REPORT

Tonkin+Taylor

May Road Stream Enhancement Project

Assessment of Effects on the Environment

Prepared for
Watercare Services Limited
Prepared by
Tonkin & Taylor Ltd
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Watercare Services Limited	1 electronic copy
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Table of contents

1 Introduction

1.1 Introduction and overview

This Assessment of Effects on the Environment (AEE) report has been prepared in accordance with section 88 and Schedule 4 of the Resource Management Act 1991 (RMA) on behalf of Watercare Services Limited (Watercare). The AEE report is to support a resource consent application to authorise proposed stream enhancement works (herein 'stream enhancement' or 'the Project') located at the Central Interceptor (CI) shaft site in May Road, Mount Roskill (the Site).

This Project is an initiative to reshape and recontour the watercourses on the western boundary (herein 'Marion Ave watercourse') and the northern boundary (herein 'Northern stream') of the Site to improve ecological values. The Site hosts one of the main construction sites for the CI and the works are being undertaken as a component of the site remediation.

The Project comprises:

- Earthworks and streamworks to recontour and realign the stream channel including creating a 'two-stepped' channel.
- Selective vegetation removal to allow enhancement planting to take place.
- Habitat enhancement of the stream corridor via replanting of the riparian zone with appropriate native vegetation.

Civil and landscape drawings of the proposed enhancement work are attached at Appendix A . This application is also supported by the following technical assessments:

- Appendix B – Ecological Impact Assessment.
- Appendix C – Noise and Vibration Assessment.
- Appendix D – Hydraulic Modelling Memo.

1.2 Background

The Central Interceptor was granted consent in 2013[1] and construction commenced in 2019. The CI is New Zealand's largest wastewater project, comprising a 16.2 km wastewater conveyance and storage tunnel that runs from Point Erin under central Auckland and the Manukau Harbour to the Māngere Wastewater Treatment Plant.

CI provides additional sewer capacity for growth and development in the Auckland Isthmus and increases network resilience and security. Importantly, CI results in a significant reduction in wet weather wastewater overflow discharges in the Meola Catchment, and this benefit is further extended into the Motions, Oakley and Whau catchments and to the local coastal waters on completion of the Combined Sewer Overflow (CSO) Collector Sewers which form part of the overall CI scheme. CI will reduce the average annual wastewater overflow volumes discharged into the receiving environment by approximately 80%. It also enables future works to further reduce wastewater overflows from the combined sewer system, improving water quality in central Auckland waterways, swimmable beaches and the Waitematā Harbour.

[1] The Grey Lynn Tunnel (GLT) section of the CI between Western Springs and Tawariki Street in Grey Lynn was consented in 2019. The Point Erin Tunnel section of the CI between Tawariki Street and Point Erin Park was consented in 2023.

The May Road shaft site is on the main tunnel alignment of the CI and is now the base for the operation of the Tunnel Boring Machine. The site currently consists of:

- 54 Roma Road which is owned by Watercare.
- 105 May Road which is leased.
- An accessway from 105 May Road to May Road which is also leased.

This application relates to proposed works on two stream reaches within 54 Roma Road only.

The CI works at the May Road shaft site are authorised by Designation 9466 and a suite of resource consents (discussed further at Section 1.3). Amongst other things, the designation requires reinstatement of the site once the Central Interceptor is commissioned (designation condition 13.1). While site reinstatement works are within the scope of the wider Central Interceptor project, stream works activities were not anticipated at the May Road site and therefore are sought to be authorised by way of this consent application. More detail regarding the relationship of the Project to the CI works is provided at Section 1.3 below.

The May Road Stream Enhancement Project is an environmental initiative over and above what is required by the designation conditions for site reinstatement. It is the outcome of an iterative process to ensure that ecological principles, as well as hydrological and engineering requirements, are provided for to create the best remediation outcome for the Site.

1.3 Relationship with existing authorisations

1.3.1 CI Designation

The Site is designated under the AUP (reference 9466) by Watercare for the purposes of the construction, operation and maintenance of wastewater infrastructure extending from Western Springs to the Mangere Wastewater Treatment Plant.

The designation together with a suite of regional and district consents[2] authorise the CI works at the Site, which include two shafts, the start of the southern link sewer and connection chambers along with site stormwater treatment and enhancement works post-construction (including reinstatement).

The spatial extent of this Project extends beyond the designation boundary into the neighbouring Goodman's property. In addition, the designation does not identify stream enhancement works as part of the site reinstatement works. Therefore, the designation cannot be relied on to authorise these aspects of the Project from a district land use perspective.

1.3.2 CI Consents

The May Road site already holds a number of resource consents for the CI project. The regional consent application and associated consents broadly provide for works across the CI sites. However, the CI consent application specifically identified sites where in-stream works would be required and this does not include the proposed enhancement works at Roma Road. Consent is therefore being sought for in-stream works under the relevant rules in the AUP.

Of particular relevance to this application are the consents related to the stormwater management plan requirements and the construction phase consents. Each of these is discussed further below.

[2] R/LUC/2012/2846, R/LUC/2012/2846/1, PRC40962, PRC40963, 40834, 40835, 40836, 40837, 40838, 40839, 40840, 40841, 40842, 40843, 40844, 40845, 40846, 40848, 40849 and 40850

1.3.2.1 CI Stormwater Management Plan consent requirements

Condition 1A.11 of the CI consent requires that a Stormwater Management Plan ("SMP") shall be developed for the May Road site. The SMP shall be developed in accordance with Conditions 6.2 and 6.3 to ensure that there will be no increase in stormwater flows or adverse stormwater effects (including changes to overland flows and flooding) experienced offsite as a result of CI.

The ecological enhancement works set out in this application are proposed as part of the permanent stormwater management regime for the Site in order to meet the requirements of this consent condition. The Hydraulic Modelling Memorandum attached at Appendix D and Section 6.5 below, discusses the effects on stormwater flows and flooding.

1.3.2.2 Construction phase consents

Where applicable, the works proposed by this consent application will rely upon a number of CI's existing construction phase consents and their associated conditions and management measures (including management plans) such that these activities are not considered further within this assessment. These are summarised at Table 1.1 below.

These consents apply to CI on a project wide basis including all surface level work sites, such as May Road and therefore it is considered appropriate to rely on these for the proposed ecological enhancement works. This application therefore only seeks approval for activities not already authorised by the designation and existing CI resource consents, and where they are not otherwise permitted activities as indicated at Section 4.3.

Table 1.1: Existing CI resource consents applicable to the May Road site being relied upon for the enhancement works.

Consent number	Activity
R/LUC/2012/2846/1 and PRC40963	Disturbance of contaminated sites pursuant to the NES for Assessing and Managing Contaminants in Soil to Protect Human Health.
40834	Earthworks above permitted levels (all surface construction sites) pursuant to the Auckland Council Regional Plan (Sediment Control).
40835	Construction site related activities, e.g. tunnel dewatering, wheel wash, application of grout and concrete to land etc (Project-wide) pursuant to the Auckland Council Regional Plan (Air Land & Water).
40843	Disturbance of contaminated sites (Project-wide) pursuant to the Auckland Council Regional Plan (Air Land & Water).

1.3.3 CI Fauna Management

Lizard salvage for the CI project is undertaken by ecologists holding the necessary Wildlife Act Authorities. In accordance with these authorities, a Lizard Management Plan is provided at Appendix I. Generally, the Plan outlines, as a minimum, capture and handling techniques to be applied, the proposed relocation release site, management of the release site including provision for protection of relocated wildlife, provision of post-release monitoring, actions that will be followed in the event that Threatened Lizard species are found within the development footprint, and contingencies should establishment of salvaged wildlife fail.

Prior to stream works, consistent with standard CI practice fish salvage will be completed by the project's ecologists and a completion memo will be prepared which outlines the methodology followed and the capture and relocation results.

1.4 Applicant and property details

Table 1.2 below sets out the details of the applicant and application site.

Table 1.2: Applicant and property details

Applicant	Watercare Services Limited
Owner and occupier of application site	Watercare Services Limited / Goodman Nominee (NZ) Limited
Site address	54 Roma Road, Mt Roskill / 60 Roma Road, Mt Roskill
Site area	1.46 ha / 14.2 ha
Record of Title reference	635749 / NA4C/662
Legal description	Fee Simple, 1/1, Section 1 Survey Office Plan 468523 Fee Simple, 1/1, Lot 11, 13 Deposited Plan 36008 and Part Lot 6-7, 9, 12 Deposited Plan 36008 and Lot 4 Deposited Plan 46135 and Lot 8 Deposited Plan 52447
Relevant Council / Plans	Auckland Council / Auckland Unitary Plan – Operative in Part 2016
Address for service during consent processing	Attention: Mikayla Woods – Tonkin and Taylor Limited Phone: 09 529 8047 Email: mwoods@tonkintaylor.co.nz
Address for service during consent implementation and invoicing	Watercare Services Limited Attention: Xenia Meier Phone: 021 574 585 Email: Xenia.Meier@water.co.nz

We attach copies of the Records of Title in Appendix E.

1.5 Summary of resource consents required

Resource consent is required from Auckland Council under the Auckland Unitary Plan – Operative in Part 2016 (AUP) in accordance with the following rules:

- Rule E3.4.1 (A11) – Excavation of channel/disturbance of the channel and associated sediment discharge pursuant to s13 of the RMA as a discretionary activity.
- Rule E3.4.1 (A5) – Placement of natural material in the stream bed for habitat enhancement pursuant to s13 of the RMA as a restricted discretionary activity.
- Rule E15.4.1 (A19) – Vegetation alteration or removal within 10m of urban streams pursuant to s9(2) of the RMA as a restricted discretionary activity.
- Rules E12.4.1 (A5) and E12.4.1 (A7-9) for land disturbance pursuant to s9(3) of the RMA as a restricted discretionary activity; and
- Rule E25.4.1 (A2) for noise and vibration pursuant to s9(3) of the RMA as a restricted discretionary activity.

