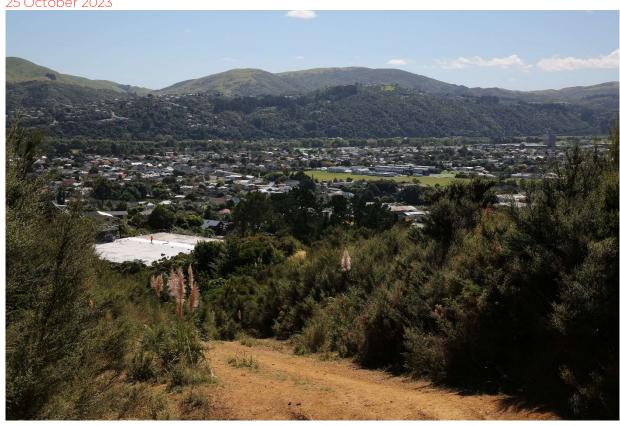


Project Number: 3-WW021.02

Eastern Hills Reservoir

Recreation Assessment

25 October 2023





EASTERN HILLS RESERVOIR RECREATION ASSESSMENT

Wellington Water

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REV	DATE	DETAILS
1	14/9/23	For external legal review
2	25/10/23	Issued to Wellington Water

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Executive Summary

This report assesses the recreation effects of a proposal by Wellington Water Limited (WWL) to construct new water infrastructure in the Eastern Hills Reserve, Naenae, Wellington. The report has been produced to inform the assessment of environmental effects (AEE) as part of the Notice of Requirement.

For WWL to provide reliable services to customers and accommodate future population growth, a new potable water reservoir (Eastern Hills reservoir) has been proposed adjacent to the existing Naenae reservoir at the top of Summit Road, Naenae, Wellington.

The Project involves establishing new infrastructure partly within the Eastern Hills Reserve which is zoned Passive Recreation and General Residential in the Hutt City District Plan. The reserve features tracks that are popular with mountain bikers, walkers/hikers, and trail runners, and provides recreation access for adjacent residents and those seeking a wider recreation experience in and around the Naenae parks network.

The Project will temporarily disrupt recreation access to two locations. The firebreak track on Summit Road will be closed to access for the duration of works (2.5 years) and the grassed open space at the end of Balgownie Grove cul-de-sac will also experience disruption to recreation use and values for an estimated construction period of 7-9months.

During construction, adverse effects on recreation values will be experienced by those who live close to the Project site and currently experience quiet enjoyment associated with the reserve setting, and those who will not be able to use the track while it is closed.

For those who are not able to use the track while it is closed, there are a wide range of alternative tracks within the Eastern Hills Network that will still be available to use and enjoy, the closest being Waddington Winder located some 5min cycle ride from the Summit Road Firebreak Track entrance.

Clear communication prior to and during construction will be important to keep the public informed of the project status and to provide information on ways to continue to enjoy recreation experiences within the Eastern Hills recreation network.

Construction effects on recreation use are assessed as **minor adverse** due to the temporary prevention of access to the reserve along the Summit Road Track and Balgownie Grove cul-desac interface with Waiwhetū Stream, and noise effects resulting from construction activities on the quiet enjoyment of the reserve setting.

Construction effects on recreation values are assessed as **minor adverse** due to the noise effects on quite enjoyment of the reserve. Construction hours will be restricted from 0700 – 1800 Monday to Saturday excluding Sundays and public holidays.

During operations and following mitigation, opportunities for people to access the reserve for recreation use will be reinstated and facilities that support recreation use and enjoyment will be improved. Improvements include reinstatement of sections of track with improved surfaces, signage, seating and rest areas. It is therefore concluded that over the longer term, effects on recreation use and values are assessed as **positive**.

Overall, this assessment concludes that minor adverse effects on recreation use and values will result during the construction phase due to restrictions on access to the Firebreak Track and Waiwhetū streamside at Balgownie Grove cul-de-sac, as well as noise effects. Following mitigation and during operations, recreation use and values are assessed as **positive** because of improved amenity of the recreation areas associated with the Project areas.



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1 Introduction

1.1 The Project

Wellington Water Limited (WWL) is planning to build a new 15 ML reservoir and associated pipelines (the Project) alongside the existing Naenae reservoir, to feed the Lower Hutt Central and Taita WSAs (Water Supply Areas). The reservoir will be an above ground concrete reservoir with a 55.2 m external diameter and an above-ground height of 8.35 m.

An additional reservoir is required to meet WWL's target levels of service and cater for projected growth. Current reservoir storage within the Lower Hutt Central and Taita WSA does not meet target levels of service which leaves this area vulnerable to bulk water supply interruptions. Future development and population growth will place additional demand on the network if additional storage capacity is not provided.

1.2 Recreation Assessment Overview

The Project is located within a recreation reserve that is zoned a combination of Passive Recreation and General Residential in the Hutt City District Plan (Refer Figure 1-1). The reserve features tracks that are popular with mountain bikers, walkers/hikers, and trail runners, and provides recreation access for adjacent residents and those seeking a wider recreation experience in and around the Naenae parks network.

This recreation assessment has been prepared to assess the effects of the project during construction and operations on recreation values, provide mitigation proposals and recommendations to address any adverse recreation effects. The assessment will inform the assessment of environmental effects (AEE) as part of the Notice of Requirement.

This report includes a discussion on:

- A description of the Project.
- The methodology for assessing recreation effects.
- The existing recreation context
- Recreation legislation and strategy frameworks
- An assessment of recreation effects.
- Mitigation measures and recommendations.

This recreation assessment is to be read in association with the AEE that supports the Notice of Requirement. The AEE provides greater detail on the background and specifics of the Project¹.

¹ AEE Part A, Section 2 and Part B, Section 3



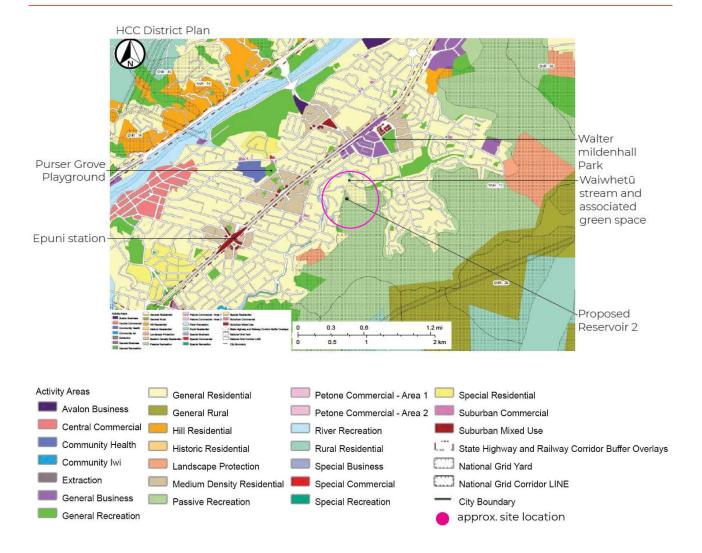


Figure 1-1: Eastern Hills Reservoir reserve context, Hutt City District Plan zoning map extract.

1.3 Methodology

This report has been authored by Catherine Hamilton, an accredited recreation professional and member of Recreation Aotearoa, in accordance with industry best practice.

The focus of the assessment is twofold:

- (i) Recreation use: which is what people do when recreating, and is enabled by such factors as access, facilities like tracks and other supporting infrastructure.
- ii) Recreation values: these are the things that make recreation activities attractive both within the reserve and the wider connected context. Recreation values relate to people's enjoyment of the setting, its landscape quality, challenge, excitement, social interactions, and perceived and real sense of safety.

To establish the baseline, the author undertook a desktop review which considered:

• Existing recreation use and values.



- The landscape setting.
- The status of the land including the purpose for which it is held.

An intercept survey was also undertaken, which canvassed the opinions of recreation users and neighbours on the impacts of the proposed infrastructure on their quality of life, including recreation use. This survey was undertaken by a planner on behalf of the report author and included two in-person surveys.

An evaluation of the potential of the Project to create adverse effects on existing recreation use and values both during construction and operations was then undertaken. The report also considers the potential of the Project to create beneficial outcomes for recreation use and values following completion of construction.

Lastly, recommendations are provided to ensure that existing recreation activities and values are maintained or replaced, so that existing reserve users, as well as future recreation users can continue to enjoy the reserve and its connections to the surrounding parks network.

1.4 Background Information

Twenty-eight initial sites were identified as potential locations for the reservoir within the lower portion of Hutt Valley. These sites took into consideration the existing water network, topography, and hydraulic requirements to establish a target contour zone for the reservoir site. Many sites were discounted upon further examination, and a 'long list' of fourteen sites was confirmed. Following this, three site options were shortlisted and Naenae No.2 (now known as Eastern Hills) was identified as the preferred site.

Through the MCA process, the Naenae site scored most favourable in most criteria groupings and was the lowest cost option by a significant margin. The site scored poorly in the social criteria group, reflecting the potential impacts of heavy construction vehicle movements and pipeline construction works on the residential community adjacent to the site.

Taranaki Whānui provided feedback confirming that the Naenae site presents the lowest risk of significant impacts on mana whenua values out of the three shortlisted options.

A detailed assessment of the alternatives considered is provided within the AEE.²

² AEE, Part F, Section 8



2 Project Description

The proposed works include four primary elements (Refer Figure 2-1):

- 15ML reservoir
- Inlet pipe
- Delivery pipe
- Overflow/scour pipe.

The reservoir will be constructed at the same bottom water level (BWL) and top water level (TWL) elevation as the existing reservoir and will require earthworks volumes of approximately 85,000 m³ (in-ground volume), with erosion and sediment control measures required during construction.

A new inlet pipe supplying water to the reservoir will be constructed in a trench from a connection with the existing Naenae reservoir inlet pipe. This new connection is located at the intersection of Summit Road and Farrelly Grove with the proposed alignment then running along the current vehicle access to the reservoir. The existing and proposed new reservoirs will be supplied via the same existing bulk main from the Waterloo water treatment plant.

A new 750 diameter delivery pipe supplying water to the potable water network will run from the reservoir down the hill to the north and across Waiwhetū Stream and into the potable water network along local roads. The new Waiwhetū Stream pipe crossing will be bridged. A 525 diameter pipe will connect the existing Naenae No. 1 outlet to this new delivery pipe as shown in Figure 2-1.

