by using land form (dune) as a buffer to the Kapiti Expressway
- maximising amenity and outlook over wetland areas for wider public
- promoting gateways/landmarks
- retaining views of Kapiti Island
- futureproofing the ability to establish a retirement village, which is a use considered beneficial for the town centre given the likely high residential density, as well as the current/future market demand and aging community

Note: These areas and dwelling numbers are indicative only and subject to change during detail design.



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