



INFRASTRUCTURE ASSESSMENT REPORT

HND HMB LIMITED
3 PIGEON MOUNTAIN ROAD
HALF MOON BAY



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DOCUMENT CONTROL

Project Number: FP326

Project Name: 3 Pigeon Mountain Road, Half Moon Bay

Client: HND HMB Limited

Document: Infrastructure Assessment Report

Date: 25 March 2026

Version: C

Status: Resource Consent

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Reviewed by: Simon Xie

Approved by: Simon Xie

REVISION HISTORY

Version	Date	Status	Prepared	Reviewed	Approved
A	12 March 2025	Resource consent	Simon Murphy	Simon X	Simon X
B	09 Feb 2026	Resource consent	Yee Wen	Simon X	Simon X
C	25 March 2026	Resource consent	Johnny Wu	Yee Wen	Simon X

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1. INTRODUCTION

This report is prepared on behalf of HND HMB Limited to support a resource consent application for a 62 residential dwelling development. This report assesses the suitability of the existing drainage, water supply and other associated infrastructure and engineering constraints to cater for the proposed development. The assessment is based on the Proposed Site Plan (dated 16.03.2026) prepared by Shape Architects.

The scope of this report comprises the following:

- Earthworks
- Roothing
- Stormwater
- Stormwater Management and Quality
- Flooding And Overland Paths
- Wastewater
- Water
- Water Supply
- Utilities

2. SITE DESCRIPTION

The subject site, located at 3 Pigeon Mountain Road, Half Moon Bay, Auckland, spans 1.4073 hectares. It is bounded by Ara Tai to the north, Pigeon Mountain Road to the east, Compass Point Way to the south, and residential properties to the west.

The legal description of the site is Lot 1 DP 212125. It is zoned Residential – Mixed Housing Suburban Zone under the Auckland Council Unitary Plan (AUP) and Residential – Mixed Housing Urban Zone under Auckland Council Plan Change 78.

The site topography slopes from the southwestern boundary towards the northeastern boundary, with gradients ranging from 3% in the northeastern half to 13% in the southwestern half. An existing timber pole retaining wall, ranging from 1.0m to 2.5m in height, is located on the eastern boundary. Beyond the northern boundary, the slope steepens, elevating the site approximately 3m above Pigeon Mountain Road.

Currently, the site is occupied by a school comprising five large buildings centrally located, with playgrounds, a basketball court, and car parking areas. The remainder of the ground coverage consists of sports grounds. A sanitary sewer transects the site from east to west on the southern side.

There are three minor overland flows (total contributory catchment area less than 1 hectare) originating from within the site. Two of these flow paths exit the northern side of the site to Tai Awa, while one exits the eastern boundary and joins an overland flow running down Pigeon Mountain Road. These overland flows ultimately drain into the nearby Tamaki River.

There is no Significant Ecological Area (SEA) identified within or immediately adjacent to the site. The property is not within the Stormwater Management Area (SMAF) as defined in the Auckland Council Unitary Plan. For the existing topography plan, refer to Appendix E: Topographic Survey.



Figure 1: Location Plan (source: Auckland Council GeoMaps and Google Maps)