An overflow/scour pipe from the reservoir will be constructed adjacent to the delivery pipe down the hill, before discharging into the Waiwhetū Stream near Balgownie Grove. The purpose of the pipe is for emergency discharges or when the reservoir needs to be drained for maintenance or inspections. The pipe will discharge via scour protection, such as rip-rap or baffles, directly to Waiwhetū Stream. In addition, the existing reservoir overflow pipe will be constructed to tie-in to the proposed reservoir overflow pipe.

Construction access to the site will be obtained from the Summit Road Firebreak Track, which has a lockable barrier to prevent unauthorised vehicle access. Site access needs to be suitable for construction equipment, delivery of materials and for ongoing operation and maintenance purposes.

Construction works will be for a period of approx. 2.5 years. Recreation use and values will be disrupted for the duration of construction. Recreation use and values will be reinstated upon completion of construction of the reservoir and associated infrastructure including access paths.



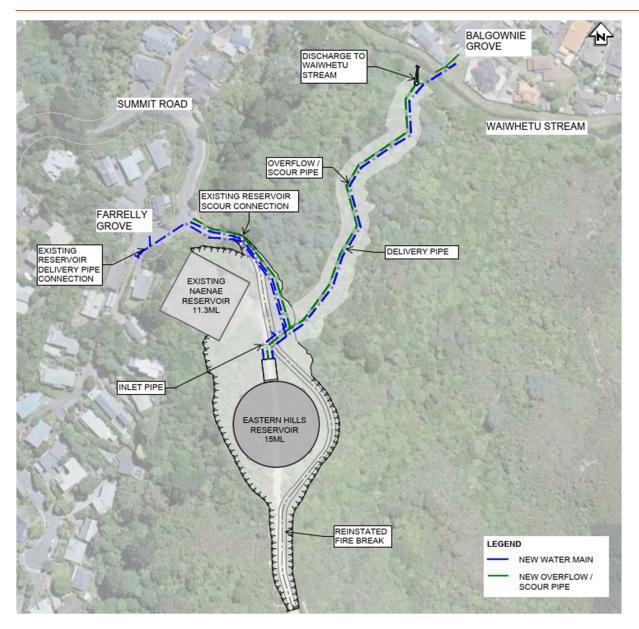


Figure 2-1: Eastern Hills Reservoir and associated pipelines³,

2.1 Recreation elements of the Project

There is an existing firebreak and access track named the 'Summit Road Firebreak Track' that passes through the proposed reservoir site. The track is currently used for recreation purposes by the public, and is commonly used for mountain biking, hiking/walking and trail running. This track will need to be closed throughout the duration of the construction work, which is estimated to be for a period of 2.5 years, due to the constrained site and to maintain public safety (refer Figure 2-2, Image 1).

As part of the proposed works, the Summit Road Firebreak Track will be reinstated to the eastern side of the reservoir once the reservoir is built.

³ Please refer to the detailed design drawings included within the AEE.



The proposed overflow scour pipeline will discharge to the Waiwhetū Stream to the northeast of the proposed reservoir site. Construction of the pipeline infrastructure will temporarily disrupt recreation use of the grassed open space where the stream intersects with Balgownie Grove culde-sac head for an estimated period of 7-9months. (refer Figure 2-2, Images 2-4). The open space provides physical access to the stream edge, visual connections to the bush setting and connections to the wider open space network via a grassed track between the stream and the rear of residential properties.





ra Figure 2-2: Image 1 - 4, Existing site photos

Existing Waiwhetū Stream at end of Balgownie

Image 4: Existing Balgownie Grove cul-de-sac looking towards Waiwhetü Stream

The reservoir will rise to 8.05 m above adjacent ground level along which the Summit Road Track passes. Following construction of the reservoir and associated infrastructure, the firebreak and access track is proposed to be reinstated as a 5 m wide path, which maintains the current width at a minimum. Once reinstated, the track will come within 3m to 3.5m of the reservoir, meaning that recreation users will pass by in proximity to the infrastructure. (Refer *Figure 2-3*).



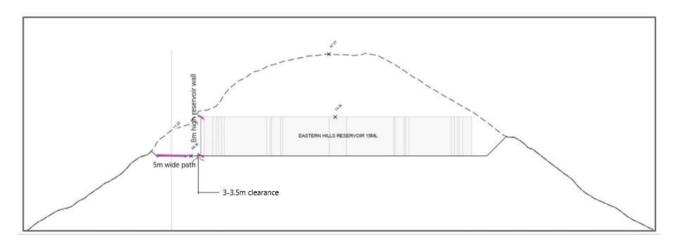


Figure 2-3: Location of reinstated track in relation to reservoir and hill slope.



3 Statutory and Strategic Framework

The following statutory and planning provisions are relevant to the recreation use of the Eastern Hills within which the Project site is located.

3.1 Resource Management Act 1991 (RMA)

Section 7 of the RMA sets out other matters to which regard should be had to in relation to managing the use, development and protection of natural and physical resources. Matters relevant to this recreation assessment are:

S7(c) The maintenance and enhancement of amenity values.

S2(1) Interpretation states that:

"Amenity Values means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes"

3.2 Natural Resources Plan, Greater Wellington Regional Council

The Natural Resources Plan for Wellington region (NRP) identifies recreation values for Māori customary use including contact recreation in relation to water bodies as defined under S6 RMA. Objectives and policies recognise that the recreational values of the coastal marine area, rivers and lakes and their margins and natural wetlands are to be maintained and where appropriate for recreational purposes, enhanced. Within the Project, works will occur in close proximity to a natural wetland, although it is acknowledged that the natural wetland is not used for recreational purposes.

3.3 Hutt City District Plan

The reservoir site is zoned Passive Recreation in the Hutt City District Plan (HCDP) while associated pipelines that extend to the northeast and connect to Balgownie Grove are located within the General Residential Zone. (Figure 1-1).

Chapter 7 of the HCDP sets out that the purpose of the Passive Recreation Zoning is:

"To conserve and protect the Eastern Hills, Stokes Valley and Wainuiomata Hills which have high conservation and amenity values" and "to allow recreation and leisure activities which are consistent with the natural and undeveloped character of the area".

In the Passive Recreation Zone only low impact recreation and leisure activities are permitted (ie. can be undertaken without needing resource consent), for example, informal recreation and scenic walks.

The Eastern Hills Bush within which the Project site is located is a Significant Natural Resource site (SNR12) under the HCDP (Refer *Figure 3-1*). SNR12 is identified as:

"Lowland forest on hill country. Contains a fire-induced regionally representative regenerating vegetation mosaic, including areas of pe-European Podocarps and Hard Beech. Nearly two-thirds of the forest is 90-110 years old... Large species diversity due to different topography. Many bird species including NZ pigeon"





Figure 3-1: Significant Natural Resource (SNR2) extent

3.4 Hutt City Council Accessibility and Inclusiveness Plan 2017-2027

Included in Hutt City's suite of policies, plans and strategies is the Accessibility and Inclusiveness Plan 2017-2027 (Hutt City Council, 2017) which has the vision of "Hutt City is a liveable, accessible and inclusive city where everyone has the opportunity to participate fully in our community". Goal three of the HCC accessibility and inclusiveness plan states that "All people are able to move about the city easily and safely without being limited by the physical environment".

The reservoir site sits within the city boundary, any tracks/footpaths should aim to be accessible where practicable.

3.5 Hutt City Council Leisure and Wellbeing Strategy 2012 - 2032

The Hutt City Council Leisure and Wellbeing Strategy 2012 -2023 (Council, Hutt City, 2012) is a Council Strategy that sets out Council's long-term approach to achieving an improvement in the wellbeing of Hutt City's people and the city. Parks and gardens form a key part of the Strategy outlining the benefits of a bush reserves and open spaces and their recreational opportunities.

"open space is a key factor in establishing the 'green' character of the city and is central to its vision of being 'a great place to live, work and play'."⁴

⁴ Hutt City Council Leisure and Wellbeing Strategy 2012 – 2032, 2014, Page 24



The strategy is informed by the Sport New Zealand data⁵ which indicated that sport and recreation activities are highly valued by people in the Wellington region with 90% of young people (5-17 years) taking part in at least one sport or recreation activity over a year, 84% of adults do the same.

3.6 Hutt City Council Reserves Strategic Directions 2016-2026

The Hutt City Council Reserves Strategic Directions 2016-2026 (Hutt City Council, 2016) is a Council adopted strategy that identifies the following vision for its reserves:

"A reserve network that is valued for protecting the natural environment and public open space, the benefits it brings to the city and its role in contributing to the health and wellbeing of the people and the natural environment of our city." 6

The document also states that reserves offer a diverse range of recreation activities. In general:

"the most popular recreational activities are walking, swimming, cycling and jogging/running. Participation in cycling, jogging/running, fishing, canoeing/kayaking is increasing. Traditional sports club membership is down slightly, and people are interested in trying a diverse range of different activities."

This highlights the importance of reserves which offer paths and tracks which can be used for running and walking.

3.7 Walk and Cycle The Hutt 2014-2019

Hutt City Council's Walk and Cycle the Hutt strategy 2014 - 12019 (Hutt City Council, 2014) provides the strategic direction for the City to provide a safe and integrated transport system that prioritises active travel, and is central to Council's vision for Hutt City as 'a great place to live, work and play'. The plan's key objective relating to this proposed project is:

Objective 5.1 'Safe and integrated networks for commuting and recreation purposes'. Specifically, the objective aims to 'Continue to develop the network of mountain biking and recreational walking tracks'.

3.8 Wellington Regional, Trails for the Future (2017)

The Wellington Regional Trails for the Future (2017) (Tourism, TRC, 2017) is a strategic framework for trails in the Wellington region prepared by TRC Tourism Ltd and their partners. It is a combined vision for the eight district and regional councils and the Department of Conservation within the Wellington region.

The document notes that the region has the potential to become a world-class destination for trails-based experiences, catering to diverse markets. In addition that enhancing the quality and range of trail-related products not only delivers exceptional experiences but also adds significant value for local residents who hold a strong connection to the trails and view them as essential infrastructure. Key factors in attracting trail visitors include the environment, trail quantity and quality, accessibility, and the level of interest and challenge offered.