Applying a bundling approach, overall resource consent is required from Auckland Council under the AUP as a discretionary activity.

For the avoidance of doubt, Watercare is seeking resource consent under the rules identified above and any other consents necessary to authorise the activities described in the application, even if not specifically noted.

1.6 Duration

The CI project is a significant infrastructure project. For this reason, a longer lapse period of 10 years is sought for these works associated with site restoration and enhancement post-CI completion.

Pursuant to section 123 of the RMA, resource consent is sought for an unlimited duration for the land use consents sought and the maximum 35 years for the activities subject to s13 of the RMA.

2 Environmental setting

2.1 Site location

The Site is located off May Road in Mt Roskill with access via Roma Road. Roma Road provides access to some large commercial business premises (such as Gilmour's wholesale food and beverage) and other office activities.

To the north of the Site is the Goodman site (also known as Roma Road Estate) which is currently under development to provide a modern logistics hub which will include four new warehouses when complete - the buildings at 60 and 61 Roma Road are already completed and located directly adjacent to the Site.[3]

To the northeast beyond Roma Road and the industrial area is the Southwestern Motorway (SH20).

To the west of the Site is an area of residential housing accessed off Marion Avenue. This residential area is characterised by one- or two-level detached dwellings on large lots (zoned Residential – Mixed Housing Urban Zone). Further to the west is Richardson Road, a main arterial route.

May 1 Limited own the land to the south of the Site. The land parcel immediately to the south at 105 May Road is currently leased to Watercare for construction of the shaft site and is subject to separate authorisations to recontour the site to maximise the extent of developable area while maintaining flood storage.[4] This includes realigning an overland flow path/watercourse within that site that discharges to the Oakley Creek Tributary at the eastern boundary of 105 May Road and 105A-109A May Road. This provides separation of the flood storage within each of the respective sites. Watercare provided the draft application documents to the adjacent owner for information purposes on 9 October 2024.

Figure 2.1 below shows the Site and surrounding land uses.

2.2 Site description

The Site itself is currently being used to construct CI so the majority of the Site is a construction working area with established site offices, facilities, laydown areas (materials and machinery storage), access / egress, and fencing (namely a 2 m noise hoarding surrounding the construction zone).

A permanent stream which is a tributary of the Oakley Creek runs along the eastern boundary of the Site (as shown in Figure 2.1). The watercourses of relevance to this application are located on the northern boundary (the 'Northern watercourse') and western boundary (the 'Marion Ave watercourse') of the Site. Further information regarding these watercourses is contained below.

The CI construction platform is surrounded on all sides by a 2 m high boundary barrier with an additional 5 – 6 m high barrier/enclosures on the residential side. Beyond the barrier is a stormwater attenuation area which is contained by a bund separating the pond from the adjacent waterway (as can be seen in Figure 2.2).[5]

There is some vegetation present which is discussed further at Section 2.5.1 below.

[3] These building structures are not currently shown on any Lidar maps, therefore an approximate location based on the masterplan has been used for the purposes of this application.
[4] This includes resource consent BUN60405379 to realign watercourses within the site with flows directed to the tributary of the Oakley Creek on the northeastern boundary.
[5] The Project will not compromise the storage capacity of the stormwater attenuation area.

Figure 2.1: Site location plan – 54 Roma Road shown in red (Source: TT Mapviewer).

Figure 2.2: Aerial view of 54 Roma Road and the existing CI works with the watercourses present on Site.

2.3 Geology

The Site is underlain by both Tauranga Group and Auckland Volcanic Field (Pleistocene) Basalt as depicted in Figure 2.3.

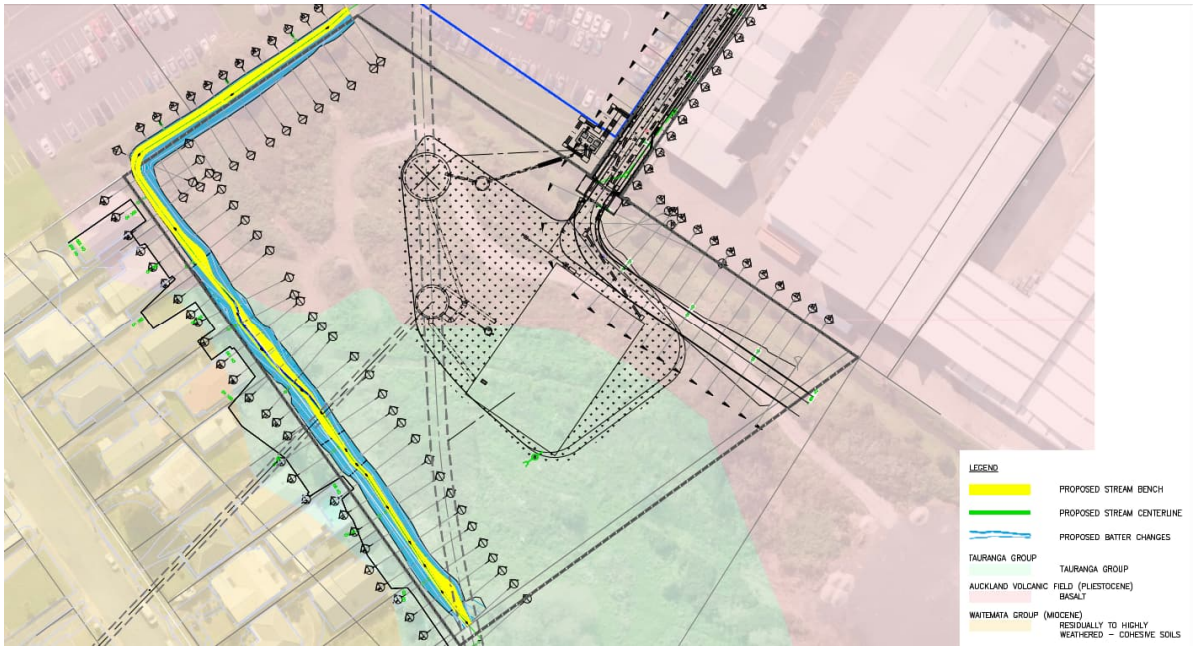

Figure 2.3: Geology of the Site.

Groundwater depth at the Site is likely to be less than 5 m below ground surface and is expected to flow following the topography in a northerly direction towards the Oakley Creek tributary.

2.4 Hydrology

As set out in Section 2.2 and shown in Figure 2.2, the Site is a construction platform/working area with a stormwater attenuation area near the western boundary, and streams located along the western and northern boundaries of the site.

The following watercourses are present on the Site as shown in Figure 2.3 and Figure 2.4 and are tributaries of the Oakley Creek/ Te Auaunga Awa:

- The Marion Ave watercourse (referred to as Reach A in the EcIA) flows south to north along the western site boundary, and discharges to the Northern stream. It is approximately 140 m in length. Its flow within the Site is contained by a bund. According to AC GeoMaps, the downstream portion of the watercourse (~65 m starting outside the boundary of 49 Marion Ave) is classified as an open watercourse, and the portion upstream is undefined / classified as a public stormwater watercourse (and as such is intermittent in nature).
- The Northern stream (referred to as Reach B in the EcIA) flows west to east along the northern site boundary before converging with a tributary of the Oakley Creek (Figure 2.5 below) before discharging to the piped stormwater network. It is approximately 65 m in length. Its flow within the site is contained by a bund and it is a permanent watercourse.
- A tributary of Oakley Creek runs along the north-eastern site boundary, exiting the site at its north-eastern corner via a 1.8 m diameter culvert. This is a permanently flowing stream and is not subject to this application.

The ecological value of these tributaries is discussed further at Section 2.5 below.

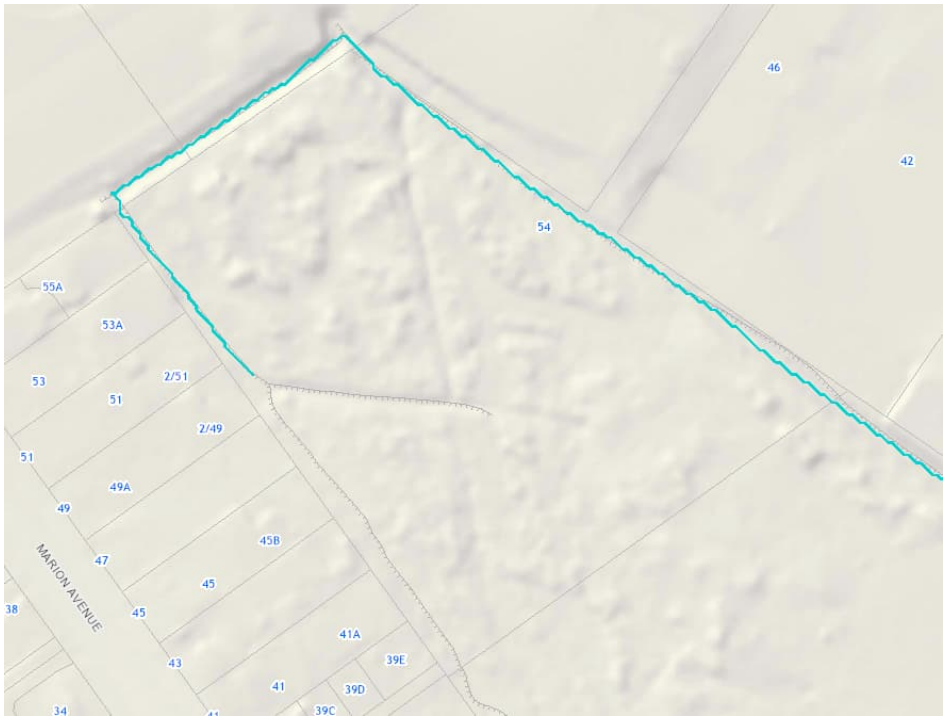

Figure 2.4: CI site hydrology (source: AC Geomaps).