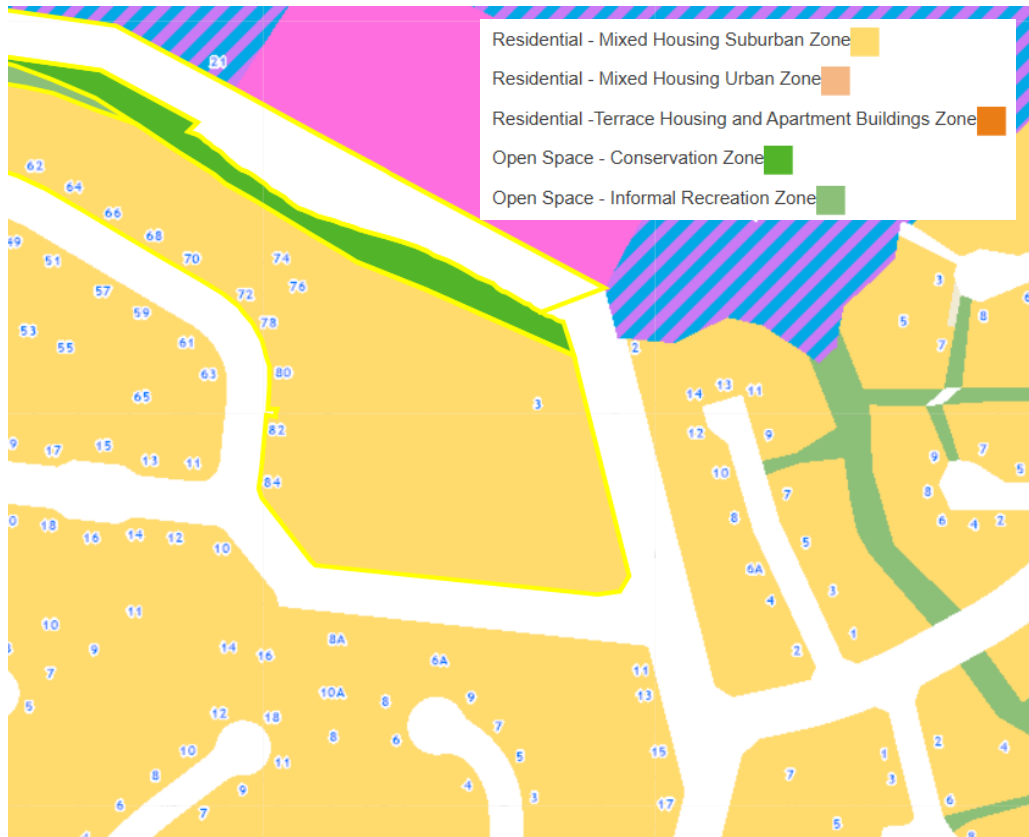


Figure 2: Auckland Unitary Plan Zoning (source: Auckland Council GeoMaps Unitary Plan)

3. PROPOSED DEVELOPMENT

The proposed development involves the creation of a 62-lot fee simple subdivision, which will include the construction of 62 new dwellings.

The existing buildings, pavements, and structures on the site will be removed to make way for the new development.

The development will include a mix of housing types to cater to a variety of needs and preferences, promoting diversity within the community. The layout has been planned to maximize the efficient use of space while providing green areas and communal spaces for residents.

Infrastructure improvements will be undertaken to support the new development, including upgrades of the utilities, water, wastewater, and stormwater systems. Roadways and pedestrian pathways will be constructed to ensure safe and convenient access throughout the subdivision.

Overall, the proposed development will provide high-quality housing and contribute positively to the growth and development of the Half Moon Bay area. The proposed development establishes a residential block with a range of building typologies and private accessways or centralized carparks that connect to the new public road. The impervious area at post-development is approximately 59.7% of the total site area.

The proposed site layout is shown in Figure 3 below.



Figure 3: Proposed Development Plan (source: Proposed Site Plan prepared by SHAPE Architect)

4. EARTHWORKS

4.1 Proposed Earthworks

The proposed development will involve earthworks for constructing the common accessways, building platforms, and utility services. A site-specific geotechnical report has been prepared by Total Ground Engineering Ltd (TGE) for the proposed development to ensure the stability and suitability of the site for construction activities.

The earthworks extent will include a portion of the berm area adjacent to Pigeon Mountain Road and Ara-Tai Road to create footpath leading to the individual lot.

The bulk earthworks will involve regarding the site to achieve the proposed finished levels. Earthworks will be undertaken across the entire 14,266m² site and will comprise approximately 2,964 m³ of cut and 6,827 m³ of fill. The maximum cut depth is 2.5m, and the maximum fill height is 3.8m. Details refer to Engineering Plan FP326-210.



Figure 4: Cut to Fill Drawing (Source: Eighty6 Engineering)

4.2 Erosion & Sediment Control

Prior to commencement of earthworks, erosion and sediment control measures will be implemented in accordance with the requirements of Auckland Council's GD05 document (legacy ARC TP90 publication). These measures will be designed to minimize the area of earthworks exposed to erosion at any given time through staging and progressive stabilization.

USLE (Universal Soil Loss Equation) calculations have been carried out and have been used to inform the design of the Erosion and Sediment control measures to ensure minimization of soil loss and to protect the site and downstream roads and receiving Tamaki Estuary during and after construction.

Silt and erosion control measure will comprise of a sediment retention pond located at the lower north-eastern end of the site, clear water diversions at the upper end of the site on the western and southern boundaries and internal dirty water diversion bunds directing overland flow to the sediment retention pond. The sediment retention pond will outlet via a pipe to an adjacent catchpit located in Pigeon Mountain Road.

Proactive monitoring of the E&S controls will be carried out by the appointed Chartered professional engineering during the construction phase of the project.

Initial access to the site will be provided via the existing vehicle crossings at 3 Pigeon Mountain Road. The proposed erosion and sediment control measures are detailed in the Appendix A: Engineering Plans (FP326-220). This plan outlines the specific strategies and practices that will be employed to manage and mitigate erosion and sedimentation during the construction phase.