⁵ Sport New Zealand Report, 2011

⁶ Reserves Strategic Direction 2016 – 2026, Hutt City Council, Page 5

⁷ Reserves Strategic Direction 2016 – 2026, Hutt City Council, Page 12



The strategy proposes defining trails according to three labels: Signature Trails; Regional Trails; and Local Trails.

The trails within the Eastern Hutt Hills fulfil the criteria for Regional Trails because there is a solid network of trails, providing a credible day offering for residents and visitors.



4 Existing Environment

4.1 Site Description and Recreation Context

The proposed Eastern Hills Reservoir site is located at the top of Summit Road, Fairfield, Lower Hutt, in Hutt Valley's Eastern Hills Reserve. The reserve forms part of a network of connected public open space which serves the community for a wide range of passive and active recreation uses. (refer Figure 4-1).

The Eastern Hills are a popular attraction for various outdoor enthusiasts including horse riders, mountain bikers, walkers, and trail runners. A network of connected tracks spanning from Upper Hutt to Wainuiomata supports these various recreation uses. Tracks range from high elevation to low and from easy to steep terrain. While the top tracks provide breathtaking vistas, they are fully exposed to all weather conditions and can become sweltering during the summer months. (https://www.trailforks.com/trails/ecnz-pylon-track-south-section/)

ECNZ Pylon Track is a major track, much like an arterial route, from which numerous tracks branch off. Included in these is the Summit Road Firebreak Track which passes through the proposed Eastern Hills Reservoir site. (refer Figure 4-1

Summit Road Firebreak Track begins at Summit Road near Farrelly Road in the north and connects with the ECNZ Pylon Track (south section) to the south. Access is via the surrounding roading network for visitors from further afield, and by bike or foot for residents who live close-by. There is no specific parking lot for access from Summit Road.

Designated as a recreational track by Greater Wellington Regional Council (GWRC), the Summit Road Firebreak Track falls under the category of Tramping Track (easy). However certain sections of the track are steep, particularly leading up to the ECNZ Pylon track where views of Hutt Valley are afforded. The track is popular with mountain bikers, walkers/hikers and trail runners. Horse riders and dogs on leashes are welcome.

There are several tracks close to the Summit Road Firebreak Track that link to the ECNZ Pylon Track. The closest of these is the Waddington Winder, an intermediate (Level 3) grade track which is accessed off Waddington Drive some 6min cycle ride away. The next closest is the Te Whiti Riser, an expert (Level 5) track which is accessed from Whites Line East, some 12 minutes cycle ride way.

Waiwhetū Stream to the northeast of the proposed reservoir site is a natural feature that connects the wider recreation network via a series of open spaces. The proposed overflow scour pipeline will discharge to the stream in proximity to Balgownie Grove.

Balgownie Grove cul-de-sac head features an open grassed area that contributes to recreation use and enjoyment. Recreation users can access the wider network from this space and walk or cycle along the stream margin at the rear of residential properties.





Figure 4-1: Public open space network



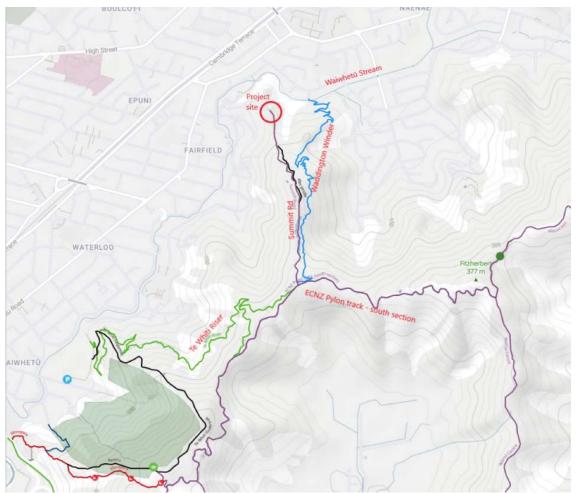


Figure 4-2: Recreation tracks.



5 Community Surveys

5.1 Intercept Survey

An intercept survey was conducted on Wednesday 19th and Sunday 22nd of July 2023 to gather data including the use of the reserve area by the local community – refer to Appendix A for further details. An intercept survey involves stopping and surveying people who happen to be present in the area at the time the survey is being conducted.

The intercept survey reached a relatively small number of respondents and as such is not a statistically significant sample. The insights gained, however, provide a snapshot of user sentiment regarding recreation use and values. Key insights (paraphrased) are:

- The reserve is used for recreation and fitness.
- The hilly terrain is used to push fitness.
- The terrain is difficult for older/less able users.
- The peacefulness and nature of the reserve (recreation values) is enjoyed.
- Once reinstated, the track will be used again.
- Seating would be appreciated.
- The Firebreak Track is used as part of a wider walking network.
- Physical signs would assist with wayfinding and decision making in relation to levels of difficulty.
- Maintenance of surrounding tracks prior to Summit Road track closing, so that alternative walking tracks are available.

5.2 Street Events

Street events were held on Tuesday 11th and Wednesday 12th July, from 4.30 pm – 6.30 pm, to target proximate residents). Residents were provided the opportunity to come and meet with members of the project team, ask questions, and fill in an online survey. The outcomes of the street events are summarised in Appendix B of this report.

Fairfield proximate residents

These residents did not express any concerns specifically relating to the recreation use and values of the reserve. Concern around parking disruption on the residential street could be construed as having adverse effects for recreation users visiting the reserve.

Naenae proximate residents

These residents had concerns regarding the extent that recreation use of the Eastern Hills Reserve will be impacted by the project, and about discharges into the stream.

5.3 Online Survey

The local community were able to participate in an online survey that sought feedback on the impacts the proposed project may have on people and their way of life during the construction and operational phase – refer to Appendix C for a summary of the online survey results. (refer Appendix C)

The online survey ran from 29 June to 23 July 2023. The survey was posted on Wellington Water's website, on the Eastern Hills Reservoir Project site page, with regular social media posts to encourage participation. Local community members that participated in the intercept survey



and street events were also encouraged to complete the survey. The survey had 25 respondents, with 22 completed survey responses (partial responses were included in the analysis).

In summary, a large majority of respondents use the reserve for recreation – primarily walking. Concerns raised in relation to construction effects centred around limitations on access and disruption to quite enjoyment from noise effects associated with construction activities. Respondents identified that they would seek to use alternative tracks.

During operations, respondents stated that they would use the reserve tracks to a similar level for the same kinds of activities. Walking dogs, running and cycling are all ways in which the reserve tracks will continue to be used.

This assessment is based on the identification of the recreation setting that the Project is located within and considers how the construction and then subsequent operation may potentially affect the existing recreation use and values of the site. A site visit was not undertaken by the author, rather this assessment relies upon desktop data made available to the author and discussions with colleagues who have undertaken various site visits and site works. Information has also been supplied from an intercept survey that was undertaken to support the Social Impact Assessment, as well as key Project information such as the Projects construction methodology.

5.4 Assessment of Construction Effects

Recreation Use

The existing Summit Road Firebreak Track past the existing and proposed reservoirs will be closed for public access throughout the construction works period (approx. 2.5 years). There will be no access for Fire and Emergency New Zealand (FENZ) during the construction period, but they have been consulted and have given their approval. FENZ identified that they do not use this track for vehicle access because it is meant as a fire break to prevent fires spreading.

Summit Road and Tilbury Street will have some parking restrictions to allow trucks to traverse through the streets safely during the construction period⁸. This parking restriction is considered to have an adverse effect on those accessing the reserve by car from Summit Road, as part of the regional recreation-wide experiences. However, there is access to the track network from other public roads. The closest track is the Waddington Winder, some 6min cycle ride from the beginning of the Summit Road Firebreak Track. The next closest track entry is the Whiti Firebreak Track, which is accessed from Whites Line East, some 12 minutes cycle ride way.

Due to the steep terrain, it is not realistic to create a temporary track to bypass the site works area. Nor would it be desirable to encourage continued access along the Summit Road Track due to the considerable activity associated with vehicle movement and construction vehicles which would pose a safety risk for recreation users.

Construction of discharge infrastructure to Waiwhetū Stream will create disruption to proximate residents on Balgownie Grove. Construction activities and restrictions to access to the stream environment will result in temporary disturbance to quiet enjoyment of the stream environment for a period of 7 – 9 months during the pipeline and outfall construction. Survey responses identified that this area is currently used for passive recreation, however the extent of use is not known.

⁸ Construction Transport Assessment, Section 4.3 and Figure 15.



Overall, construction effects on recreation use are assessed as **minor adverse** due to the temporary prevention of access to the reserve along the Summit Road Track and Balgownie Grove cul-de-sac interface with Waiwhetū Stream.

Construction effects are proposed to be mitigated through clear communications prior to and throughout the construction period via Council and social media channels. It is recommended to keep the public informed of the status of the Project, timing and alternative ways in which recreation users can continue to access and enjoy the Eastern Hills track network for recreation.

Recreation Values

Construction noise⁹ may have a temporary adverse effect on the quiet enjoyment of the Eastern Hills Reserve, for those recreation users proximate to the Project works. Given that the Waddington Winder trail which runs close to and parallel with the Project area will still be open, it is probable that users of this trail will hear the construction noise.

Disruption to the vegetation cover, including removal of vegetation and creation of spoil areas on the eastern fill slope will not have an adverse effect on the enjoyment of the bush setting during construction because recreation users will not have access to the area to experience the disruption.

Overall, construction effects on recreation values are assessed as **minor adverse** due to the noise effects on quite enjoyment of the reserve. Construction hours will be restricted from 0700 – 1800 Monday to Saturday excluding Sundays and public holidays.

5.5 Assessment of Operational Effects

Recreation Use

At the conclusion of construction, the Summit Road Firebreak Track will be reconnected, extending from the site entrance to the top end of the site. Grading work will be done on the eastern side of the excavation cut to ensure a proper track width (5 m) is provided and graded for maintenance vehicle access.

The new track will be cut around the new reservoir as shown in the Landscape Plans¹⁰. At its closest point the edge of the firebreak is approximately 3-3.5m from the reservoir wall and approximately 2m from slope edge.

The width of the replacement track is proposed to be 5 m to match the existing track width. When recreation users are close to the reservoir there is potential for the reservoir, given its size, to create an overbearing effect and may also limit sightlines. This may lead to actual or perceived issues around personal safety. To mitigate this, it is proposed to keep the new track at least 3m away from the wall of the reservoir.