2.5 Ecological values

An Assessment of Ecological Effects Report (Ecology Report) has been prepared (Appendix B), depicting the ecological characteristics and values of the project area which is summarised below.

2.5.1 Riparian vegetation

The existing riparian vegetation is predominantly herbaceous weedy species and rank mature grasses, with some exotic and native large stature trees. The spatial distribution of vegetation is shown in Figure 2.5 below.

The native species identified include shining karamu, karamu, cabbage tree, ngaio and karo all of which are classified as non-threatened and assessed as having low ecological value.

In addition, four pest species were identified, these include woolly nightshade, common ivy, European blackberry and longleaf wattle.

2.5.2 Habitat value

The Marion Ave watercourse, as indicated above, is intermittent in the upper reach (~65 m) and permanent in the lower reach (~75 m) and is a modified natural channel. A residual pool is evident at the upstream extent of the Marion Ave watercourse. The permanent extent is more incised, and the banks have a steeper gradient and are comprised of large boulders defining the banks for a short distance (~30 m). While the upstream intermittent extent was less incised with banks having an overall flatter gradient, boulders were occasionally present within both banks. The stream is comprised of soft fine sediment substrate (< 2 mm in size), water velocity and depth are low, and a high proportion of the stream channel is constricted by macrophyte growth.

The Northern stream, as indicated above, is a permanently flowing stream of a modified natural channel. Water flow characteristics (flow and depth) are influenced by water entering the Northern stream from the Marion Ave watercourse. This stream extent converges with another tributary in the north-eastern corner and discharges to the piped stormwater network. The reach has an incised wide channel with predominantly soft sediment substrate.

Where riparian vegetation is present within the riparian margins of both streams, it is predominantly herbaceous weedy species and rank mature grasses, with some exotic and native large stature trees. The spatial distribution of vegetation is shown in Figure 2.5 below.

The Ecology Report notes that no wetland habitats were observed within the vicinity (10 m) of the stream reaches.

Overall, habitat diversity is considered to be low primarily due to a lack of a stabilised riparian vegetation, high deposited sediment and a lack of hydraulic and instream habitat heterogeneity.

Figure 2.5: Vegetation distribution and ecological sampling location map.

2.5.3 Fauna

Macroinvertebrate sampling has been undertaken (in the locations shown on Figure 2.5 above) and this identified seven taxa largely composed of those tolerant of nutrient enrichment and organic pollution and are generally observed in habitats with low habitat diversity and complexity. The sbMCI score was 50 and the sbQMCI was 3.4 both of which indicate 'poor' quality. The observed sbMCI values were less than the urban MCI guideline (of 68) in the AUP and the national bottom line in the NPS-FM (of 90). Similarly, QMCI values were less than the NPS-FM bottom line of 4.5. The low MCI and QMCI scores indicate that the macroinvertebrate community is likely impacted by activities that are occurring in the wider urban catchment.

Records show that the only one native species has been identified within the site, namely the shortfin eel (*Anguilla australis*) a 'Non threatened' species. Shortfin and longfin eel have been identified either at the site or within the wider Te Auaunga catchment and it is likely that migrating fish species known to inhabit the wider catchment may freely access the streams subject of this application where adequate habitat conditions are available.

Overall, freshwater fauna values are considered to be low.

2.6 Cultural heritage and archaeology

While not in the direct area of proposed stream enhancement, wooden artefacts were recovered in an area of former swamp land within the wider Site. This site is now recorded as having been destroyed (CHI no. 7031; NZAA no. R11/57).

Te Auaunga/Oakley Creek is a significant awa in the west of the Tāmaki Isthmus and has high cultural significance to Māori. Historically the Te Auaunga catchment incorporated several large wetland complexes. Prior to the urbanisation of the catchment, Te Auaunga was important as a food and material resource, and provided habitat for native plants, birds and fish (such as eel and īnanga); and building and weaving materials such as raupō and harakeke, and rongoā[6] and dyes. Numerous cultural and heritage sites are present along the banks of Te Auaunga.

2.7 Noise and vibration

The Site is located within the Business – Light industry Zone (see Section 4.1.1) and abuts a Residential Zone. CI has been operating on the Site since 2019. The CI construction noise limits of 70 dB L_{Aeq} and 85 dB L_{Amax} apply Monday to Saturday 7:30 am – 6 pm. The designation conditions require construction vibration to comply with the guideline vibration limits set out in DIN 4150-3. As such, at times, the adjacent residential area experiences a higher ambient noise level than would normally be expected within a residential area.

[6] traditional Māori medicinal and healing practices

3 Description of proposed activity

3.1 Introduction

The work will involve excavation and landscaping works to the existing stream channel within the May Road site. Appendix A provides drawings of the proposed works within the Site. The below sections describe the proposed stream enhancement works and indicative methodologies.

3.2 Proposed stream channel excavation works

This will involve excavation of the stream channel of the Marion Ave watercourse and Northern stream. The drawings attached at Appendix A show the proposed finished ground profile compared to the existing profile. Approximately 500 m^3 of material will be required to be removed as a result of cutting, rock breaking, filling and trimming the stream profile. The Northern stream excavation will be limited to the southern bank of the stream (on the side of Watercare's property) and the stream reach within the Goodman's property.

The proposed stream works will create a stepped stream channel where possible. The two-stepped channel design comprises:

1 A low flow channel to provide aquatic habitat when water is present. This channel design will allow baseflows to be contained and provide sufficient water depth (when present) to provide intentional habitat features within specific areas for fish; and

2 A wider channel or 'bench' adjacent to the low flow channel to accommodate the annual 'stormflows' and reduce velocities sufficiently to reduce the need for 'hard engineering' options in the Stage 1 low flow channel.

As part of the stream channel excavation, existing vegetation and trees will be removed with excavators where required, however existing native vegetation will be retained wherever practicable.

3.2.1 Methodology

Given the current CI construction site at May Road will be retained during the recontouring / reshaping works, space within the site is constrained. A detailed construction methodology will be developed by the Contractor.

However, indicatively, machinery will access the area using access ways built from the existing CI platform or lifted into place via crane. Construction equipment will mainly be on the inner bank (opposite bank to the nearest residential receivers).

The filling and trimming will be completed by 14 – 30 tonne excavators. Smaller 2 tonne diggers can be utilised to undertake earthworks next to neighbouring fence lines.

If large-scale compaction is required (as determined by the inspecting engineer), a 14 - tonne roller compactor could be utilised to compact soil in layers. If small - scale compaction is required, hand compaction will be undertaken.

All excavated material will be loaded into trucks and removed from the Site by trucks.

Basalt is anticipated to be encountered in the northern half of the Site. If this cannot be excavated with a bucket, a rock breaker attachment will need to be utilised on the excavators to break rock prior to excavating.

It is noted that similar works are occurring as part of the wider CI project and therefore the methodologies and management methods are well-understood and have been extensively applied during the CI project to date, including directly comparable experience in relation to the type of works and location of works (proximity to houses). This provides a high degree of confidence around the potential effects of the proposed works and how these effects can be appropriately managed.

3.2.2 Riparian yard implications

The proposed works result in modification to the banks of the two watercourses as shown in the drawings in Appendix A. However, it is important to note that these drawings are based on the site layout and levels pre-CI site establishment and include the channel which extended diagonally through the site. This is shown in Figure 2.4 as a public stormwater watercourse and is shown in the cross sections in Appendix A from chainage 185 upstream (i.e. through chainages 180, 175 and 170).

As set out in Section 2.2 and shown in Figure 2.2, the Site is now a construction platform/working area with a stormwater attenuation area near the western boundary, and streams located along the western and northern boundaries of the site.

The drawings and cross-sections demonstrate that the proposed stream enhancement works involve minor modification to the existing channels of the northern and western watercourses and do not have any notable new implications in terms of the application of the 10 m riparian yard setback measured from the watercourse.

3.3 Proposed landscaping and ecological enhancement works

This involves the creation of suitable aquatic habitat and biodiversity provisions using soft and hard landscaping to create biodiversity enhancement. This includes riparian planting, and the inclusion of appropriate in-stream and riparian habitat features. The proposed landscape drawings are attached at Appendix A.[7]

There are four planting mixes proposed in different areas of the Proposal to reflect areas of different geology and function. These are:

1 Basalt pocket planting mix where basalt is the primary geology.
2 High flood frequency planting for the wider channel anticipated to receive flood waters and will capture sediments.
3 Lower stream terrace planting mix which is proposed closer to the low flow channel; and
4 Stream embankment planting mix which is proposed for the upper reach of the Marion Ave watercourse.

In addition to the above planting, trees are proposed to be planted and a mix of in-stream habitat features (such as boulders and logs) are proposed to be installed to create habitats. In stream features will be confirmed through detailed design and confirmation on site by the appointed ecologist.

In total, the Proposal includes planting within the riparian zone of approximately 1,123 m^2 of native vegetation within the stream enhancement area. The proposed plant species are outlined in the Planting Schedule within the landscape drawing set at Appendix A and will be eco-sourced from the Auckland region, if practicable.

[7] NB: the planting on the northern side of the Northern stream is to be undertaken and maintained by Goodman's and does not form part of this application.

Plants and features will mostly be instated by hand. Where there are lifts or pits that are too difficult to be undertaken by hand, a small tonne digger can be utilised to assist. Materials can be lifted in or delivered from stockpiles to work areas in the back of utes or small trucks.

3.4 Timeframe of works and hours of operation

The construction works are anticipated to take up to 6 months and will be programmed to occur at an appropriate time for the CI site reinstatement (anticipated to be in 2026).

Noise generating activities and truck movements will typically occur during the standard construction hours for the wider CI construction works, which are as follows:

- Monday to Friday: 7.00 am to 6.00 pm (site mobilisation and pack down works are proposed to occur 30 mins before and after these windows).
- Saturdays: 8.00 am to 6.00 pm.

Works outside of these hours are not anticipated; however, can be managed via the CI activity specific noise management plan process if required.