4.3 Retaining Walls

Retaining walls of various heights are proposed at the site and internal lot boundaries to form level building platforms, enable compliant gradients for pedestrian paths and vehicle access, and ensure slope stability factors of safety are achieved. These walls will be constructed wholly within the subject site.

An existing timber pole retaining wall, ranging from 1.0m to 2.5m in height, is located on the eastern boundary. This wall will remain in place, with a new wall constructed in front of it to avoid undue construction impact on the adjacent Compass Point properties.

Special consideration has been given to the existing site levels and adjacent boundary levels near the two protected trees located to the north, adjacent to the northern boundary. Measures will be taken to ensure that the construction of retaining walls does not adversely affect these trees, preserving their health and stability.

Drainage outlets from the retaining walls will be collected in private catchpits and discharged to the stormwater reticulation system, and to be detailed at building consent stage.

Detailed retaining wall design is subject to building consent approval and will include specific provisions to protect the integrity of the protected trees and maintain compliance with all relevant regulations.

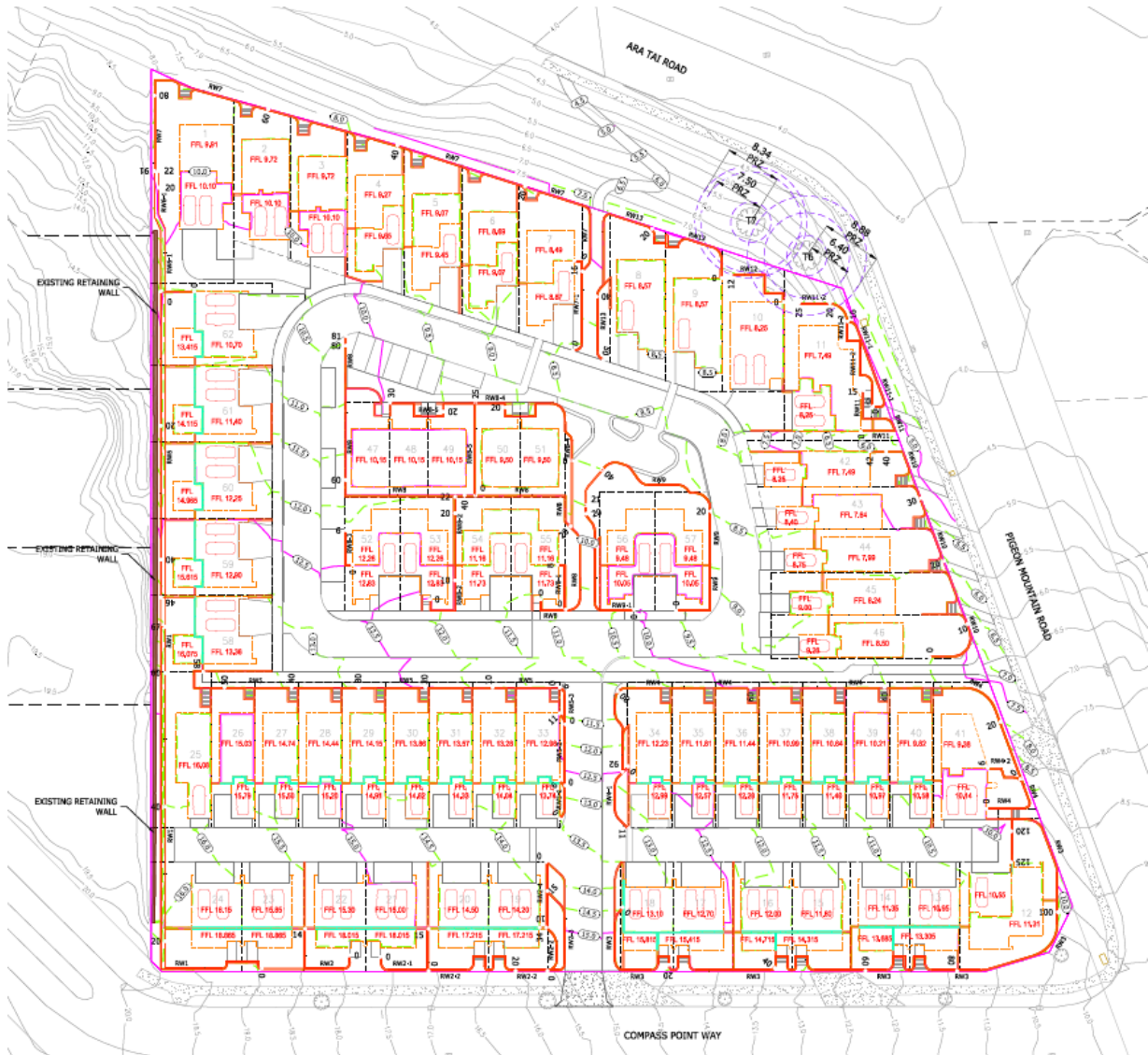


Figure 5: Retaining Wall layout (Source: Eighty6 Engineering)