As part of the works on the new track, seating and signage will be provided. Currently, there is little to no seating within the subject site. Seating will provide rest opportunities for users, whilst signage will contribute to wayfinding. Details of these features are shown on the landscape plan.

Overall, with the implementation of recreation improvements including track upgrades, seating and signage, the effects on recreation use during operations is assessed as **positive**.

⁹ Construction Noise and Vibration Assessment, Section 6.1 & 7

¹⁰ Drawing 3-WW021.02_L0001, Rev2



Recreation Values

The large earthworks and fill batters will initially create scars on the landscape where the cut and fill is visually dominant, resulting in an adverse effect on recreation enjoyment. With the establishment and growth of planting in accordance with a landscape mitigation plan, adverse effects will diminish over time as planting grows up and blends with the surrounding vegetation cover. Overall, with the implementation of recreation improvements including revegetation of scar areas, the effects on recreation values during operations is assessed as **neutral**.

6 Mitigation

The Project provides opportunities to secure a positive outcome for recreation use and values once construction is completed and access is reinstated.

6.1 Construction

Access to the Summit Firebreak Track from Summit Road will not be available for recreation use for the duration of construction, which is estimated to be approx. 2.5years. Access to the Balgownie Close open space will not be available for a period of approximately 7-9months during construction.

Mitigation opportunities during construction is proposed to include communication both prior to and during construction so that recreation users can plan their use of the wider recreation network within the Eastern Hills.

Alternative tracks in proximity to the Project site, particularly Waddington Winder and Whiti Firebreak Track will ensure that recreation users can continue to enjoy the Eastern Hills track network for cycling and walking.

6.2 Operation

During operations, recreation use and enjoyment is proposed to be reinstated to the condition prior to the Project works commencing, while some improvements are proposed that would result in positive recreation outcomes.

Proposed mitigation measures during operations include:

- 1. Reinstatement of a 5 m wide access track to bypass the existing and proposed reservoirs along their eastern side.
- 2. Reinstatement of the firebreak track up to the reservoirs, to a better standard than existing. This includes a firmly compacted surface and suitable gradient no greater than 1:11 between the entrance at Summit Road, to a logical stopping point alongside the Eastern Hills Reservoir.
- 3. Provide a rest area on the north-east side of the Eastern Hills reservoir with rest facilities including seating.
- 4. Provide information/wayfinding and naming signage at the Summit Road entrance to the track.



- 5. Reinstate planting in accordance with the landscape mitigation plan (Figure 6-1 and Appendix D), ensuring planting alongside the track is kept low and back from the edge to retain surveillance along the route.
- 6. Reinstate pedestrian access at Balgownie Grove alongside Waiwhetū Stream as per existing.
- 7. Provide a rest area at the head of Balgownie Grove cul-de-sac on the north side of Waiwhetū Stream, with rest facilities including seating.
- 8. Provide information/wayfinding and naming signage at the cul-de-sac head of Balgownie Grove.
- 9. Reinstate open areas at the cul-de-sac head of Balgownie Grove with low native riparian planting and open grassed areas that retain passive surveillance to the rest area, in accordance with the landscape mitigation plan.

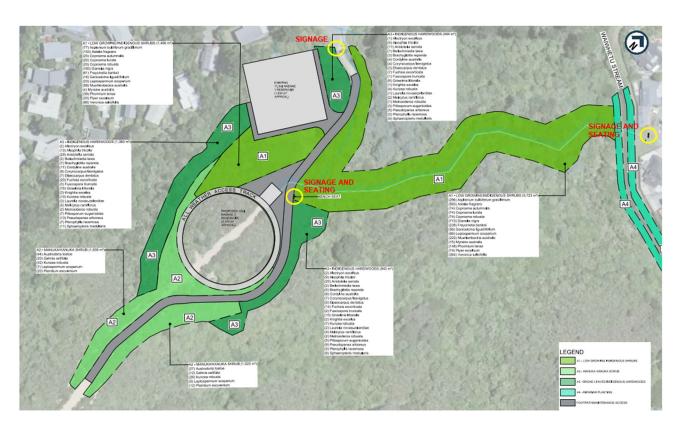


Figure 6-1: Proposed mitigation (A3 version included in Appendix D)



7 Recommendations and Conclusions

The Project directly affects an area of the Eastern Hills recreation network for the duration of construction (2.5yrs). During this period, public access to the firebreak track from Summit Road will be closed which will result in a temporary loss of recreation use and values. Access to the grassed areas and stream edge at the head of Balgownie Road will also be disrupted for a period of 7-9months.

Communications prior to and throughout the construction period via Council and social media channels is recommended to keep the public informed of the status of the Project. Communications will include notification of Project timing and alternative ways in which recreation users can continue to access and enjoy the Eastern Hills for recreation.

There is a clear need to ensure that recreation use and values are reinstated post-construction. This assessment recommends that all recreation areas that will be disrupted be reinstated to their original condition or better.

Recommendations include:

- Reinstate recreation access from the Summit Road entry to where the realigned track reconnects with the existing track south of Eastern Hills Reservoir.
- The section of track past Eastern Hills Reservoir is to be 5m wide. Maintain a minimum clearance of 3m from the reservoir wall in order to optimise surveillance of those travelling in the opposing direction. A wide clearance of the reservoir will also reduce the overbearing effect of walking/cycling close to the vertical wall of the reservoir.
- Provide a seating area at the entry to the Summit Road Track.
- Establish a short section of higher-grade access to a consistent width of 5m with a consolidated surface suitable for recreation use by people of all ages and abilities from the Summit Road entry to a seating area to the northeast of the proposed Reservoir. This section of track will enhance recreation experiences for those who do not partake in the wider cycling and walking network experiences but still wish to enjoy the peace and beauty of the forest setting. Recreation users may include nearby residents and those who are less able-bodied.
- Reinstate the open grassed area at Balgownie Grove cul-de-sac head.
- Provide a rest area at Balgownie Grove cul-de-sac head, alongside the stream, with seating, amenity planting and open grassed areas. Maintain existing access along the stream edge in the form of a minimum 2.5 m wide grassed track.
- Establish riparian planting along the Waiwhetū Stream east bank in proximity to Balgownie Grove to enhance stream health and amenity values, in accordance with the Landscape Plan.
- Signage is recommended at three locations to provide information about the forest, prohibitions, and a map including routes, timing and other key data to enhance recreation users' experiences.

The Project is consistent with the Hutt City District Plan Passive Recreation Zoning, which allows for low impact recreation and leisure activities which are consistent with the natural and



undeveloped character of the area. Following mitigation, low impact recreation and leisure activities including informal recreation (cycling, horse riding) and scenic walks will continue to be enabled.

No adverse effects on the Significant Natural Resource status of the reserve with regard to recreation use and values will result from the project following mitigation and during operations.

Overall, this assessment concludes that minor adverse effects on recreation use and values will result during the construction phase due to restrictions on access to the Firebreak Track and Waiwhetū streamside at Balgownie Grove cul-de-sac, as well as noise effects. Following mitigation and during operations, recreation use and values are assessed as positive because of improved amenity of the recreation areas associated with the Project areas.

8 Limitations

This report ('Report') has been prepared by WSP New Zealand Limited ('WSP') exclusively for Wellington Water ('Client') in relation to this Eastern Hills Reservoir Construction Transport Assessment ('Purpose') and in accordance with the Wellington Water Consultant Project Engagement form dated 10th March 2023] ('Agreement'). The findings in this Report are based on and are subject to the assumptions specified in the Report and Offer of Services dated 10th March 2023. WSP accepts no liability whatsoever for any use or reliance on this Report, in whole or in part, for any purpose other than the Purpose or for any use or reliance on this Report by any third party.



Appendix A: Intercept Survey

The intercept survey sought to gather data on the use of the reserve area by the local community. The survey was implemented on the 19th and 22nd of July 2023; the outcomes of which are summarised in Table A-1.

Table A-1: Intercept Survey - Engagement Outcomes.

LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
Intercept Survey – Reserve Area Three respondents were intercepted on or near the reserve area.	 Used the area for recreation and fitness. The three respondents used the area with varying frequencies (from 3-4 days a week to a few times a month). For two of the respondents, they enjoyed the hilly terrain to push their fitness. One of the respondents typically only walks as far as the existing reservoir area before returning down (older and finds it difficult coming down hill). Track can be a hazard when wet as the track become muddy and slippery. Enjoyed the peacefulness and nature area. All three respondents said they would return to using the track when it is reopened after the construction phase. Each respondent enjoyed the track as it is. One resident would make use of seating on the track if made available, while another individual said they do not stop on this section as they use it as part of the wider walking network. One of the respondents would like for signage in the area around the different tracks and how they link up so they didn't have to view the map on their phone. It was suggested that the adjacent tracks should have some maintenance done ahead of the summit road track closing.



Appendix B: Street Events

Street events were held to target groups of residents who were identified as being close proximity residents. Feedback supplied canvased a broad range of issues, not just recreational values. Identified residents were invited by letter drop notification to attend an event in their neighbourhood. Two events were held on 11 and 12 July 2023, from 4:30-6:30pm with the following groups (Figure B-1):

- Fairfield proximity residents (11 July 2023):
 - Residents invited: section of Tilbury Street, Summit Road and Farrelly Grove
 - Event location: opposite 485 Riverside Drive, Fairfield
- Naenae proximity residents (12 July 2023):
 - Residents invited: section of Waddington Drive and Balgownie Grove
 - Event location: Balgownie Grove cul-de-sac

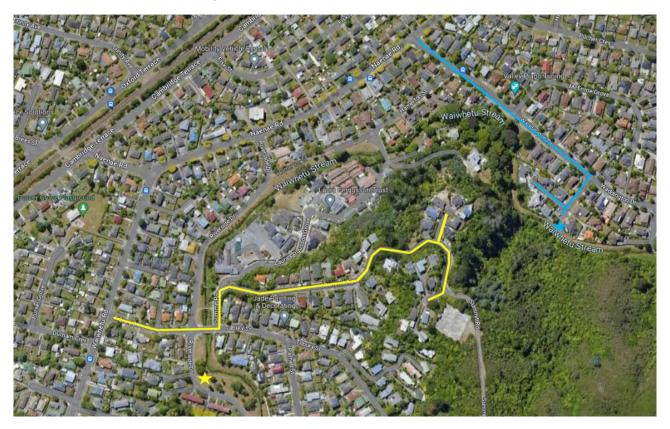


Figure B-1: Street Event target areas and event locations

A summary of the engagement outcomes from the street events is provided in Table A-2.