4 Resource consent requirements

4.1 Auckland Unitary Plan

4.1.1 Zoning and planning notations

The AUP zoning and planning notations that apply to the site or are otherwise relevant to the application are set out in Table 4.1 below with the zoning shown in Figure 4.1.

Table 4.1: Zoning and planning notations

Zoning/planning notation	Location
Zones	
Business - Light Industry Zone	The whole of the CI Site is subject to the Business - Light Industry Zone.
Designations	
Designations: Designations - 9466, Construction, operation and maintenance of wastewater infrastructure, Designations, Watercare Services Ltd	This designation applies to the entire Site.
Airspace Restriction Designations - ID 1102, Protection of aeronautical functions - obstacle limitation surfaces, Auckland International Airport Ltd	This designation applies to the entire Site but has no particular implications for the proposal so is not considered any further.
Catchments and Hydrology	
Rivers and permanent streams	The tributary of the Oakley Creek, the stream extent along the northern boundary and half of the extent of the waterway on the western boundary are identified as permanent watercourses.
Overland Flow Paths	Major and minor flow paths traverse the southern half of the Site however given the changes to the Site as a result of the CI construction these are likely to have changed.
Flood Plains	A flood plain is subject to the entire site with the exception of southern-eastern corner.
Flood Prone Area	The site is predominantly considered a flood prone area.
Overlays	
Natural Resources: Quality-Sensitive Aquifer Management Areas Overlay [rp] - Auckland Isthmus Volcanic	This overlay affects most of the site except the northwestern most corner.
Controls	
Macroinvertebrate Community Index – Urban	Applies across the entirety of the Site.

Figure 4.1: AUP zones in the area surrounding the proposed works.

4.1.2 Resource consent requirements

As described in Section 1.3, resource consents are being sought to authorise activities over and above the envelope of effects consented by the CI consents and where they are not permitted activities as set out in Section 4.3. Consent is also sought for land use activities pursuant to s9(3) of the RMA on the basis that the proposed works are not relying on the designation for the Site. A summary of the resource consent triggers relating to the stream enhancement is set out in Table 4.2 below.

This application intends to include all necessary consents for the proposed enhancement activities to occur, even if not specifically identified in Table 4.2 below.

Table 4.2: Resource consent requirements

Proposed activity	Rule reference/ description	Comment	Activity status
Excavation of channel/disturbance of the channel and associated sediment discharge	E3.4.1 (A11) Channel clearance more than 100 m	The definition of 'channel clearance' includes realigning streams. The proposed channel clearance will occur over a total length of approximately 146 m of stream. It is noted that channel clearance of less than 100 m can be undertaken as a permitted activity.	Discretionary
Placement of natural materials such as rocks and logs in the stream bed	E3.4.1 (A5) Depositing any substance for the purposes of habitat enhancement or scientific research	This rule is applicable to the placement of rocks and logs (for the eel redoubts for example) as they are for the purpose of habitat enhancement.	Restricted discretionary
Land disturbance / Earthworks 9(3)	E12.4.1 (A5) Greater than 1000 m^2 up to 2500 m^2	While it is likely that the land disturbance would be within the permitted activity thresholds, general standard E12.6.2 (1) limits land disturbance within riparian yards to less than 5 m^2 or 5 m^3 for general earthworks. Therefore, consent is required pursuant to C1.9 of the AUP.	Restricted Discretionary
	E12.4.1 (A7-9) Up to 2500 m^3		Restricted Discretionary
Vegetation removal/alteration	E15.4.1 (A19) Vegetation alteration or removal within 10 m of urban streams	The proposed work will require removal or alteration of vegetation within 10 m of the stream. Where the vegetation provides ecological value, it will be retained where possible.	Restricted Discretionary
Noise and vibration	E25.4.1 (A2) Activities that do not comply with a permitted activity standard	The proposed works include activities that may exceed noise and vibration thresholds for short periods.	Restricted Discretionary

The relevant matters of discretion for those activities identified as being restricted discretionary are contained for information at Appendix F along with a cross reference to where each of these are addressed within this application.

4.2 National environmental standards

The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (Freshwater NES) sets requirements for carrying out certain activities that pose risks to freshwater and freshwater ecosystems. The standards apply to activities in relation to farming activities, natural inland wetlands, instream structures and the reclamation of rivers.

There are not considered to be any relevant reasons for consent required under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES Freshwater) as no wetland habitats were identified within 10m of the proposed works. For completeness, the proposed in stream habitat features (such as logs for eel redoubts) are not considered to comprise a 'weir' structure under the NES Freshwater and in any case will be designed not to impede fish passage.

4.3 Permitted activities

The activities in Table 4.3 have been identified as permitted activities under the AUP. An assessment against the relevant permitted activity standards is provided below.

Table 4.3: Permitted activities relevant to the proposed activity

Proposed activity	Rule/ regulation description	Comment on compliance
Excavation of channel/disturbance of the channel and associated sediment discharge	E3.4.1 (A10) Channel clearance less than 100m complying with the standards in E3.6.1.5	The proposed channel clearance will occur over a total length of approximately 146 m of stream. Channel clearance of less than 100 m can be undertaken as a permitted activity which creates a permitted baseline for the effects assessment contained in Section 6.
Vegetation alteration and removal	E15.4.1 (A22A) Vegetation alteration and removal in all other zones and areas not covered	Permitted
Pest plant removal	E15.4.1 (A6) Pest plant removal	Permitted Four terrestrial common pest plants have been identified on Site and their removal is permitted.
Planting	E3.4.1 (A2): Conservation planting complying with the standards in E3.6.1.2.	Permitted The standards of E3.6.1.2 are able to be complied with on the basis that: (1) The plants will not be a non-invasive species in aquatic conditions. (2) Plantings will be species native to the area unless it is not practicable to do so. (3) The plant will not be a pest species.

4.4 Other consents and approvals required

No other consents or approvals are considered necessary.

5 Consultation

5.1 Mana whenua

Prior to late 2018, engagement with Mana Whenua about the CI project was primarily completed via Watercare's Mana Whenua Kaitiaki Managers' Forum ('the Forum').

Due to the scale and complexity of the Central Interceptor project, more regular and focussed involvement of mana whenua was considered appropriate. This was achieved with the establishment of a Cultural Outcomes Group (COG) in March 2019. This group meets with CI representatives as a working group to support the project team in delivering project outcomes with cultural aspects. The group provides specialist advice particularly in the areas of consent compliance, new consent applications and social outcomes, as well as reporting back to the Forum. Current members of the group are from Te Rūnanga o Ngāti Whātua, and Ngāti Maru.

The CI project also has a specific Cultural Management Plan developed under the guidance of the COG and with the wider Forum membership. A number of procedures and initiatives give effect to the Cultural Management Plan including:

- A process of engagement for cultural monitoring for topsoil stripping activities.
- Cultural inductions.
- Karakia for significant events.
- Economic opportunities.

Watercare has a long-standing relationship with the tangata whenua of Tāmaki Makaurau and well-established engagement processes. All iwi entities are advised of projects, including this enhancement project, via a Kaitiaki Project List updated and circulated monthly. Watercare met with a representative of Te Ākitai Waiohua on 27 June 2024 to discuss the design of the project and this consent application and develop further its understanding of the cultural values as they relate to this Project. Comments included a request to retain kowhatu (basalt) on site or not excavate at all, and provision for cultural blessing, monitoring and involvement in tuna relocation as per the standard CI practice. Draft application documents have also been provided to Te Ākitai Waiohua, Ngāti Maru and Ngaati Whanaunga.

Engagement with interested mana whenua partners is ongoing and will continue for instance, representatives were invited to the pre-lodgement site visit with Council reviewers on 29 November 2024 with Ngāti Maru attending. In addition, regular updates will be provided to the COG monthly hui and interested partners. Feedback received from mana whenua partners will be provided to Council either directly or at their request.

5.2 Auckland Council - Healthy Waters

Watercare has consulted with Healthy Waters on the proposed reinstatement of the Site since June 2022 when various options for the site reinstatement were discussed. One of the previous options include proposals for a partnership opportunity to create a constructed wetland (discussed with Healthy Waters in June 2023) however it was determined that the ecological benefits of the stream enhancement outweighed those of a proposed wetland and importantly, would not result in the loss of existing stream values and extent.

The stream enhancement project was then discussed further with Auckland Council including Council Ecologists and Healthy Waters in March 2024, and Auckland Council technical specialists together with Healthy Waters were generally supportive of the Project.

5.3 Neighbouring landowners

Watercare has a sustained record of project communications with the Marion Ave residents and Goodman's given the longevity of the CI works at May Road. This includes producing eight construction site update bulletins (spanning from July 2019 to June 2024) with advance news of major site works prior to commencement.

6 Assessment of effects on the environment

6.1 Introduction

Section 104(1)(a) and Clause 2(3) of Schedule 4 of the RMA require an assessment of the activity's effects on the environment. The detail of this assessment should correspond with the scale and significance of the effects that the activity may have on the environment.

The assessment in the following sections identifies and assesses the types of effects that may arise from the proposed activity provided for under this application. This assessment also outlines the measures that the applicant proposes to avoid, remedy or mitigate any potential adverse effects on the environment.

The application falls for consideration overall as a discretionary activity. This assessment draws on information provided in the technical reports contained within the appendices and addresses the following effects:

- Ecological effects.
- Land disturbance and sedimentation effects.
- Noise and vibration effects.
- Flooding and stormwater effects.
- Slope stability effects.
- Archaeological effects; and
- Cultural effects.

6.2 Permanent ecological effects

The Ecological Impact Assessment at Appendix B has assessed the permanent ecological effects associated with the proposed enhancement work.