5. GEOTECHNICAL ASSESSMENT

The geotechnical assessment for the site was undertaken by Total Ground Engineering in July 2022. The assessment indicates that the site is underlain by the Puketoka Formation of the Tauranga Group sedimentary lithology, comprising stiff to very stiff silty clays and clayey silts, encountered up to 5.0m deep beneath the fill/AVF layer.

Fieldwork conducted on-site revealed that the predominant soil types include silty clay, clayey silt, and gravels, with intermixed topsoil, trace limonite inclusions, and minor gravel inclusions. Groundwater was encountered at shallow depths, ranging between 0.3m and 0.5m below the ground surface. Fill associated with the marina reclamation to the north of the site, up to 4.0m deep along the Pigeon Mountain Road boundary, was encountered across the site. The composition and strength of the fill indicate that it can be considered engineered fill. Additionally, AVF tuff was found in the southeast corner of the site, up to 2.5m deep, underlying the existing fill, with shear strength ranging from 100 kPa to over 190 kPa.

The geotechnical report provides detailed recommendations for earthworks, foundations, retaining walls design. These recommendations include specific measures for managing groundwater, soil compaction, and slope stability.

All civil design and construction works will be undertaken in accordance with the recommendations outlined in the geotechnical report. Detailed geotechnical assessment and findings are appended in Appendix F: Geotechnical Report.

6. ROADING

The site features three existing concrete vehicle crossings. One crossing is located at the eastern boundary off Pigeon Mountain Road, while the other two are situated along the southern boundary off Compass Point Way. As part of the proposed development, these existing crossings will be removed and reinstated to accommodate the new site layout.

A new 5.5-meter-wide vehicle crossing will be constructed at the southern boundary to serve the common access way, parking, and manoeuvring areas of the site. This vehicle crossing will be built to Auckland Transport (AT) VX0203 standards, ensuring compliance with local regulations and safety requirements. The common access way will be constructed to Auckland Council's GD12 standards, providing a reliable and efficient access route for residents and visitors.

The development will include Jointly Owned Access Lots (JOALs) to facilitate shared access for multiple dwellings. These JOALs are designed to ensure efficient and safe access for all residents, while minimizing the impact on the public road network. The design and layout of the JOALs have been carefully planned to meet Auckland Transport's requirements and to support the overall functionality of the development.

Vehicle and pedestrian access to the site is designed to ensure that the proposed access arrangements will not adversely impact the surrounding road network or the safety of pedestrians and vehicles using the site.

Overall, the traffic engineering effects of the proposal can be accommodated on the road network without compromising its function, capacity, or safety. The proposed access improvements will enhance the functionality and safety of the site, providing a well-planned and compliant solution for vehicle access and circulation.

7. STORMWATER

7.1 Existing Stormwater network and capacity

The existing public stormwater connection for the site is via a stormwater manhole (ID 20002345285) at the north-western site boundary, which connects to a public 450mm diameter concrete stormwater pipe. A public 225mm diameter concrete stormwater pipe adjacent to the eastern boundary serves catchpits within Pigeon Mountain Road. This pipe drains into a public 300mm diameter concrete line across Pigeon Mountain Road via a stormwater manhole (ID 2000323535).

A capacity assessment of the downstream stormwater network from SW MH ID 20002345285 (north-west) and SW MH ID 2000323535 (north-east) indicates that the network has sufficient capacity to accommodate flows from the proposed development. However, Healthy Waters has indicated that the downstream stormwater network is in poor condition and deteriorating (via email dated 14 August 2025). Consequently, 10-year peak flow mitigation is proposed to reduce and control discharge rates.

Detailed calculations are enclosed in Appendix D Stormwater Water Management Plan Section 2 and 7.

7.2 Proposed Stormwater network

The majority of the development will discharge to the existing public manhole SAP ID2000234285, consistent with the historic discharge arrangement. Due to local level constraints, a portion of the development (lot 12-18, 34-41 and JOAL 4) will continue to discharge to the existing manhole (SAP ID 2000323535) on Pigeon Mountain Road. By maintaining the primary discharge to SAP ID2000234285 and limiting additional loading on the alternative downstream network, the proposal reduces the risk of adverse effects on the deteriorated public stormwater pipes identified by Healthy Waters.