Table A-1: Street Events - Engagement Outcomes.

	I
LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
Fairfield Proximity Residents Number of participants: 15	 Concern around the frequency of work vehicles on the road and the associated disruption, particularly the potential that the road will become essentially a one-way street due to trucks - delaying residents who want to enter and exit their properties. Concern about the trucks speeding down the road and trucks driving around the corners may find it difficult to see other drivers. Concern the road restrictions and trucks in this area may impact the access of emergency vehicles to Farrelly Grove. Concern surrounding lack of parking on street as currently a number of residents have cars parked on the street as they are unable to park on their property. In addition, it would make it difficult to have visitors as they would have nowhere to park, especially for those properties which have shared driveways. Concern about impact of noise and vibration and disruption those people working from home. Concern about the risk of failure during an earthquake and impact of vibrations on the bank below property. Concern about the condition of the road and dust. Concern about aesthetics of the work (eg. currently a white handrail is in stark contrasts with the colours of the nature area). Questions regarding what will be happening with the fill that is removed from the site. Comment in relation to the water pressure not being sufficient near the area.
Naenae Proximity Residents Number of participants: 7	 Less/little concern over parking restrictions as this area is less affected and parking on street is plentiful on the adjacent road. Notable number of people running business in the small grove area. Concern regarding the extent the adjacent nature area will be impacted and about discharge into the stream. Concern about re-instatement of the road seal when work for the pipeline under the road has been complete. Residents fence backs up against the stream area, and there is concern this will be affected as they have plans to replace the fence. Concerns about increased flooding risk as a result of the water pipe being above ground/crossing the stream and potentially causing a damming affect. Questions regarding the reasoning for not routing the pipeline down Waddington Drive. Concern around access to the area making truck deliveries difficult for resident who runs a small horticulture business from home. Questions regarding whether an access bridge will be added to the stream. Taxi wiring business run from home in this area, which receives approximately 500 vehicles per year for wiring (only person that can do this work in Wellington). Questions raised regarding water pressure.

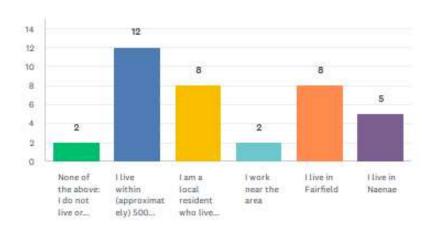


Appendix C: On-line Survey Results

Eastern Hills Reservoir

Q1 Do any of the following apply to you? (select all that apply)

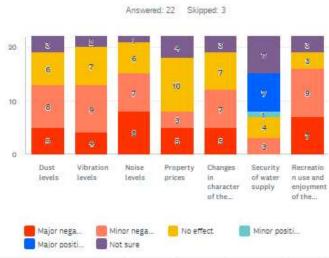
Answered: 25 Skipped: 0



ANSWER CHOICES	RESPONSES	
None of the above: I do not live or work near the area	8%	2
I live within (approximately) 500m of the proposed reservoir site	48%	12
I am a local resident who lives near the area, outside of the 500m	32%	8
I work near the area	8%	2
I live in Fairfield	32%	8
I live in Naenae	20%	5
Total Respondents: 25		



Q2 During construction of the reservoir component of the project, what potential impacts do you think this may have on you?

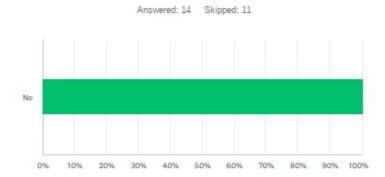


	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Dust levels	23% 5	36% 8	27% 6	0% 0	0% 0	14% 3	22	2.05
Vibration levels	18% 4	41% 9	32% 7	0% 0	0% 0	9% 2	22	2.15
Noise levels	36% 8	32% 7	27% 6	0% 0	0% 0	5% 1	22	1.90
Property prices	23% 5	14% 3	45% 10	0% 0	0% 0	18% 4	22	2.28
Changes in character of the area/visual changes	23% 5	32% 7	32% 7	0% 0	0% 0	14% 3	22	2.11
Security of water supply	0% 0	14% 3	18% 4	5% 1	32% 7	32% 7	22	3.80
Recreation use and enjoyment of the reserve	32% 7	41% 9	14% 3	0% 0	0% 0	14%	22	1.79

OTHER (PLEASE SPECIFY)	DATE
I'm with the Friends of Waiwhetu Stream and the patch of stream that I clean each month ends near Balgownie Gr. I don't know what effect construction will have on this part of the stream, or whether I'll still have access to it. Also, I enjoy the Waddington Winder trail sometimes, and don't know whether this will now be off-limits.	7/5/2023 12:05 AM
Traffic and traffic noise and safety	7/4/2023 9:45 PM
	I'm with the Friends of Walwhetu Stream and the patch of stream that I clean each month ends near Balgownie Gr. I don't know what effect construction will have on this part of the stream, or whether I'll still have access to it. Also, I enjoy the Waddington Winder trail sometimes, and don't know whether this will now be off-limits.



Q3 During the construction of the reservoir component of the project, would you change the way you go about your day-to-day activities?



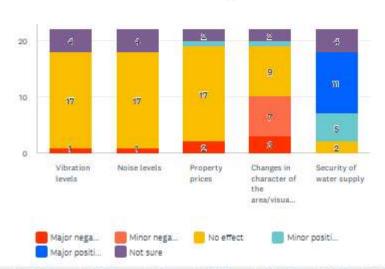
	If there is to be pipe construction equipment, trucks and ex time in Balgownie Grove, it will severely impact the lives of businesses operating in this Grove which depend on pickup large trucks (Mainfreight etc.) Also the weekly garbage colle to quite a large number of residents bins. There is growing.	f residents. There is a number of os and deliveries daily, including ection trucks who have to attend	7/15/2023 9:50 AM
1	Noise and vibration may affect sleep		7/16/2023 10:39 PM
#)	YES (PLEASE EXPLAIN)		DATE
TOTAL			14
No		100.00%	14
ANSWER CH	DICES	RESPONSES	

2	If there is to be pipe construction equipment, trucks and excavators etc. operating at any time in Balgownie Grove, it will severely impact the lives of residents. There is a number of businesses operating in this Grove which depend on pickups and deliveries daily, including large trucks(Mainfreight etc.) Also the weekly garbage collection trucks who have to attend to quite a large number of residents bins. There is growing anger and frustration arising in this street as the ramifications of this proposed development is really starting to bite.	7/15/2023 9:50 AM
3	Yes. How will I be able to get out of my driveway & Balgownie Grove???	7/13/2023 4:41 PM
3	I regularly walk the track past the existing reservoir and would like to continue doing this	7/7/2023 1:58 PM
5	Normally drive down part of Tilbury Street passing the entrance to Summit Road to access the Waiwhetu road/Naenae road, Likely to choose a different route.	7/5/2023 2:58 PM
6	I often catch a bus, the 130, that passes through the radius. I assume truck movements will hinder the timeliness of public transport. So I may have to start trying to catch earlier buses and allow more time to reach my destinations.	7/5/2023 12:05 AM
7	Depends on traffic	7/4/2023 9:45 PM
В	We will have to do different walks with the dogs to our usual ones.	7/4/2023 9:30 PM
9	I will not be able to carry on walking the Summit firebreak. What's this about the overflow into the Waiwhetu stream. This would have a major impact on the health of the stream. Fish, invertebrate & vegetation.	7/4/2023 9:07 PM



Q4 During operation (after construction has been completed), what potential impacts do you think the reservoir component may have on you?

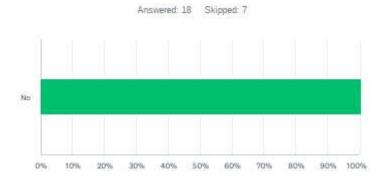
Answered: 22 Skipped: 3



	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Vibration levels	4.55% 1	0.00%	77.27% 17	0.00% 0	0.00%	18.18% 4	22	2.89
Noise levels	4.55% 1	0.00% 0	77.27% 17	0.00% 0	0.00% 0	18.18% 4	22	2.89
Property prices	9.09% 2	0.00% 0	77.27% 17	4.55% 1	0.00% 0	9.09%	22	2.85
Changes in character of the area/visual changes	13.64% 3	31.82% 7	40.91% 9	4.55% 1	0.00% 0	9.09% 2	22	2.40
Security of water supply	0.00%	0.00% 0	9.09% 2	22.73% 5	50.00% 11	18.18% 4	22	4,50



Q5 During the operational phase of the reservoir, would you change the way you go about your day-to-day activities?



ANSWE	ER CHOICES	RESPONSES	
No		100.00%	18
TOTAL			18
#	YES (PLEASE EXPLAIN)		DATE
1	Yes if noise and traffic an issue		7/16/2023 10:39 PM
2	We, as residents, would need to further enlightened as to potentially affect us in a negative sense.	7/15/2023 9:50 AM	
3	Concern at the number of trucks going up and down Sumr front garden as I do now	7/12/2023 6:59 PM	
4	Beauty of the area up Summit firebreak altered. State of \ flows. Not happy about this.	Waiwhetu stream if u have over	7/4/2023 9:07 PM



Q6 The following questions will ask about the impact you believe the pipeline construction may have. During construction of the pipeline component of the project, what potential impacts do you think this would have on you?