6.2.1 Freshwater ecology

The proposed stream enhancement will create an open two-stepped channel and associated stream habitat, thus restoring a historically modified and degraded watercourse. Ecological principles have been incorporated into the stream design which will support the development of natural processes, including:

- The two-stage channel design in Reach A incorporates a low flow channel to provide aquatic habitat when water is present. This channel design will allow baseflows to be contained and provide intentional habitat features for freshwater fauna identified in the stream catchment.
- A wider second stage channel which accommodates the annual 'stormflows' and reduces velocities sufficiently to reduce the need for 'hard engineering' options in the low flow channel. The stormflow channel will be planted with flexible indigenous sedges and rushes that will not compromise flood detention capacity.
- Allow for sufficient water velocity during key stream flow periods to initiate sediment transport, to help prevent sediment build up and maintain channel form.

- A range of in-stream 'dual benefit' features that have the potential to provide the following functions:
  - Mimic natural stream features that would typically be associated with this stream type (where possible) including meanders, sediment transport and indigenous plantings. Specific habitat features are likely to be limited to targeted plantings and wooden shading structures within the riparian zone. Approximately 1,123 m^2 of planting is proposed of which the rushes and sedges will provide shading to the stream channel. Intentional habitat features will have lower velocities and increased water depths and will provide habitat for any resident and/ or transient freshwater fauna.
  - Manage channel width and flow variability within the Stage One channel to promote the formation of a diverse aquatic habitat.

The stream design, planting and in stream features will provide habitat for freshwater fauna including macroinvertebrates and eel species. The improvement of the current habitat with an open naturalised stream channel will have a net gain in ecological values. This will allow continuity of stream habitat as well as geomorphic and sediment processes within the stream system. Therefore, overall, the actual and potential permanent freshwater ecological effects of the Project will be positive.

6.2.2 Terrestrial ecology

As part of the works, riparian vegetation will require removal. Most of this comprises grass, herbaceous weeds, and tall stature exotic trees, however, some native vegetation may require removal, but where possible will be retained. Vegetation that is to be removed will be replaced with appropriate native species. Overall, a total of approximately 1,123 m^2 of planting is proposed across the site comprising approximately 2,500 native plants.

The proposed planting at the site will provide potential foraging and nesting habitat for native birds in the medium term (5 - 10 years) and beyond, increasing the available habitat for indigenous birds and lizards.

Overall, the stream enhancement work, once complete and vegetation is established will result in positive effects on terrestrial ecology.

6.3 Temporary (construction phase) ecological effects

The proposed stream channel clearance work and enhancement will result in some temporary adverse effects on the existing stream and ecology during the construction phase of the project. The proposed channel clearance will occur over a total length of approximately 146 m of stream. It is relevant to note that channel clearance less than 100 m could be undertaken as a permitted activity and therefore provides a useful permitted baseline against which these effects are to be assessed.

6.3.1 Riparian vegetation removal

Vegetation present within the riparian zone is as shown in Figure 2.5. Riparian vegetation will require removal during the construction phase of the Project. Most of this comprises grass, herbaceous weeds, and tall stature exotic trees. Some native vegetation may require removal during the proposed stream bank recontouring, and realignment works, but where possible will be retained.

Vegetation that is to be removed will be replaced with appropriate native species as shown in the Landscape Plans provided at Appendix A. Vegetation removal will therefore result in a temporary shift from the existing baseline condition of habitats at the site that will only last until new plantings become established.

As such the adverse effects of the removal of riparian vegetation is considered to be less than minor.

6.3.2 Effects on fauna

6.3.2.1 Aquatic fauna - fish

Works in-stream have the potential to cause injury and mortality to native freshwater fauna as well as restrict fish passage. Released sediment entering stream systems can also negatively impact habitats and fauna through changes in water clarity and via sediment deposition reducing interstitial spaces, covering fish spawning habitat or reducing the quality of food sources and feeding ability of fish and macroinvertebrates. The only native fish observed at site was shortfin eel, which has a 'Non threatened' conservation status but is valued as mahinga kai.

To mitigate any actual and potential adverse effects of injury or mortality to native freshwater fauna, fish salvage and relocation will be undertaken prior to any streamworks commencing. Salvage will be undertaken under ecologist management and supervision and a completion memo outlining the methodology followed, and the capture and relocation results, prepared once salvage has been completed as per standard CI practice.

To mitigate the potential for sediment release into stream receiving environments, appropriate erosion and sediment control should be prepared in accordance with Auckland Council GD05, and the measures implemented prior to any in streamworks occurring. An Erosion and Sediment Control Plan (ESCP) is provided at Appendix G.

With the implementation of the mitigation outlined above, the actual and potential adverse effects on fish during the construction phase will be less than minor.

6.3.2.2 Terrestrial fauna – birds and lizards

Proposed stream enhancement works at the site will require the removal of mature trees and vegetation that may provide habitat to birds and lizards respectively.

Birds

The riparian vegetation that will be removed and the rank grass areas has negligible habitat value for native birds. Where native riparian vegetation is present and has higher habitat value for native birds this will be retained (where practicable).

Tree removal will be avoided during bird nesting season (September to February inclusive) or the area surveyed by the project's ecologist less than 24 hours prior to clearance. If active native bird nests are found, then the vegetation will be left in place until the nests are naturally abandoned, or chick(s) have fledged.

Lizards

The proposed works pose a risk to lizards potentially living within the Site, because they have small habitat ranges and tend to hide from disturbance rather than move away, making them vulnerable to injury and mortality.

Lizard salvage for the CI project is undertaken by ecologists holding the appropriate Wildlife Act Authorities. Consistent with this, lizard salvage for this enhancement project will be undertaken in accordance with the relevant Wildlife Act Authorities and any LMP required by the conditions on a WAA. Generally, the LMP outlines, as a minimum, the capture and handling techniques to be applied, the proposed relocation release site, management of the release site including provision for protection of relocated wildlife, provision of post-release monitoring, actions that will be followed in the event that Threatened lizard species are found within the development footprint and contingencies should establishment of salvaged wildlife fail. An LMP for the Project is provided at Appendix I.

6.3.3 Summary

The proposed planting at the site will provide potential foraging and nesting habitat for native birds and lizards, increasing the available habitat by approximately 1,123 m^2.

With the implementation of the above management measures, the actual and potential adverse effects on birds and lizards during the construction phase will be less than minor and will be positive in the longer term.

The focus of the project is to rehabilitate and enhance the ecological values of the stream reaches. The ecological effects associated with the proposed work required to achieve this enhancement will be temporary in nature and, with the proposed mitigation measures implemented, are considered to be less than minor.

6.4 Noise and vibration effects

The Noise and Vibration Assessment contained in Appendix C provides an assessment of potential noise and vibration effects associated with the stream enhancement project with rock breaking activities being the dominant noise and vibration generating source. A summary of this assessment is provided below.

6.4.1 Noise effects

The Noise and Vibration Assessment has calculated maximum level of noise for the duration plant is at the closest point to a receiver. It is noted that for the purposes of the assessment, a construction noise criterion of 70 dB L_{Aeq} was adopted rather than applying the 5 dB reduction for projects less than 20 weeks. This represents a conservative but realistic approach in that CI has been operating on the May Road site for a few years and takes into consideration the cumulative effects of noise already experienced for nearby receivers.

Construction noise levels have been calculated for the equipment based on the indicative construction methodology for stream enhancement works. Due to the uncertainty in the ground conditions, a worst-case assessment has been made using a 30 t excavator with breaking attachment.

For rock breaking activities without mitigation using a 30 t excavator, 10 residential receivers on Marion Ave[8] and two commercial receivers at 60 and 61 Roma Road may experience elevated noise levels (to a maximum of 97 dB L_{Aeq}). Due to the layout of the stream, rock breaking within 17 m of 55A Marion Avenue will likely be for a longer duration of approximately 1-2 weeks at noise levels above 90 dB L_{Aeq} without mitigation. Some of the receivers may also experience noise levels of up to 89 dB L_{Aeq} for excavation activities. As works move along the stream and moves away from the closest distances, noise levels will decrease.

[8] 41A, 43, 45B, 2/49, 51, 2/51, 51, 53A, 55 and 55A Marion Avenue

The maximum noise levels are only likely to occur when the rock breaking works are on the opposite bank, where only partial screening is achieved. In reality, maximum noise levels from using a 30 t are expected to occur for a relatively short period for the majority of receivers (a few hours in one day across 3-4 days at each receiver) and intermittently within the total duration of the works. Whilst the use of a 30 t excavator will generate louder noise levels, the duration of works will be significantly shorter than the use of smaller 14 t excavator. Experience on the CI project has shown that residents would typically prefer a higher noise level for shorter periods over a lower noise level for a longer duration.

Further physical mitigation in the form of acoustic screens along the property boundary and/or a shroud around the rock breaking attachment will achieve a reduction in noise levels. Mitigation options may be used in combination or isolation based on the most practicable option for the works in each location (dependent on the terrain of the stream and access requirements). This will be determined prior to works commencing in accordance with the Construction Noise and Vibration Management Plan (CNVMP) attached at Appendix H. The assessment assumes a minimum 5 dB reduction for the use of a shroud and/or 1.8 m acoustic barriers (i.e., where only one form of mitigation is implementable) with a maximum 15 dB reduction possible.

For the residential receivers, a worst-case predicted external noise level of 97 dB L_{Aeq} would usually equate to an internal noise level 20 - 25 dB lower, i.e. 67-77 dB L_{Aeq} depending on the glazing and façade construction. An internal noise level greater than 60 dB L_{Aeq} is likely only to be tolerable for short periods of time with advance notification. At these high noise levels, properties with a predicted external level of 80 dB LA_{eq} or higher will potentially need to be vacated for the duration of the rock breaking works if a 30 t excavator is being used. Advance communication and consultation with the affected parties will be required to schedule works outside of sensitive hours and/or when the dwelling is occupied. If the property is unoccupied, noise levels do not apply. High external noise levels for rock breaking are not uncommon for this type of works close to residential receivers and have been successfully managed on other CI sites, which includes industry standard practice for rock breaking mitigation and consultation with receivers around timing and duration.

Industrial receivers generally have higher levels of internal ambient sound levels and there will usually be a greater tolerance to sources of external noise than in a residential setting.