The proposed public network has been sized to cater for the flow generated by 10-year storm event under the MPD scenario. All lot connections and catchpit connections are to be drained into the new public network.

These improvements will ensure that the stormwater management system is robust and capable of handling the increased runoff from the development, while also complying with Auckland Council's standards and requirements.

7.3 Stormwater Management Plan

The public stormwater infrastructure serving this area operates under Auckland Council's Stormwater Network Discharge Consent. The proposed development is considered a Large Brownfields development under NDC Schedule 4.

A site-specific Stormwater Management Plan (SMP) has been prepared for this development, following the stormwater approach previously proposed by Airey Consultants in February 2024, and serves as the basis for the stormwater network and management design.

The stormwater management plan is attached as Appendix D Stormwater Management Plan.

7.4 Stormwater Quality

As per the Auckland Unitary Plan (AUP) requirements, the development requires appropriate water quality treatments. After consideration of several options, Stormwater 360 filters have been identified as the best practical option for managing stormwater for this development. These devices will be located within the private JOALs.

The stormwater quality effects of the development are effectively mitigated by the proposed Stormwater 360 filters. Additionally, the use of centralized proprietary devices minimizes the number of devices and land required, thereby reducing the carbon footprint of the development. With less material required, there will be less construction ground disturbance, and it minimizes crew mobilization for construction, maintenance, and operation.

Details of stormwater quality proposal refer to Appendix D Stormwater Management Plan.

7.5 Hydraulic Connectivity

Given the deteriorated condition of the downstream network, on-lot detention tanks are proposed for each individual lot to mitigate the 10-year peak flow rate. Details of the detention tanks are to be provided at building consent stage. 10-year peak flow analysis refer to Appendix H of the SMP.

Stormwater runoff from each individual lot's roof will be collected in the stormwater detention tanks and discharge into the lot connection through an orifice. Runoff from the JOALs will be collected in a

catchpit and filtered through a stormwater filter. Both the filtered runoff and the roof tank discharge will flow into the public network.

The proposed location of the stormwater network is attached in Engineering Plans (FP326-400).

8. FLOODING AND OVERLAND PATHS

8.1 Overland flow paths, Floodplain and Flood Sensitive Area

According to the Auckland Council GIS, the site is not identified as being located within a flood plain or flood sensitive area. This assessment ensures that the proposed development is not at risk from significant flooding events, providing a safer environment for future residents.

There are three minor overland flows (total contributory catchment area less than 1 hectare) originating from within the site. Two of these flow paths exit the northern side of the site to Tai Awa, while one exits the eastern boundary and joins an overland flow running down Pigeon Mountain Road. These overland flows ultimately drain into the nearby Tamaki River.

The proposed development will include defined overland flow paths to direct water down roadways and landscaped areas to the existing site outlet locations, ensuring they remain clear of future dwellings and garages.

The design of these flow paths will adhere to the New Zealand Building Code, Clause E1 (Surface Water). Additionally, the flow paths design will achieve the necessary freeboard levels as specified in Auckland Council's Stormwater Design Code. This includes maintaining a minimum freeboard above the predicted 100-year flood level to provide an additional safety margin against flooding.

Detail of OLFP refer to Appendix D Stormwater Management Plan.

Flood Risk assessment in accordance to E36 & PC120 refer to Appendix G Flood Assessment Memo (AUP E36).

8.2 Coastal inundation

According to the Auckland Council GIS, the site is not subject to coastal inundation.

9. WASTEWATER

9.1 Existing Public Wastewater Network and Capacity

Auckland Council GeoMaps indicates that the site discharges to an existing manhole WWMH ID 465006 at the north-western site boundary.

A capacity assessment of the downstream gravity network from proposed manhole WW MH A/1 to WWMH ID 483450 indicates sufficient capacity to service the development. The calculated Post-Development Peak Wastewater Design flow for the site is 3.40 L/s for 62 dwellings.

The public gravity network to the north-east has also been assessed from WWMH ID 483450 to WWMH ID 462745 and confirmed to have adequate capacity to service the site.

9.2 Existing HMBM Pump Station Assessment

Airey Consultants have previously assessed available Watercare data, reports, and the Network Discharge Consent (NDC) to determine the capacity of the downstream Half Moon Bay Marina Wastewater Pump Station. The assessment is summarized as follows:

A review of available data indicates that the Half Moon Bay Marina Wastewater Pump Station (ID# DPHMB) Overflow (ID# 1168) has an average annual spill frequency of less than one. This indicates that the pump station is performing within the acceptable limits of the NDC, which allows for an average of two or fewer overflows per annum. Additionally, the available Watercare Services Limited (WSL) data notes that the pump station has 4-8 hours of storage, and the public health and ecological risks from an overflow are low to very low, respectively.