Major n	ega 📒 Min	Minor nega 🦰 No effec		Minor posit	
Major p	ositi 🔲 Not	sure			
MAJOR NEGATIVE	MINOR NEGATIVE	NO EFFECT	MINOR	MAJOR POSITIVE	NO SU

	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT	TOTAL	WEIGHTED AVERAGE
Dust levels	18% 4	36% 8	36% 8	0%	0% 0	9% 2	22	2.20
Vibration levels	18% 4	27% 6	45% 10	0% 0	0% 0	004	22	2.30
Noise levels	27% 6	23% 5	41% 9	0% 0	0% 0	9% 2	22	2.15
Property prices	5% 1	18% 4	59% 13	0% 0	0% 0	18% 4	22	2.67
Changes in character of the area/visual changes	23% 5	41% 9	23% 5	0% 0	0%	14% 3	22	2.00
Recreation use and enjoyment of the reserve	27% 6	32% 7	32% 7	0% 0	0% 0	996 2	22	2.05

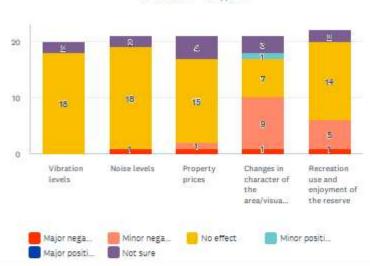
#	OTHER (PLEASE SPECIFY)	DATE
1	This will make life hell during construction and exacerbate flooding in the stream due to further blockage.	7/15/2023 9:55 AM
2	I walk my dogs 4 or 5 time a week in the area where the pipe will come across Waiwhetu steam & 259 meters each side of the small area at the end of Balgownie Gr. Basically I walk them regularly along the Waiwhetu stream.	7/13/2023 4:52 PM
3	Don't know if I'm going to get a chance to mention this elsewhere so i'll say it here: If you have to clear a 14m band of vegetation, why not do us a huge favour and remove that	7/5/2023 12:19 AM

thicket of wattle trees that your current pipeline design is skirting around? They are not precious natives but an introduced invasive pest tree. The circle of grey-blue trees (visible in Google Maps as grey-blue), which are immediately to the left of the "Delivery Pipe" arrow on your map here, are pest wattles. You could clear them and run the pipeline through there, as long as you route back towards Balgownie Grafter. It's true that mechanical disturbance can cause wattle seeds to burst into growth but if you are taking away 2m depth of soil as well then you probably won't add more wattle trouble than you deduct.



Q7 After construction of the pipeline component of the project, what potential impacts do you think this would have on you?

Answered: 22 Skipped: 3



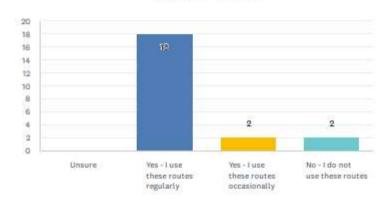
	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Vibration levels	0.00% 0	0.00%	90.00% 18	0.00% 0	0,00% 0	10.00% 2	20	3.00
Noise levels	4.76% 1	0.00%	85.71% 18	0.00%	0.00%	9.52% 2	21	2.89
Property prices	4,78% 1	4.76% 1	71.43% 15	0.00%	0.00%	19.05% 4	21	2.82
Changes in character of the area/visual changes	4.76% 1	42.86% 9	33.33% 7	4.76% 1	0.00%	14.29% 3	21	2.44
Recreation use and enjoyment of the reserve	4.55% 1	22.73% 5	63.64% 14	0.00%	0.00%	9.09%	22	2.65

#	OTHER (PLEASE SPECIFY)	DATE
1	A lot depends on the standard the council re-seals the Grove. I have little faith that the council will restore the seal to it's current standard. Eg; just resealing just the area that has been dug up, rather than the whole Grove.	7/13/2023 4:52 PM
2	Same as above, I'd rather you clear as much weedy vegetation as possible rather than clear the native scrub and bush.	7/5/2023 12:19 AM



Q8 Do you currently use any of the above routes that will be affected by routes used for construction traffic?

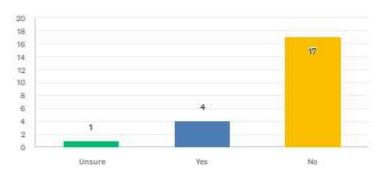
Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
Unsure	0.00%	0
Yes - I use these routes regularly	81.82%	18
Yes - I use these routes occasionally	9.09%	2
No - I do not use these routes	9.09%	2
TOTAL		22

Q9 Will you be affected by parking restrictions?

Answered: 22. Skipped: 3



ANSWER CHOICES	RESPONSES	
Unsure	5%	1
Yes	18%	4
No	77%	17
TOTAL		22



Q10 During construction, what potential impacts do you think this project may have on you?

Answered: 21 Skipped: 4

20
3
12
15
16
4
5
17
10
Traffic movements and congestion parking Parking Cycle or drive Access to recreational areas for recreational a

	Major nega	Minor nega	No effect	Minor positi
8	Major positi	Not sure		

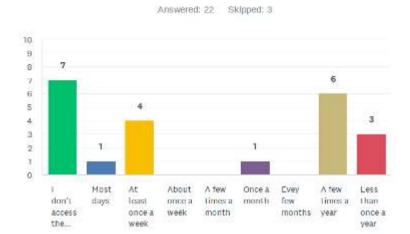
	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Traffic movements and congestion	28.57% 6	57.14% 12	14.29% 3	0.00% 0	0.00% 0	0.00% 0	21	1.86
Availability of on- street parking	19.05% 4	19.05% 4	61,90% 13	0.00% 0	0.00% 0	0.00%	21	2.43
Road safety for people who walk, cycle or drive	33,33% 7	57.14% 12	9.52% 2	0.00% 0	0.00% 0	0.00%	21	1.76
Access to recreational areas for recreational use and enloyment	28.57% 6	47.62% 10	23.81% 5	0.00% 0	0.00% 0	0.00%	21	1.95

#	OTHER (PLEASE SPECIFY)	DATE
1	Balgownie Grove/Waddington Drive area.	7/13/2023 4:56 PM
2	It's difficult to express a view on these questions without knowing exactly what is going to happen and how often. You should probably telling us about dust, noise, vibration, etc., for all of the previous questions.	7/4/2023 9:22 AM



Eastern Hills Reservoir

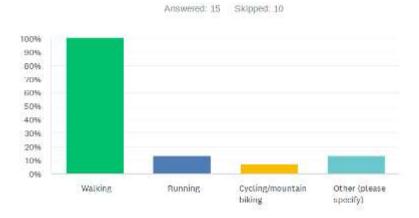
Q11 How often do you currently use the reserve area accessed from Summit Road? (please select the closest option).



ANSWER CHOICES	RESPONSES	
I don't access the reserve area using the Summit road track	31.82%	7
Most days	4.55%	1
At least once a week	18.18%	4
About once a week	0.00%	0
A few times a month	0.00%	0
Once a month	4.55%	1
Evey few months	0.00%	0
A few times a year	27.27%	6
Less than once a year	13.64%	3
TOTAL		22



Q12 What activities do you undertake at the reserve area? (select all that apply)



ANSWER CHOICES	RESPONSES	
Walking	100,00%	15
Running	13.33%	2
Cycling/mountain biking	6.67%	1
Other (please specify)	13.33%	2
Total Respondents: 15		

#	OTHER (PLEASE SPECIFY)	DATE
1	Walking my dogs usually only once or twice a month, up the fire break at the top of Sumit road. Probably 15 - 18 a year.	7/13/2023 5:02 PM
2	I go mushrooming in the hills from the Waddington Winder trail, which rises from the next cul-de-sac over from Balgownie Crove. There are four kinds of edible bush mushroom that truit in those hills.	7/5/2023 12:27 AM



Q13 What are the purpose of the activities you undertake?



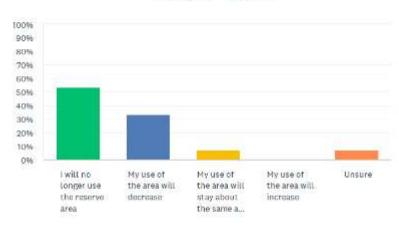
ANSWER CHOICES	RESPONSES	
None of the above	6.67%	1
Recreational	80.00%	12
Commuting	0.00%	:0
Other (please specify)	13.33%	2
TOTAL		15

#	OTHER (PLEASE SPECIFY)	DATE
1	Dog walking.	7/13/2023 5:02 PM
2	Excercise and food gathering.	7/5/2023 12:27 AM



Q14 When the construction is underway and detours are in place to access the wider walking network, how would you expect your use of the reserve area to change?

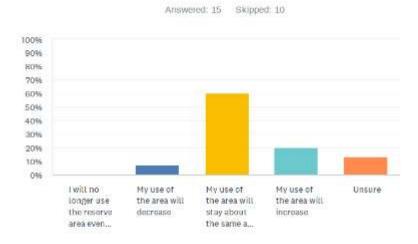




ANSWER CHOICES	RESPONSES	
I will no longer use the reserve area	53.33%	8
My use of the area wilf decrease	33.33%	5
My use of the area will stay about the same as it is now	6.67%	1
My use of the area will increase	0.00%	0
Unsure	6.67%	1
TOTAL		15



Q15 When the construction has been completed and the Summit Road access to the reserve reinstated, compared to your current usage - how would you expect your use of the reserve area to change?



ANSWER CHOICES	RESPONSES	
t will no longer use the reserve area even when access is reinstalled	0.00%	0
My use of the area will decrease	6.67%	1
My use of the area will stay about the same as it is now	60.00%	9
My use of the area will increase	20.00%	3
Unsure	13.33%	2
TOTAL		15



Q17 How important is the Summit Road Firebreak Track to your recreational or fitness routine?



ANSWER CHOICES	RESPONSES	
Unsure	0%	0
Not at all important	096	0
Not so important	30%	3
Somewhat important	30%	3
Very important	30%	3
Extremely Important	10%	1
TOTAL		10

Q18 Are there any specific features of aspects of the Summit Road Firebreak Track that you particularly enjoy or find valuable?

Answered: 8 Skipped: 17

Ħ	RESPONSES	DATE
1	The view it provides.	//13/2023 5:08 PM
,	Location to my house	7/11/2023 6:58 PM
3	The different options eg. Steep or less steep in areas	7/7/2023 2:02 PM
4	The views from the trigg marker	7/7/2023 9:30 AM
5	The view.	7/5/2023 10:22 PM
5	Dog triendly, walkable 15 min from my home so I can access the reserve without driving, fun for running up and down.	7/4/2023 9:40 PM
7	The options to get to the picnic table depending it you are feeling tit or not so.	7/4/2023 9:24 PM
8	I can do a circuit from home up the Te Whiti Riser Track and down the Summit Rd Track (or the reverse) back home without needing to use a car.	//2/2023 8:47 PM



Q19 How long do you typically spend on the Summit Road Firebreak Track during each visit?