Overall, due to the reasonably limited duration and intermittent nature of rock breaking and excavation, it is considered noise levels can be effectively managed by the implementation of the CNVMP (Appendix G) along with engagement with local receivers to manage noise effects, such is standard practice for the CI Project.

6.4.2 Vibration effects

Construction activities may generate vibration. The Noise and Vibration Assessment has assessed that for rock breaking, four receivers[9] at 2/49, 2/51, 53A and 55A Marion Ave are predicted to experience vibration levels above the 2 mm/s PPV amenity level but under the 5 mm/s PPV DIN 4150 - 3 threshold for cosmetic structural damage. Vibration levels of 2 mm/s PPV may be perceivable by occupants, and they may be disturbed by such occurrences, but based on experience with other construction projects, vibrations at these levels will generally be acceptable to receivers provided they have received prior warning.

[9] While the Noise and Vibration Assessment indicates these four receivers will exceed 2 mm/s, there is an element of uncertainty (due to geology on site, equipment used and operational procedures) and as such, receivers identified as only experiencing 1-2 mm/s vibration may exceed the 2 mm/s amenity limit for a short duration.

As such vibration effects can be effectively managed via the CNVMP, through vibration monitoring and consultation with the occupants prior to construction works starting such that vibration effects will be no more than minor.

6.5 Flooding and stormwater effects

As discussed at Section 1.3, the CI consents require the development of a SMP for the Site, which the proposed stream enhancement works subject of this application seek to form a part of. Jacobs has undertaken post-development flood modelling to ensure that the proposed ecological enhancement project does not increase flood impacts to the surrounding area. The results of this modelling are provided in Appendix D – Hydraulic Modelling Memo.

Based on that assessment[10], peak water levels showed a decrease with the addition of the stream enhancements for the 10 year and 100 - year annual recurrence interval (ARI) and climate change (ARI + CC) scenarios as well as for some locations for the 2 - year scenario. The modelling also shows a decrease in peak flow and volume through the existing 1800 dia culvert in the north - eastern corner.

As such, any actual and potential flooding effects as a result of the proposed stream enhancement will be less than minor as they will be attenuated to pre-development flow levels and may even reduce flooding on the adjacent Marion Ave properties.

6.6 Land disturbance and sedimentation effects

Earthworks and in-stream works to stabilise the stream banks and construct an enhanced stream channel could result in potential discharges of sediment to the receiving environment. Sediment entering stream systems can negatively impact habitats and fauna through changes in water clarity and via sediment deposition (as discussed at Section 6.3.2.1 above). Therefore, the proposed stream works will need to be undertaken in such a way as to avoid and minimise sedimentation effects as far as practicable.

Erosion and sediment control measures will be put in place to manage any potential temporary water quality effects to the tributaries and ultimately Te Auaunga during construction. An erosion and sediment control plan (ESCP) is provided at Appendix G and has been prepared in accordance with Auckland Council Guidance Document GD05.The ESCP includes requirements to:

- Divert the stream to allow the stream works to be undertaken in dry conditions.
- Provide a stabilised access for machinery.
- Require progressive stabilisation and reinstatement of completed earth worked areas.
- Set out the staging of the earthworks to reduce the area of exposed soils at one time.

With the implementation of an appropriate ESCP, to be certified by Auckland Council, the actual and potential adverse effects of the proposed stream works are considered to be less than minor.

6.7 Archaeological effects

The actual and potential effects on archaeology from the proposed works relate to the potential destruction, modification or damage of archaeological sites arising from the construction works. As described in Section 2.6, there is a recorded archaeological site within the wider May Road site however this is recorded as being destroyed. The accidental discovery protocols will be implemented should any unrecorded archaeology be uncovered during the proposed works.

[10] Which also updated the model to include the latest ground levels on Site as well as the adjacent Goodman's site future development model.

6.8 Cultural effects

Watercare recognises the importance of land and water resources, including Te Auaunga Awa, to tangata whenua and acknowledge that an assessment of Māori cultural values can only be undertaken by mana whenua.

The project aims to enhance the ecological values of the tributaries to contribute to the wider ecological values of Te Auaunga Awa.

Watercare acknowledges the need to ensure that adverse environmental effects of its works are minimised. Measures to achieve this include implementation of the best practice approach to earthworks and sediment and erosion control, which is designed to minimise the generation of sediment and prevent the discharge of sediment laden water, thereby protecting water quality.

Engagement with mana whenua has occurred and is ongoing in order to understand the potential effects of the proposed works on Māori cultural values. This is discussed further in Section 5.1.

6.9 Summary of effects

The proposed work will result in positive permanent ecological effects. The activity required to achieve the ecological enhancement will result in some temporary construction phase effects such as noise, vibration, sedimentation and effects on terrestrial and freshwater ecology as outlined in the sections above. Mitigation and management measures are proposed to reduce the effects. It is considered that all adverse construction related effects associated with the project will be less than minor, with the exception of noise. Noise effects will be managed by employing the most practicable option for physical noise management and prior consultation and notice in accordance with the methods outlined in the CNVMP.

7 Statutory assessment

7.1 Consideration of applications

Section 104(1) of the RMA sets out the matters to which a consent authority must have regard to, subject to Part 2 of the RMA, when considering an application for resource consent. These are:

- Any actual and potential effects on the environment of allowing the activity (refer Section 6 above).
- Any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity.
- Any relevant provisions of:
  - a national environmental standard.
  - other regulations.
  - a national policy statement.
  - a New Zealand coastal policy statement.
  - a regional policy statement or proposed regional policy statement.
  - a plan or proposed plan.
- Any other matter the consent authority considers relevant and reasonably necessary to determine the application.

These matters are addressed below.

7.1.1 Part 2 of the RMA

Part 2 of the RMA sets out the purpose and principles of the Act. The purpose of the RMA is to promote the sustainable management of natural and physical resources.

An analysis of an application against Part 2 of the RMA has been fundamental to the overall assessment of applications for resource consents. Section 104(1) of the RMA requires that consideration of applications for resource consents be 'subject to Part 2'. Traditionally, this has been considered to require an 'overall broad judgement' approach in the form of a fulsome Part 2 analysis. However, this approach was called into question through decisions on R J Davidson Family Trust v Marlborough District Council (Davidson)[11].

The AUP is considered to contain provisions prepared having regard to Part 2 and a coherent set of policies to achieve clear environmental outcomes. Based on the direction established by the Court of Appeal, the focus of the assessment as set out above is on the relevant AUP provisions which implement and give effect to Part 2.

7.2 National policy statements

7.2.1 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (NPS-FM) provides guidance on how freshwater is to be managed in a manner that gives effect to Te Mana o te Wai. Relevant policies include:

[11] R J Davidson Family Trust v Marlborough District Council [2018] NZCA 316.

- Policy 1 which seeks to ensure that freshwater is managed in a way that gives effect to Te Mana o te Wai.
- Policy 2 which seeks that tangata whenua are actively involved in freshwater management.
- Policy 5: Freshwater is managed (including through a National Objectives Framework) to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.
- Policy 7: The loss of river extent and values is avoided to the extent practicable.
- Policy 9: The habitats of indigenous freshwater species are protected.

Overall, the proposed works are considered to be consistent with the relevant policies of the NPS-FM. The project design reflects Policy 7 and the project is supported by policies 5 and 9, as it protects and improves the health and well-being of the freshwater body, ecosystem and habitat.

7.2.2 National Policy Statement for Indigenous Biodiversity 2023

The National Policy Statement for Indigenous Biodiversity (NPS-IB) sets out an objective and policies to manage the protection, maintenance and restoration of indigenous biodiversity to give effect to the RMA 1991.

The objective of the NPS - IB is to maintain indigenous biodiversity so that there is at least no overall loss in indigenous biodiversity. In relation to this application, Policy 1 and Policy 13 are also of relevance. Policy 1 requires that indigenous biodiversity is managed in a way that gives effect to the decision-making principles of the Treaty of Waitangi and Policy 13 requires that restoration of indigenous biodiversity is promoted and provided for.

As set out in Section 5.1, the project has been presented to Mana Whenua through the Kaitiaki project list in June 2024. Given that the purpose of the project is to ecologically enhance the stream reaches subject of this application such that overall positive ecological effects are expected, this project is therefore in keeping with the objective and policies of the NPS-IB.

7.3 Auckland Unitary Plan

The AUP became operative in part on 15 November 2016. The AUP contains the Regional Policy Statement (RPS), Regional Coastal Plan (RCP) and Regional Plan (RP) and District Plan (DP) objectives and policies. An assessment of the proposed works in relation to the key policy direction of the AUP is set out below.

7.3.1.1 Stream works

The key objectives and policies of the AUP associated with stream works are set out, and assessed, in Table 7.1 below.

Table 7.1: Key objectives and policies related to stream works in the AUP

AUP objective/ policy	Comment
B7.3.1 (1) Degraded freshwater systems are enhanced.	These RPS and RP provisions are supportive of the project as they encourage enhancement of the immediate freshwater systems being the stream reaches subject of this application, which form part of the wider Oakley Creek catchment.
B7.3.2 (3) Promote the enhancement of freshwater systems identified as being degraded to progressively reduce adverse effects.	