However, if future assessments confirm that the pump station is constrained and increases the public health and/or ecological risk above the consent limits, several mitigation methods can be considered. One possibility is to install a holding tank offering additional storage with a submersible pump to capture the sewage and pump it back to the wastewater pump station during off-peak hours. This approach should minimize the impact of the additional sewage discharge on the transmission network.

9.3 Proposed wastewater network

It is proposed to remove the internal private wastewater network and extend a new public 150mm diameter wastewater line from a new manhole over the existing wastewater line (ID 716760) (WWMHA/1) located in the adjacent northern road reserve.

It is anticipated that some of the internal public wastewater drainage will be built under/close to the building structure. The specific bridging details will be addressed by structural engineering during building consent.

All lots have the required minimum 1.2m fall, enabling gravity connections following the Watercare Standards.

Refer to Appendix A FP326-400 for drainage layout plan.

10. WATER SUPPLY

10.1 Existing Water Supply Network and Capacity

The existing site is currently serviced by a 100mm water supply connection from a public 150 mm diameter AC water pipe and a sluice valve located in the berm at the southeastern corner of the site.

During the site investigation, three existing water meters were identified, water meters X18H763620 and X18M65979 supplying potable water, and meter M01A096864 with an associated backflow preventer servicing the fire sprinkler system.

According to data from Auckland Council's GIS and Watercare Services, the 150 mm diameter public water network serving the site provides adequate pressures and flows to meet the needs of the development. Based on information from Watercare Services Limited, the public water network in this area maintains a pressure range of 300–600 kPa and a flow rate sufficient to support residential demands. This ensures a reliable water supply for both domestic use and fire-fighting requirements.

The current capacity of the water supply network is sufficient to accommodate the proposed development without requiring significant upgrades. This is supported by data from Watercare's asset management plans and annual reports



X18H763620 ,X18M659797 for fresh water supply

Figure 6: Two existing meters for potable water supply



Watermeter M01A096864 for fire sprinkler



Figure7: Existing meter and backflow preventer for fire sprinkler

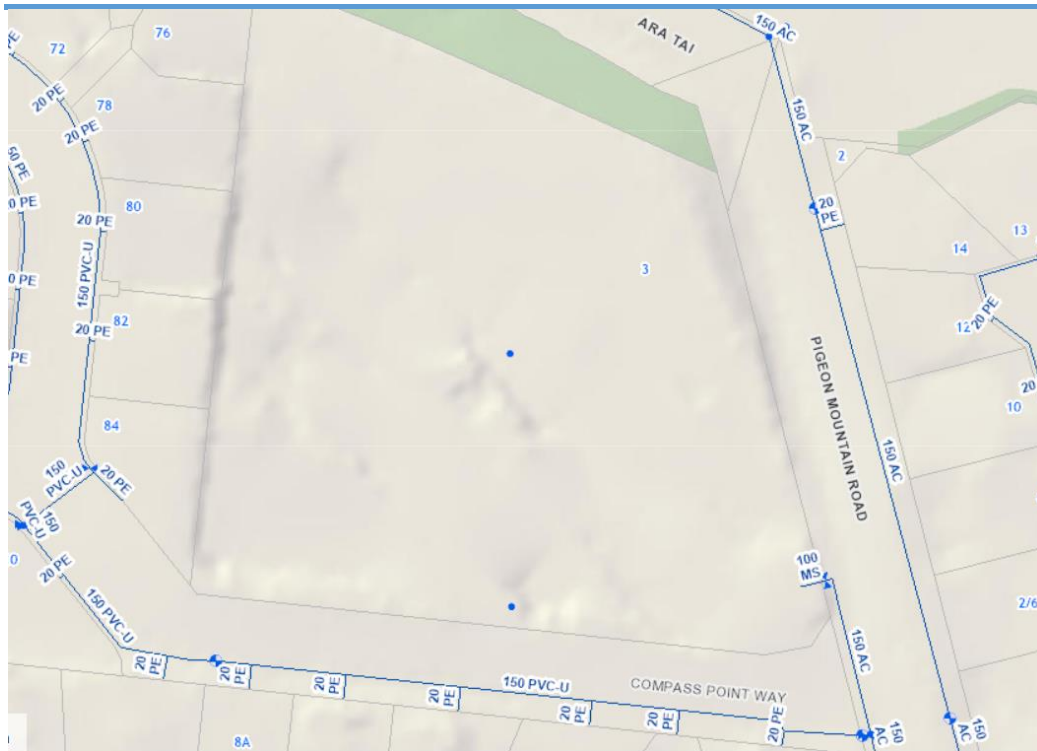


Figure 8: Existing Water Supply Network (source: Auckland Council GeoMaps)

10.2 Proposed Water Supply Network

An existing public 150mm diameter AC watermain and an associated sluice valve are located within the berm at the front of the intersection of Pigeon Mountain Road and Compass Point Way. A new 150mm public watermain is proposed to be extended from this existing main along the adjacent Compass Point Way berm, connecting to the existing 150 mm watermain located to the west of the site within Compass Point Way.