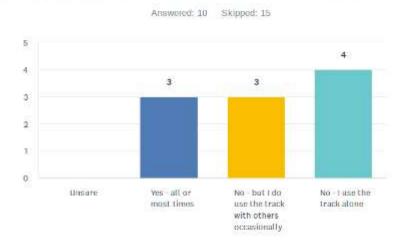




ANSWER CHOICES	RESPONSES	
Unsure	0%	.0
Less than 30 mins	10%	1
30-44 mins	30%	3
45-59mins	30%	3
1 hour +	30%	3
TOTAL		10



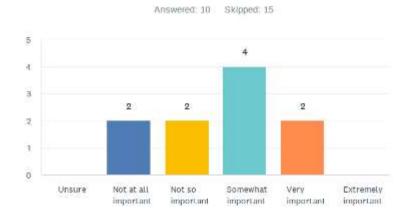
Q20 Do you typically use the Summit Road Firebreak Track with others?



ANSWER CHOICES	RESPONSES	
Unsure	0%	0
Yes - all or most times	30%	3
No but I do use the track with others occasionally	30%	3
No. I use the track alone	40%	4
TOTAL		10



Q21 How important is the social aspect of using the Summit Road Firebreak Track to you?



ANSWER CHOICES	RESPONSES	
Unsure	0%	0
Not at all important	20%	2
Not so important	20%	2
Somewhat important	40%	4
Very Important	20%	2
Extremely important	0%:	0
TOTAL		10

Q22 Are there any specific events or organized activities that take place on the Summit Road Firebreak Track that you are aware of? If so, what are they?

Answered; 3 Skipped: 22

#	RESPONSES	DATE
1	N/A	//13/2023 5:08 PM
2	Don't know	7/4/2023 9:24 PM
3	Our walking group occasionally uses this track	7/4/2023 9:25 AM



Q23 If you couldn't access the Summit Road Firebreak Track, what track would you use instead?

Answered: 10 Skipped: 15

alternative routes to

track for recreation

an atternative area

3	instead more often. I already use Te Whiti tirebreak but it would be boring to only having this option for 2.3.	7/4/2023 9:24 F	M
2	I need to drive to get to any other access to the reserve do is probably visit other places	7/4/2023 9:40 F	M
1	Riverbank	7/11/2023 6:58	PM
#	I WOULD USE A DIFFERENT AREA OR TRACK FOR RECREATION	DATE	
TOTAL			10
I would i	ise a different area or track for recreation	30.00%	3
I would a	access via one of the alternative routes to use the reserve area	50.00%	5
would i	not access the reserve area or an alternative area for recreation	20.00%	2
ANSWE	R CHOICES	RESPONSES	

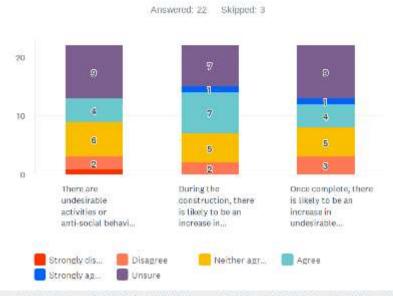
Q24 Is your use of the Summit Road Firebreak Track part of a wider connected recreation experience? If so, please describe this.

Answered: 5 Skipped: 20

ų.	RESPONSES	DATE
15	My dogs luv the area. They can run around off their leads, without me worrying that they might get run over.	//13/2023 5:08 PM
2	A loop to the Te Whiti diser. It increases my use of both. I have young kids and so my use of that area is limited but once construction is complete, I would like to take them up there.	7/5/2023 10:22 PM
	Access to summit road and walking to wainul, gracefield, Eastbourne. Also the mountain bike park in wainul	7/4/2023 9:40 PM
1	Yes then along ECNZ track and along any others that join and come down near Walnul or elsewhere.	7/4/2023 9:24 PM
5	Yes, it is usually part of a round walk in connection with the Te Whiti Riser Track.	7/2/2023 8:47 PM



Q25 Do you think the presence of any of these behaviours will change during the construction phase? Thinking about the reserve area near the reservoir site, please select your level of agreement with the following questions.



	STRONGLY	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY	UNSURE	TOTAL	WEIGHTED
There are undesirable activities or anti- social behaviors taking place within the reserve area currently.	5% 1	9% .2	27% 6	18% 4	0% 0	41% 9	22	3.00
During the construction, there is likely to be an increase in undesirable activities within the reserve area.	0% 0	9% 2	23% 5	32% 7	5% 1	32% 7	22	3.47
Once complete, there is likely to be an increase in undestrable activities within the reserve area.	096 0	14% 3	23% 5	18% 4	5%	41% 9	22	3.23



Q26 Please select your level of agreement with the following:



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL	WEIGHTEE
I support the development of the proposed Fastem Hills Reservoir	9.09% 2	4.55% 1	31.82% 7	31.82% 7	22.73% 5	22	3.55
The project will have positive affects for the local community	0.00% 0	9.09% 2	45.45% 10	22.73% 5	22.73% 5	22	3.5
The construction of the reservoir will not directly affect me	22.73% 5	45.45% 10	22.73% 5	9.09%	0.00% 0	22	2.1
After construction has been completed, the new reservoir will not directly aftect me	4.55% 1	13.64% 3	18.18% 4	50,00% 11	13,64% 3	22	3.5



Q27 Finally, is there anything else that you would like to add related to this project?

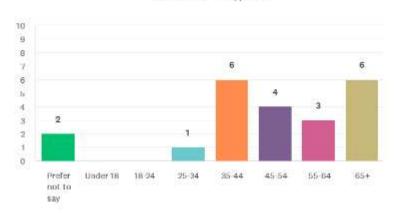
Answered: 8 Skipped: 17

n	RESPONSES	DATE
1	I would strongly suggest that you go back to the drawing board regarding the route of the outlet pipe. If the pipe could instead, track south beside the stream and then cross over and go the through the council reserve towards Waddington Drive, opposite McErnoe Grove this would keep everyone happy, through less disruption, and probably save you a lot of money. Neighbours are FULLY SUPPORTING this route.	//15/2023 10:20 AM
2	35 year Balgownie Gr resident. Very concerned about the Impact and the disruption it is going to have on this tightly knitted little community. Luv progress, but having often seen entities promise the earth, but deliver sweet bugger all. Especially gov'ts, councils, regional councils & water boards etc	7/13/2023 5:22 PM
3	Want assurance that truck drivers will drive slowly up and down Summit Rd and any road damage will be promptly fixed	7/12/2023 7:05 PM
4	Why not use the pipes on summit rd to fill the new tank?	7/7/2023 9:32 AM
5	Yes, please just look at the area or look from Google Maps and consider my suggestion that you remove the wattles and put the pipeline partially through their patch instead of the proposed route. They are a real invasive weed tree and clearing them out is one way you could mitigate the negative impacts your project will have on native vegetation. Good PR for you! Also, wattle makes good firewood so another cool thing you could do for the community, after felling the trees, is spend half a day in there with chainsaws, then let the community in to collect free firewood from the site, before you excavate and cart away the rest. Free Firewood Day.	7/5/2023 12:36 AM
6	Would like more consideration to the overflow being directed into the Walwhetu stream	7/4/2023 9:29 PM
7	Will be interested to see if construction uncovers any heritage artifacts.	7/3/2023 1:28 PM
8	No	7/2/2023 8:48 PM



Q28 What is your current age? (optional)

Answered; 22 Skipped; 3



ANSWER CHOICES	RESPONSES	
Prefer not to say	9%	2
Under 18	0%	0
18-24	0%	0
25-34	5%	1
35-41	2/%	6
45-54	18%	4
55-64	14%	3
65+	27%	6
TOTAL		22



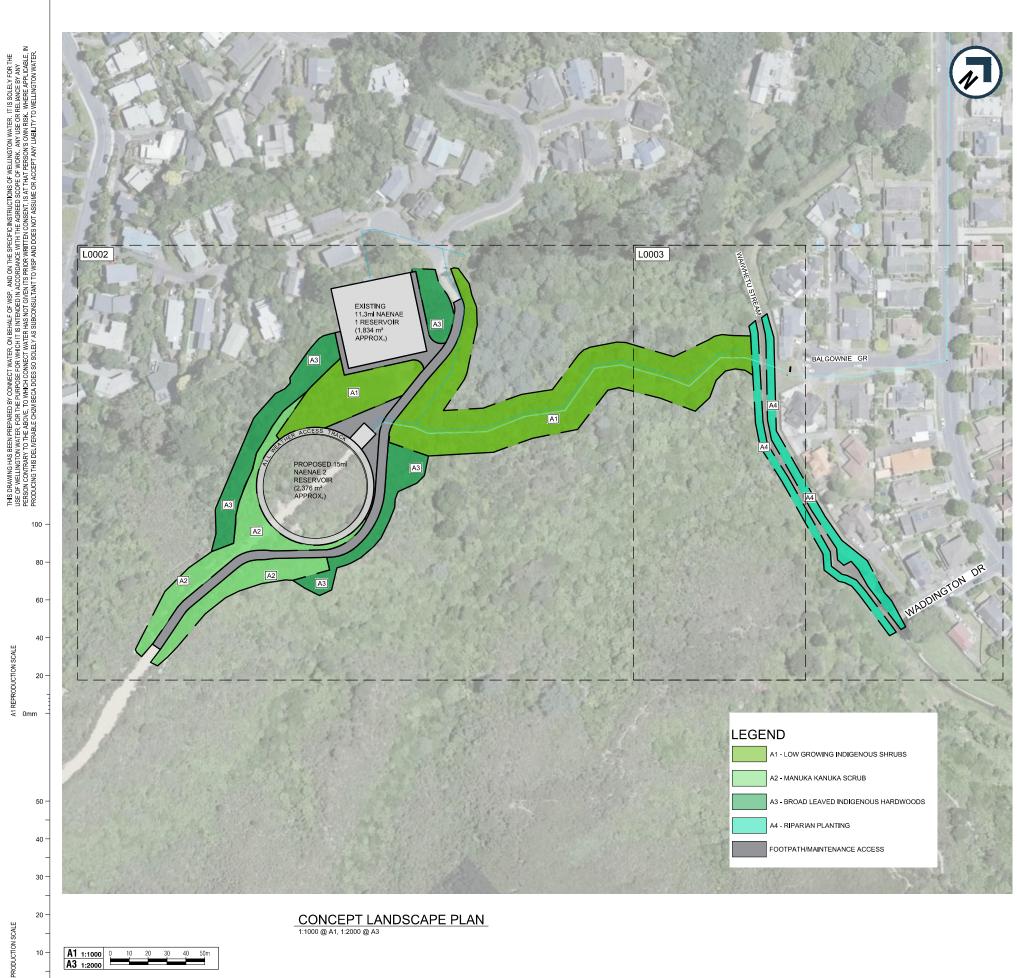
Q29 What is your gender? (optional)



ANSWER CHOICES	RESPONSES		
Female	45%	10	
Male	41%	9	
Gender diverse	5%	1	
Prefer not to say	9%	2	
TOTAL		22	



Appendix D: Landscape Plan



NOTE

Indicative Only - to be confirmed after vegetation losses have been assessed during the construction phase

No trees to be placed over the pipe alignment, only shrubs or grasses.