AUP objective/ policy	Comment
B7.3.2 (6) Restore and enhance freshwater systems where practicable when development, change of land use, and subdivision occur.	
Objective E3.2 (2) Auckland's lakes, rivers, streams and wetlands are restored, maintained or enhanced.	
B7.3.2 (5) (5) Manage subdivision, use, development, including discharges and activities in the beds of lakes, rivers, streams, and in wetlands, to do all of the following: (a) protect identified Natural Lake Management Areas, Natural Stream Management Areas, and Wetland Management Areas. (b) minimise erosion and modification of beds and banks of lakes, rivers, streams and wetlands. (c) limit the establishment of structures within the beds of lakes, rivers and streams and in wetlands to those that have a functional need or operational requirement to be located there; and (d) maintain or where appropriate enhance: (i) freshwater systems not protected under Policy B7.3.2(5)(a). (ii) navigation along rivers and public access to and along lakes, rivers and streams. (iii) existing riparian vegetation located on the margins of lakes, rivers, streams and wetlands; and (iv) areas of significant indigenous biodiversity.	The project is not within identified Natural Lake Management Areas, Natural Stream Management Areas, and Wetland Management Areas. The project does propose modification of the stream bed and banks but for the purposes of ecological enhancement. Erosion will be minimised during construction through the implementation of an ESCP. Much of the stream bank is basalt rock which is stable and where it is not, the two-stage channel will provide stability. The project seeks to enhance the freshwater system, and riparian margins.
Objective E3.2 (5) Activities in, on, under or over the bed of a lake, river, stream and wetland are managed to minimise adverse effects on the lake, river, stream or wetland.	There is intended to be a net gain in freshwater ecological values. There will be temporary, construction phase effects as discussed at Section 6 of this AEE but these will be appropriately avoided and mitigated.
Policy E3.3 (2) Manage the effects of activities in, on, under or over the beds of lakes, rivers, streams or wetlands outside the overlays identified in Policy E3.3(1) by: (a) avoiding where practicable or otherwise remedying or mitigating any adverse effects on lakes, rivers, streams or wetlands; and (b) where appropriate, restoring and enhancing the lake, river, stream or wetland.	
Policy E3.3 (3) Enable the enhancement, maintenance and restoration of lakes, rivers, streams or wetlands	This policy is supportive of the project.
Policy E3.3 (4) Restoration and enhancement actions, which may form part of an offsetting proposal, for a specific activity should: (a) be located as close as possible to the subject site. (b) be 'like-for-like' in terms of the type of freshwater system affected.	While the project is a 'restoration and enhancement action', it does not form part of an offsetting proposal and therefore this policy is not directly relevant. However, it provides useful guidance on restoration and enhancement activities. In particular:

AUP objective/ policy	Comment
(c) preferably achieve no net loss or a net gain in the natural values including ecological function of lakes, rivers, streams or wetlands; and (d) consider the use of biodiversity offsetting as outlined in Appendix 8 Biodiversity offsetting.	- the project is located on the Cl May Road subject site and the stream enhancement will occur in the same location as the existing stream. - compared to the existing environment there will be a net gain in natural values including ecological function of the stream (noting this is the purpose of the project).
Disturbance and depositing of any substance Policy E3.3 (9) Provide for the excavation, drilling, tunnelling, thrusting or boring or other disturbance, and the depositing of any substance in, on or under the bed of a lake, river, stream or wetland, where it complies with all of the following: (a) there is no practicable alternative method or location for undertaking the activity outside the lake, river, stream or wetland. (b) the activity is required for any of the following: (i) as part of an activity designed to restore or enhance the natural values of any lake, river, stream or wetland, or any adjacent area of indigenous vegetation or habitat of indigenous fauna. (c) the disturbance avoids significant adverse effects and avoids, remedies or mitigates other adverse effects on Mana Whenua values associated with freshwater resources, including wāhi tapu, wāhi taonga and mahinga kai.	The project necessitates excavation within the stream itself to realise the benefits sought from the project. The project is designed to enhance the natural values of the existing stream including the adjacent riparian margin. The project will avoid significant adverse effects, and in fact will result in overall positive effects as discussed in Section 6. Actual and potential adverse effects associated with the construction phase of the works will be appropriately mitigated, including avoiding injury or mortality to shortfin eel which is recognised as mahinga kai. Given this, and the overall purpose of the project, it is considered that adverse effects on mana whenua values are appropriately avoided, remedied and mitigated.
Planting of plants Policy E3.3 (10) Enable the planting of any plant, excluding pest species, in, on, or under the bed of a lake, river, stream or wetland where it is suitable for habitat establishment, restoration or enhancement, the maintenance and enhancement of amenity values, flood or erosion protection or stormwater runoff control provided it does not create or exacerbate flooding. Policy E3.3 (11) Encourage the planting of plants that are native to the area. Policy E3.3 (12) Encourage the incorporation of Mana Whenua mātauranga, values and tikanga in any planting in, on, or under the bed of a lake, river, stream or wetland.	Planting will form a component of the overall restoration project and in accordance with this policy direction, will comprise native plants to enhance habitat and amenity values and will not exacerbate flooding.

7.3.1.2 Noise and vibration

In relation to noise and vibration, the provisions of the AUP seek to:

- Protect people, and the amenity values of residential zones, from unreasonable levels of noise and vibration, particularly at night (Objective E25.2 (1) and Objective E25.2 (2).

- Enable construction noise and vibration that cannot meet noise and vibration standards by controlling duration, frequency and timing to manage adverse effects (Objective E25.2 (4); and
- Avoid, remedy and mitigate the adverse effects of noise and vibration from construction, particularly at its source or on the site from which it is generated (Policy E25.2 (10) and Policy E25.2 (2).

Specific activities including rock breaking, and excavation have been identified as having the potential to exceed the permitted activity thresholds. The duration of these noisier activities will be short, and the timing of particularly noisy and vibration-inducing activities will be undertaken during standard construction hours to reduce amenity effects. Measures will be implemented in accordance with the CNVMP, which is considered to be the best practicable option for managing construction noise and vibration.

The proposed works are consistent with these objectives and policies.

7.3.1.3 Riparian vegetation removal

The provisions of the AUP that relate to riparian vegetation removal are contained in Chapter E15. Objective E15.2 (1) seeks that indigenous biodiversity is restored and enhanced in areas where ecological values are degraded or where development is occurring. Policy E15.3(5) seeks to enable activities which enhance the ecological integrity and functioning of areas of vegetation.

While the Project will result in removal of riparian vegetation, which may include some native species if it is not practicable to retain these, the proposed planting will see the replanting of these areas in native species which will enhance the ecological integrity of the riparian area which is supported by the policy direction of the AUP.

7.3.1.4 Land disturbance, water management and flood hazard

The provisions of the AUP related to land disturbance and water management seek to ensure that infrastructure is provided for while ensuring that land and water is managed in an integrated manner. The following comments are made in relation to land disturbance and water management for the proposed works:

- The proposed works will provide important water quality benefits through the enhancement of the stream environment.
- The area of earth exposed as part of the proposed works is small and will be contained within the identified area.
- The proposed works will be undertaken following best practice management measures. Erosion and Sediment Control measures (in accordance with the Auckland Council Guidance Document (GD05)) will be implemented for the duration of the proposed works to avoid, remedy and mitigate adverse effects of people and the environment as far as practicable (Policy B7.4.2 (8), Objective E12.2 (1), Policy E12.3 (1) and Policy E1.3 (26).
- Appropriate protocols will be in place for the accidental discovery of archaeology or mana whenua cultural heritage noting that disturbance is small-scale and not in in proximity to known sites of value.

7.4 Other matters

7.4.1 Iwi management plans

The Auckland Council website identifies the following hapu/ iwi as potentially having an interest in the area:

- Ngāi Tai ki Tāmaki.
- Ngāti Maru.
- Ngāti Pāoa Iwi Trust and Ngāti Pāoa Trust Board.
- Ngāti Tamaoho.
- Ngāti Tamaterā.
- Ngāti Te Ata.
- Ngāti Whātua o Kaipara.
- Ngāti Whātua Ōrākei.
- Te Ahiwaru – Waiohua.
- Te Ākitai Waiohua.
- Te Kawerau ā Maki.
- Te Rūnanga o Ngāti Whātua.
- Waikato – Tainui.

No publicly available IMPs were able to be sourced for the iwi listed above except Ngāti Whātua Ōrākei and Waikato – Tainui.

7.4.1.1 Te Pou o Kahu Pokere - Iwi Management Plan for Ngāti Whātua Ōrākei 2018

The proposed works fall within the rohe of Ngāti Whātua Ōrākei and they play an active role in the development of the city. The Ngāti Whātua Ōrākei Iwi Management Plan (IMP) is a statement of Ngāti Whātua Ōrākei interests and values as they apply in resource management matters. Ngāti Whātua Ōrākei identify restoration of waterways to a natural condition, including channel naturalisation and increased riparian planting as a desired outcome (24). Sustainable urban design is encouraged to restore urban water quality through ecological treatments and restoring the function of waterways. The proposed stream enhancement is consistent with this desired outcome.

7.4.1.2 Waikato-Tainui's Environmental Management Plan (Tai Tumu Tai Pari Tai Ao)

Although not in the Waikato, the proposed works are within the rohe of Waikato-Tainui. The Environmental Plan is developed out of Whakatupuranga 2050 (Waikato - Tainui strategic plan), which is a long-term development approach to building the capacity of Waikato-Tainui marae, hapu, and iwi. The goal of Waikato-Tainui is to ensure that the needs of present and future generations are provided for in a manner that goes beyond sustainability towards an approach that enhances the environment.

The Plan sets out the specific environmental matters of interest to Waikato - Tainui (Section D) including freshwater, land, air, coastal environment, infrastructure and recreation and tourism. Engagement with Waikato-Tainui has occurred through Watercare's Kaitiaki List and is described at Section 5.1.

7.4.2 Te Auaunga Awa long term strategy

The restoration of waterways to provide "*greater health and sustainability*" in Te Auaunga Awa is a key driver and desire for the Puketāpapa Local Board in partnership with mana whenua and kaitiaki (Auckland Council, 2016). Therefore, any restoration projects should align with the strategy and vision outlined within Te Auaunga Awa Long Term Strategy and Implementation plan (LTS; Auckland Council, 2016). Te Auaunga Awa LTS is a document that's intention is to bring together the outcomes and objectives from local and central government plans. These include the AUP – particularly Chapter E3 Lakes, rivers and wetlands and the National Policy Statement for Freshwater Management (NPS - FM, 2020[12]).