A new private 100 mm watermain will be installed and connecting to the new public 150mm watermain to provide water supply for the proposed development. As part of the works, it is proposed to disconnect and remove the two existing potable water meters (X18H763620 and X18M65979) and to retain and relocate the existing meter M01A096864, including its backflow preventer, to suit the revised site layout. The proposed meter removals, retention, and relocation are subject to review and confirmation through a separate meter application process with Watercare Services.

10.3 Water Supply Fire Fighting

The water supply classification for the development is FW2 (Refer Tables 1 & 2). To meet the FW2 minimum requirements of PAS4509:2008, 12.5 L/s is required within 135 meters, and an additional 12.5 L/s is required within 270 meters of the development.

According to Auckland Council GeoMaps, there are three existing fire hydrants located in close proximity to the site, as shown in Figure 6. A hydrant test conducted by Nova Flowtec Services Ltd on 10th March 2023 indicates that the minimum required flow was unable to achieve.

To ensure compliance, an additional public fire hydrant is proposed at the site entrance and private fire hydrant is proposed inside of the lot to provide accessibility within a radius of less than 135 meters.

Table 1 – Method for determining required water supply classification

Sprinklered structures															
Category	Water supply classification (see table 2)														
Single family homes with a sprinkler system installed to an approved Standard	FW1														
All other structures (apart from single family homes) with a sprinkler system installed to an approved Standard	FW2														
Non-sprinklered structures															
Category	Water supply classification (see table 2)														
Housing; includes single family dwellings, multi-unit dwellings, but excludes multi-storey apartment blocks	FW2														
All other structures (characterised by fire hazard category ⁽¹⁾), examples of which are given below															
	Floor area of largest firecell of the building (m ²)														
	0-199 ⁽¹⁰⁾	200-399	400-599	600-799	800-999	1000-1199	1200-1399	1400-1599	1600-1799	1800-1999	2000-2199	2200-2399	2400-2599	2600-2799	> 2800
FHC 1 ⁽²⁾	FW3	FW3	FW3	FW4	FW4	FW4	FW5	FW5	FW5	FW5	FW5	FW5	FW5	FW5	FW6
FHC 2 ⁽³⁾	FW3	FW3	FW4	FW5	FW5	FW5	FW6	FW6	FW6	FW6	FW7	FW7	FW7	FW7	FW7
FHC 3 ⁽⁴⁾	FW3	FW4	FW5	FW5	FW6	FW6	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7
FHC 4 ⁽⁵⁾	FW4	FW6	FW6	FW6	FW6	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7
For special or isolated hazards not covered in above categories ⁽⁹⁾		FW7													

NOTE –
 (1) Fire hazard category as defined in the compliance documents for the New Zealand Building Code, Acceptable Solution C/AS1.
 (2) FHC 1 is sleeping activities including care facilities, motels, hotels, hostels; crowd activities of <100 people including cinemas, art galleries, community halls, lecture halls, churches; working/business/storage activities processing non-combustible materials such as wineries, cattle yards, horticultural products; multistorey apartment blocks.
 (3) FHC 2 is crowd activities of >100 people, libraries, book storage, night clubs, restaurants; working/business/storage activities with low fire load such as hairdressers, banks, medical consulting rooms, offices.
 (4) FHC 3 is working/business/storage activities with medium fire load such as manufacturing, processing, bulk storage up to 3 metres.
 (5) FHC 4 is working/business/storage activities with high fire load such as chemical manufacturing, feed mills, plastics manufacturing, supermarkets or other stores with bulk display over 3 metres.
 (6) For special or isolated fire hazards in an area with a lower water supply classification, an assessment should be carried out to determine measures to mitigate the hazard or increase the water supply (see 4.4).
 (7) The values in the table were determined by heat release rate modelling for fully developed fires.
 (8) All non-sprinkler protected structures, except houses, have an entry level of FW3.
 (9) Examples of special or isolated hazards may include bulk fuel installations, timber yards, tyre dumps, wood chip stock piles, recycle depots, and marinas.
 (10) For non-sprinkler protected fire hazard category 1 structures less than 50 m² in floor area, the FW3 requirement may be reduced by up to 50% with the agreement of the Fire Region Manager. Examples of the sorts of structures intended to be covered by this comment are predominantly garages, sheds, and outbuildings.