Where possible, all native species to be eco-sourced from the ecological areas.

All plants to be placed in a quincunx arrangement. Confirm set out with landscape architect or ecologist prior to undertaking any planting work.

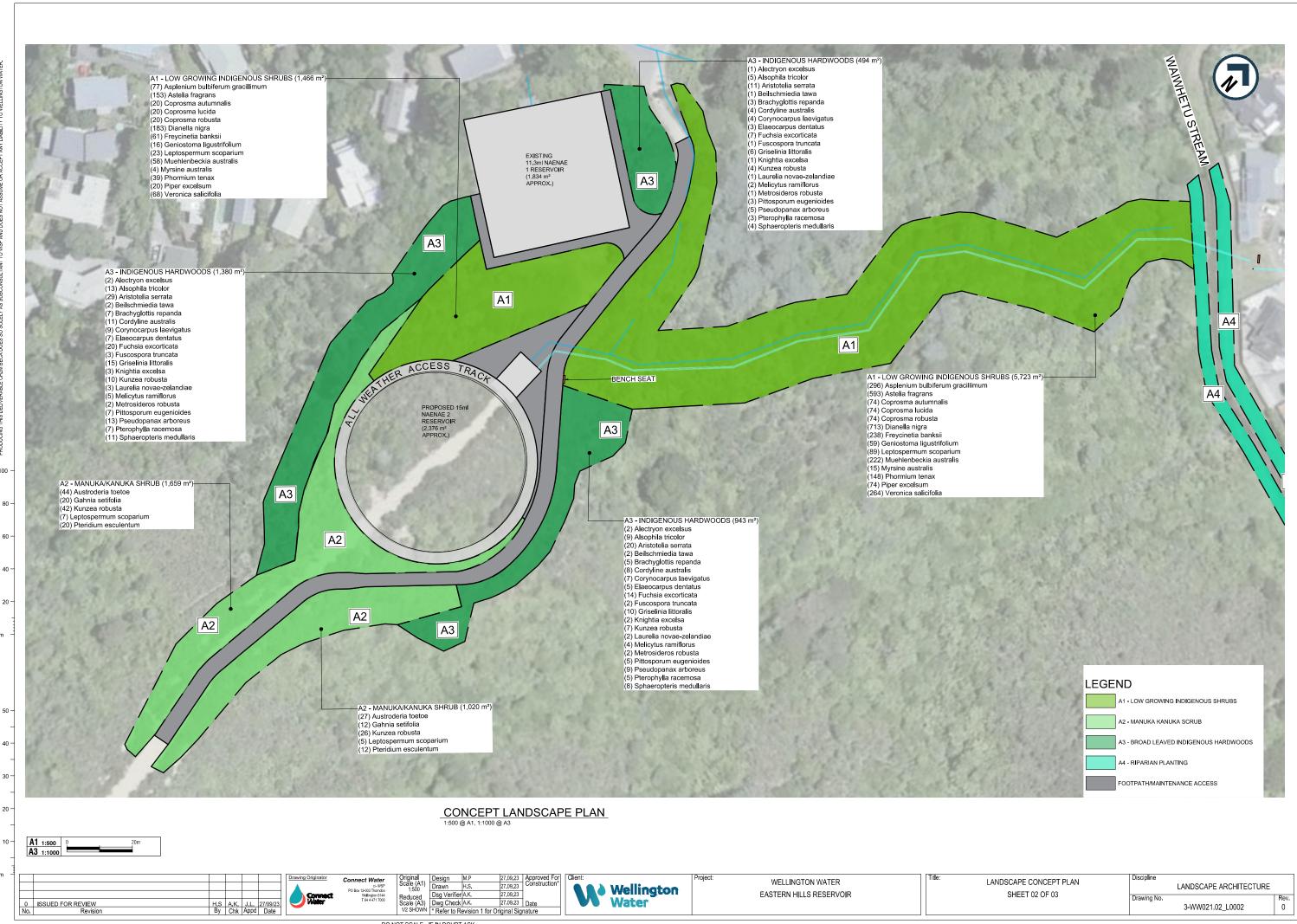
All vegetation removal to be in accordance with the vegetation management plan.

Botanical Name	PLANTING SCHEDULE Common Name	Quantity	Size	Spacing
		7178m2	Size	Sharring
A1 - LOW GROWING INDIGENOUS SHRUBS Asplenium bulbiferum gracillimum Fern			1.5L	5% @ 1m oc
	Bush Astelia	_	2.5L	10% @ 1m oc
Astelia fragrans			3L	-
Coprosma autumnalis	Kanono	_		5% @ 2m oc
Coprosma lucida	Karamu		2.5L	5% @ 2m oc
Coprosma robusta	Karamu		2.5L	5% @ 2m oc
Dianella nigra	Ink Berry		1.5L	12% @ 1m oc
Freycinetia banksii	KieKie		2.5L	4% @ 1m oc
Geniostoma ligustrifolium	Hangehange		1L	4% @ 2m oc
Leptospermum scoparium	Manuka	_	2.5L	6% @ 2m oc
Muehlenbeckia australis	Pohuehue		2.5L	15% @ 2m oc
Myrsine australis	Red matipo		2.5L	4% @ 4m oc
Phormium tenax	Harakeke		2.5L	10% @ 2m oc
Piper excelsum	Kawakawa		2.5L	5% @ 2m oc
Veronica salicifolia	Koromiko	332	2.5L	10% @ 1.5m c
A2 - MANUKA/KANUKA SHRUB		3804.5m2		
Austroderia toetoe	New Zealand Toetoe	_	2.5L	10% @ 2m oc
Gahnia setifolia	Mapere	_	2.5L	10% @ 3m oc
Kunzea robusta	Kanuka	95	2.5L	60% @ 5m oc
Leptospermum scoparium	Manuka	_	5L	10% @ 5m oc
Pteridium esculentum	Bracken Fern	44	5L	10% @ 3m oc
A3 - INDIGENOUS HARDWOODS		3004.37m	2	
Alectryon excelsus	Titoki	4	5L	3% @ 5m oc
Alsophila tricolor	Silver fern	28	5L	8% @ 3m oc
Aristotelia serrata	Makomako	63	2.5L	8% @ 2m oc
Beilschmiedia tawa	Tawa	4	5L	3% @ 5m oc
Brachyglottis repanda	Hedge Ragwort	14	1.5L	4% @ 3m oc
Cordyline australis	Cabbage Tree	24	2.5L	3% @ 2m oc
Corynocarpus laevigatus	Karaka	20	2.5L	10% @ 4m oc
Elaeocarpus dentatus	Hinau	14	2.5L	4% @ 3m oc
Fuchsia excorticata	Tree Fuchsia	42	2.5L	12% @ 3m oc
Fuscospora truncata	Whairaunui	6	2.5L	3% @ 4m oc
Griselinia littoralis	Broadleaf	32	2.5L	4% @ 2m oc
Knightia excelsa	Rewarewa	5	2.5L	4% @ 5m oc
Kunzea robusta	Kanuka	21	2.5L	6% @ 3m oc
Laurelia novae-zelandiae	Pukatea	6	2.5L	3% @ 4m oc
Melicytus ramiflorus	Whitey Wood	11	2.5L	3% @ 3m oc
Metrosideros robusta	Northern Rata	4	5L	3% @ 5m oc
Pittosporum eugenioides	Lemonwood	14	2.5L	4% @ 3m oc
Pseudopanax arboreus	Five Finger	28	2.5L	8% @ 3m oc
Pterophylla racemosa	Kamahi		2.5L	4% @ 3m oc
Sphaeropteris medullaris	Black Tree Fern		1.5L	3% @ 2m oc
A4 - RIPARIAN PLANTING		1658m2		
Aristotelia serrata	Makomako	_	2.5L	10% @ 1.5m d
Carex secta	Sedge		2.5L	20% @ 1m oc
Cordyline australis	Cabbage Tree	_	2.5L	5% @ 2m oc
Juncus edgariae	Wiwi Rush		2.5L	20% @ 1.5m (
Macropiper excelsum	Kawakawa		2.5L	10% @ 2m oc
Phormium tenax	New Zealand Flax		2.5L	15% @ 2m oc
Typha orientalis	Oriental Cattail		2.5L	20% @ 1.5m c

PLANT SCHEDULE

M.P A.K, J.L. 27/09/23 N.O. A.K, J.L. 06/03/23 N.O. A.K. J.L. 07/12/22 By Chk Appd Date

2 ISSUED FOR REVIEW
1 ISSUED WITH CONCEPT DESIGN - FINAL
0 ISSUED FOR INFORMATION
No. Revision



A1 1:500









WELLINGTON WATER EASTERN HILLS RESERVOIR LANDSCAPE CONCEPT PLAN SHEET 03 OF 03

A1 - LOW GROWING INDIGENOUS SHRUBS

A3 - BROAD LEAVED INDIGENOUS HARDWOODS

A2 - MANUKA KANUKA SCRUB

A4 - RIPARIAN PLANTING

FOOTPATH/MAINTENANCE ACCESS

LANDSCAPE ARCHITECTURE 3-WW021.02_L0003

WAIWHETU STREAM LEGEND BALGOWNIE GR A4 - RIPARIAN PLANTING (902 m²) (42) Aristotelia serrata (188) Carex secta (12) Cordyline australis (84) Typha orientalis A4 - RIPARIAN PLANTING (756 m²)(35) Aristotelia serrata
(158) Carex secta
(10) Cordyline australis
(70) Juncus edgariae
(20) Macropiper excelsum
(30) Phormium tenax
(70) Typha orientalis

CONCEPT LANDSCAPE PLAN
1:500 @ A1, 1:1000 @ A3