The proposed stream enhancement designs will additionally look to implement the objectives and outcomes in Te Auaunga Awa LTS, this includes:

- Incorporating a wider second stage channel to accommodate stormflows reducing velocities over this area. The planting of this second stage with native sedges and rushes will not compromise flood capacity. Due to the reduction in velocities over the second stage channel, sediments within stormflows are more likely to drop out of suspension over this area rather than within the low flow channel. This will aid having a "*waterway that runs clear in the rain*" (Objective One: Sediment; Te Auaunga Awa LTS (Auckland Council, 2016).
- The natural channel design utilised in the stream enhancement should provide for natural processes to enable the potential creation of in-stream habitat features. This will aid in creating "*A waterway in which native aquatic life can flourish*" (Objective two: Contaminants [in part]; Te Auaunga Awa LTS (Auckland Council, 2016).
- Riparian plantings that are incorporated into the stream enhancement will look to provide "*a corridor of shady green forest and supporting native plants and animals*" (Objective Three: Loss of Nature [in part]; Te Auaunga Awa LTS (Auckland Council, 2016).

[12] Amended January 2024

8 Notification assessment

8.1 Public notification

Section 95A of the RMA is relevant when a consent authority is considering whether a consent application should be considered with or without public notification.

Section 95A identifies a four step process. In relation to these steps we note the following:

- The applicant does not request public notification of the application.
- There is no rule or national environmental standard that precludes or requires public notification of this application.
- An assessment of effects on the environment is provided in Section 6 of this AEE report. This assessment concludes that the adverse effects on the environment are likely to be no more than minor with overall positive effects on the environment.
- The application is not for any of the activities identified in section 95A(5)(b) (i.e. a controlled activity or a boundary activity).
- No special circumstances are considered to exist in relation to the application.

Based on this assessment, we consider that this proposal meets the tests of the RMA to be processed without public notification.

8.2 Limited notification

For applications that are not publicly notified, under section 95B the consent authority must determine whether to give limited notification of an application to any affected parties. Section 95B identifies a four step process. In relation to these steps we note the following:

- The application does not need to be notified to any parties under section 95B(4). The proposed change will not affect any customary rights.
- The proposed activity is not on or adjacent to, or does not affect, land that is the subject of a statutory acknowledgement.
- There are no applicable rules or national environmental standards precluding limited notification.
- No special circumstances are considered to exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification.

Section 95E(1) states that a consent authority must consider a person to be an affected person if the activity's adverse effects on the person are minor or more than minor (but not less than minor). Having regard to these requirements, the following persons are considered to be potentially affected by noise and vibration from the construction works:

- 10 residential receivers on Marion Ave being 55A; 55; 53A; 53; 2/51; 51; 2/49; 45B; 43; 41A) and
- the commercial receivers at 60 and 61 Roma Road.

9 Conclusion

This Assessment of Effects on the Environment (AEE) report has been prepared to support a resource consent application to authorise proposed reshaping and recontouring of the stream channel and associated works including placement of materials to improve ecological values of the streams (the Proposal) located at the May Road CI construction site on behalf of Watercare. The proposed works require resource consent from Auckland Council as a discretionary activity.

Designation 9466 requires that the CI Site is reinstated and remediated once the Central Interceptor is commissioned. The May Road Stream Enhancement Project is an environmental initiative over and above what is required by the designation conditions for site reinstatement. It is the outcome of an iterative process to ensure that ecological principles, as well as hydrological and engineering requirements are provided for to create the best remediation and enhancement outcome for the Site. In undertaking this Project, Watercare is demonstrating its commitment to protecting the environment and operating in an environmentally responsible way.

This AEE report draws the following conclusions:

- The proposal will result in temporary adverse effects for the duration of the construction phase works however, will result in overall positive effects on terrestrial and freshwater ecology. Actual and potential effects will be avoided, remedied and mitigated as far as practicable with the measures outlined in Section 6.
- The proposal is assessed as being broadly consistent with the relevant objectives and policies of the AUP and finds support from the objectives and policies that relate to ecological and stream improvement/enhancement.
- Overall, it is considered that the proposal is in accordance with Part 2 of the RMA and the National Policy Statement for Freshwater.

10 Applicability

This report has been prepared for the exclusive use of our client Watercare Services Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report as part of an application for resource consent and that Auckland Council as the consenting authority will use this report for the purpose of assessing that application.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
	
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Mikayla Woods	Karen Baverstock
Senior Planner	Technical Director - Planning

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Appendix A Drawings

Appendix B Ecological Impact Assessment

Appendix C Noise and Vibration Assessment

Appendix D Hydraulic Modelling Memo

Appendix E Record of Title

Appendix F Matters of Discretion

Rule reference/ description	Relevant MoD - The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary resource consent application:	Where addressed
E3.4.1 (A5) Depositing any substance for the purposes of habitat enhancement or scientific research	(a) the effects on ecological, hydrological, recreational, cultural and natural character values (existing and potential) of the lake, river or stream or wetland, and its catchment.	Section 6
	(b) the effects on any of the values in the following overlays.	N/A
	(c) the effects on downstream lake, river or stream or wetland environments arising directly from the activity, and any effects arising from any permanent modification in stream state or function caused by the activity.	Section 6
	(d) the offsetting of significant residual adverse effects that cannot be avoided, remedied or mitigated.	N/A
	(e) the construction methodology, including the timing and duration of the activity and erosion and sediment controls.	Section 3 and Section 6
	(f) the ability of aquatic fauna to utilise habitats (including refugia) and move upstream and downstream, including the relevance and provision of fish passage.	Section 3 and Section 6
	(g) upstream or downstream flooding effects.	Section 6
	(h) the effects on any scheduled sites in the Historic Heritage Schedule.	N/A
	(i) the effects on Mana Whenua values, and	Section 6
	(j) alternative methods that avoid, remedy or mitigate adverse effects of any proposal.	N/A
E12.4.1 (A5) Greater than 1000 m^2 up to 2500 m^2 E12.4.1 (A7-9) Up to 2500 m^3	(a) compliance with the standards.	Section 4.1
	(b) effects of noise, vibration, odour, dust, lighting and traffic on the surrounding environment.	Section 6
	(c) effects on the stability and safety of surrounding land, buildings and structures.	Civil drawings
	(d) effects on overland flow paths and flooding.	Section 6
	(e) protocol for the accidental discovery of kōiwi, archaeology and artefacts of Māori origin.	Section 6
	(f) the treatment of stockpiled materials on the site including requirements to remove material if it is not to be reused on the site.	Section 3
	(g) staging of works and progressive stabilisation.	Section 3
	(h) information and monitoring requirements.	Section 6
	(i) timing and duration of works.	Section 3
	(j) term of consent.	Section 1.6
	(k) potential effects on significant ecological and indigenous biodiversity values.	Section 6

Rule reference/ description	Relevant MoD - The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary resource consent application:	Where addressed
	(l) risk that may occur as a result of natural hazards.	Section 6
	(m) protection of or provision of network utilities and road networks.	N/A
	(n) potential effects on the natural character and values of the coastal environment, lakes, rivers and their margins, where works encroach into riparian or coastal yards; and	Section 6
	(o) positive effects enabled through the land disturbance.	Section 6
E15.4.1 (A19) Vegetation alteration or removal within 10m of urban streams	(a) ecological values:	
	(i) the effects that the vegetation alteration or removal will have on ecological values, including on threatened species and ecosystems; and	Section 6
	(ii) the extent to which it is appropriate to require measures to contain and control plant pathogens and diseases including Kauri die back.	N/A
	(b) hazard mitigation:	
	(i) the role of the vegetation in avoiding or mitigating natural hazards and the extent to which the vegetation alteration or removal will increase any hazard risk; and	Section 6
	(ii) the effects the vegetation alteration or removal will have on mitigating bush fire risk.	N/A
	(c) sediment, water quality and hydrology:	
	(i) the effects the vegetation alteration or removal will have on soil conservation, water quality and the hydrological function of the catchment.	Section 6
	(d) landscape, natural features and natural character values:	
	(i) the effects the vegetation alteration or removal will have on landscape, natural features and natural character.	N/A
	(e) amenity values:	
	(i) the effects the vegetation alteration or removal will have on the amenity values of any adjacent open space including the coast, parks, reserves and walkways.	N/A
	(f) use:	
	(i) the extent to which the vegetation alteration or removal is necessary to enable reasonable use of a site for a building platform and associated access, services and living areas, and existing activities on the site.	Section 3
	(ii) the extent to which the vegetation alteration or removal is necessary taking into account the need for, or purpose of, the proposed building or structure.	N/A
	(iii) the extent to which the vegetation alteration or removal is necessary to enable reasonable use of the site for farming purposes; and	N/A
	(iv) the extent to which the vegetation alteration or removal is necessary to provide for the functional and operational needs of infrastructure, including the road network.	N/A
	(g) methods and location:	

Rule reference/ description	Relevant MoD - The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary resource consent application:	Where addressed
	(i) the minimisation of effects from alteration or removal of vegetation and land disturbance through alternative locations on the site and/or methods of undertaking the works. (h) mitigation measures: (i) the remedy or mitigation of adverse effects, including through revegetation, restoration of other areas of vegetation and ongoing maintenance. (i) bonds and covenants: (i) the benefit of imposing bonds, covenants or similar instruments as conditions of consent in implementing any of the matters of discretion. (j) Mana Whenua values: (i) the effects on Mana Whenua values associated with a Significant Ecological Areas Overlay, Outstanding Natural Features Overlay, Outstanding Natural Character Overlay, High Natural Character Overlay or the Outstanding Natural Landscapes Overlay.	Section 3 and Section 6 Section 6 N/A N/A
E25.4.1 (A2) Activities that do not comply with a permitted activity standard	(a) the effects on adjacent land uses particularly activities sensitive to noise; and (b) measures to avoid, remedy or mitigate the adverse effects of noise.	Section 6 Section 6

Appendix G Erosion and Sediment Control Plan (ESCP)

Appendix H Construction Noise and Vibration Management Plan (CNVMP)

Appendix I Lizard Management Plan

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