Table 1: Water supply classification (source: SNZ PAS4509:2008)

Fire water classification	Reticulated water supply			Non-reticulated water supply	
	Required water flow within a distance of 135 m	Additional water flow within a distance of 270 m	Maximum number of fire hydrants to provide flow	Minimum water storage within a distance of 90 m (see Note 8)	
				Time (firefighting) (min)	Volume (m ³)
FW1	450 L/min (7.5 L/s) (See Note 3)	–	1	15	7
FW2	750 L/min (12.5 L/s)	750 L/min (12.5 L/s)	2	30	45
FW3	1500 L/min (25 L/s)	1500 L/min (25 L/s)	3	60	180

Table 2: Firefighting water supply requirement (source: SNZ PAS4509:2008)

11. POWER, GAS AND TELECOMS

11.1 Power

Underground power is available in Pigeon Mountain Road and Compass Point Way. New underground connections to the existing power infrastructure located along Pigeon Mountain Road and Compass Point Way will be provided to serve the development. The power requirements will be assessed by

Vector/Northpower and upgraded accordingly if required within the road reserve. According to Vector, the local network has sufficient capacity to accommodate the additional load from the proposed development¹.

11.2 Gas

Underground gas is available in Pigeon Mountain Road and Compass Point Way. New underground connections to the existing gas infrastructure located along Pigeon Mountain Road and Compass Point Way will be provided to serve the development where necessary. The gas requirements will be assessed by Vector and upgraded accordingly if required within the road reserve. The existing gas network has been confirmed to have adequate capacity to support the development.

11.3 Telecommunications

Underground telecommunications are available in Pigeon Mountain Road and Compass Point Way. New underground telecommunications connections to the existing infrastructure located along Pigeon Mountain Road and Compass Point Way will be provided to serve the development. The telecommunications requirements will be assessed by Chorus/Ventia and upgraded accordingly if required within the road reserve. The local telecommunications network has sufficient capacity to handle the increased demand from the new dwellings.

12. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE WORK

Based on our comprehensive engineering assessment and discussions with Council officers and other utility providers, we conclude that the existing infrastructure and discharge requirements associated with the proposed development can be accommodated at the detailed design stage without any adverse effects. Therefore, the subdivision development is considered feasible through the provision of stormwater, wastewater, utilities, water supply, and access, in accordance with relevant requirements.

Key Findings:

Stormwater Management: The proposed stormwater management plan, including the use of Stormwater 360 filters and detention roof tanks, effectively mitigates stormwater quality effects and aligns with Auckland Council's climate change policy.

Wastewater Capacity: The existing public wastewater network and the Half Moon Bay Marina Wastewater Pump Station have sufficient capacity to handle the increased flows from the development, with potential mitigation measures identified if future assessments indicate constraints.

Water Supply: The existing water supply network provides adequate pressures and flows to meet the needs of the development, with no significant upgrades required.

Utilities: The local power, gas, and telecommunications networks have sufficient capacity to support the development, with new connections planned to ensure seamless integration.

Recommendations for Future Work:

Detailed Design Stage: Proceed with the detailed design stage, ensuring all infrastructure and utility connections are planned and executed in compliance with relevant standards and regulations.

Monitoring and Maintenance: Implement a robust monitoring and maintenance plan for all stormwater and wastewater systems to ensure ongoing compliance and performance.

Community Engagement: Engage with the local community to inform and educate them about the development and its benefits, fostering a sense of ownership and responsibility.

Coordination with Utility Providers: Continue to coordinate with utility providers (Vector, Watercare, Chorus, etc.) to ensure all infrastructure upgrades and connections are completed efficiently and effectively.

By following these recommendations, the proposed development will not only meet but exceed the requirements set forth by Auckland Council, ensuring a sustainable and well-integrated addition to the community.

13. LIMITATIONS

This report is for the used by HND HMB Limited to support the Resource Consent application only. The author accepts no responsibility for the content of this report if it is used by any other party or for any other objective. Any use of or reliance on the information contained in this report for decisions made by third parties is the responsibility of these third parties. The author accepts no responsibility for damage incurred by third parties resulting from the use of or reliance on this report, or if the report is used by any party for purposes other than the objectives described herein. This report has been prepared for the project described to us and its extent is limited to the scope of work agreed between the client and the author. No responsibility is accepted by the author for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.

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