IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Plan Change 93 to the Western Bay of Plenty District Plan

---

STATEMENT OF EVIDENCE OF AARON COLLIER (PLANNING)
ON BEHALF OF TE PUNA SPRINGS ESTATE LIMITED
(SUBMITTER 04)
23 JUNE 2022

\

1. Qualifications and Experience

1.1 My full name is Aaron Mark Collier.

1.2 I am a Consultant Planner and a Director of Collier Consultants Limited. Prior to establishing Collier Consultants in 2019 I was a Principal and Technical Director of Aurecon.

1.3 My qualifications are Masters' degree with Honours and a Post Graduate Diploma in Resources and Environmental Planning from the University of Waikato. I am a full member of the New Zealand Planning Institute (NZPI).

1.4 I have 27 years' experience working as a Local Authority and Consultant Planner. My predominant experience has been in plan policy development and land use planning in the Bay of Plenty. I have prepared numerous private and Council Plan Changes. I have also provided planning evidence and advice in relation to a number of second generation District Plans, including those for the Taupo, Tauranga, Rotorua, Thames-Coromandel, Waikato, and Western Bay of Plenty Districts as well as for the Auckland Unitary Plan. I was heavily involved in Council hearings and subsequent appeal processes for a number of these Plans, particularly the Western Bay of Plenty District Plan. I also currently act as a Technical Advisor for the Tauranga Urban Taskforce on plan changes.

1.5 Locally, I have prepared a number of local applications for commercial plan changes. These include:

- Bethlehem Commercial Zone/Te Paeroa Drive
- Courtney Road Commercial Plan Area
- Coast Commercial Plan Area (Papamoa)
- Gate Pa Retail Centre
- Seventeenth Avenue Commercial Plan Area

1.6 I have presented evidence as an expert planning witness on commercial plan changes at Council hearings, and the Environment Court.

1.7 I am familiar with the site which is the subject of Plan Change 93 and the surrounding Te Puna area.

1.8 Locally, I assisted Zariba Holdings Limited with their adjacent "Te Puna Village" development which is now complete. I have also obtained resource consents for Te Puna Springs for development on their site. I also provided advice in relation to the Te Puna Hall designation process and have worked extensively in Te Puna for many years.

1.9 In September 2017, I was approached by the late Rex McIntyre to assist him with preparing a private Plan Change to rezone part of his land at Te Puna Road. I was also involved in much of the consultation with neighbors and Council staff.

1.10 Plan Change 93 was prepared under my direction. I also prepared a submission for Te Puna Springs Estate on the Plan change and recently obtained approval from Council for the applicant to connect to the Omokoroa Pipeline.

1.11 I am familiar with the plan change application and its supporting Section 32 analysis. My evidence does not intend to repeat the Section 32 analysis and the overall assessment of the plan change as set out in the application. I adopt this assessment, except where amendment to provisions have been made. Where this has occurred, I have undertaken further assessment of these provisions as is required under s.32AA of the Resource Management Act 1991.

1.12 My evidence relies on the following technical evidence:

- The evidence of Ann Fosberry (Traffic)
- The evidence of Neill Raynor (Stormwater and Infrastructure)
- The evidence of Tim Heath (Retail Economics)
- The evidence of Morné Hugo (Landscape and Visual/Urban Design)
- The evidence of Fiona Wilcox (ecology).

1.1 The purpose of the plan change is to add further land to the existing commercial zone at Te Puna. The Council has currently 1.9ha of commercial zoned land on the Northwestern side of Te Puna Road which includes part of the applicant's site (which is 5.76ha in terms of overall area), the Te Puna Hall and the existing BP and Four Square sites.

1.2 Plan change 93 proposes to rezone the rest of the applicant's land and a small part of the Te Puna Hall site which will result in a further 4.5ha of commercial land being incorporated into the commercial zone. As noted in the evidence of Annalise Michel, the applicant facilitated the Hall being located on 4500m2 of commercial land which was previously part of the applicant's site.

1.13 I have reviewed the Council's Section 42A report and in general agree with the assessment of the plan change and the recommendations provided. I note that the recommendations largely accept the matters set out in a submission made by Te Puna Springs Estate Limited. There are relatively minor amendments to suggested changes set out in the applicant's submission. These include the removal of previously permitted provisions for non-commercial activities which are discussed in section 3 of my evidence.

1.14 Amendments were also made to the plan change following the receipt of submissions and in my opinion, these are improvements to both enabling and regulating plan provisions to ensure improved outcomes for the environment. These include the reduction in roading and the consideration of stream and ecological outcomes which are set out in section 4 of my evidence.

2. Statutory Considerations

2.1 The purpose of a District Plan, and key provisions of the RMA relevant to those matters, will be addressed in detail in legal submissions, and in the Councils s.42A report and I will not repeat that here. In summary, section 75(3) of the RMA requires that a District Plan must give effect to:

> *"(a) any national policy statement; and*
>
> *(b) any New Zealand coastal policy statement; and*
>
> *(ba) a national planning standard;*
>
> *(c) any regional policy statement."*

2.2 In preparing this evidence, I have had particular regard to:

- The submissions and further submissions on Plan Change 93
- The background section 32 reports which require evaluation of any objectives, policies and methods of the proposed plan Change;
- How the proposed plan provisions best give effect to the Regional Policy Statement (RPS).

2.3 I have also had regard to section 32AA of the RMA, which requires further evaluation for any changes that have been proposed since the original evaluation report was undertaken in accordance with Section 32 of the RMA. In relation to changes, further analysis of the provisions as required by s.32AA of the RMA is included as **Attachment A** to my evidence. The changes I propose are amendments to the provisions to ensure that stormwater, ecological and traffic related matters, as well as building height, are appropriately addressed.

3. Background and Plan Change Submission

3.1 The Council's Section 42A report sets out the background to Plan Change 93 which has been prolonged, and I do not intend to repeat this in detail. I would like to acknowledge my client Rex Mcintyre and his vision and passion for the site and his contribution to the Te Puna community in general. Following Rex's death, the vision for the plan change area changed (as set out in the evidence of Annalise Michel) with the decision to remove the applicants existing businesses from the site. Te Puna Springs Estate Limited submission reflects this through the amendments sought to delete provisions which provided for the applicants activities, as follows:

Activity List

19.3.1 Permitted Activities

~~Additional Permitted Activities (Te Puna Springs only)~~

- ~~Rural Contractors Depot~~
- ~~Offices (ancillary to activities occurring on site that are not provided for)~~
- ~~Places of Assembly within Area B Te Puna Springs Structure Plan~~
- ~~Warehousing and Storage~~

3.2 The applicant's submission also sought reordering of the District Plan Appendices through an amendment to Appendix 7 which suggested that the Structure Plan should be listed in geographic order and contained an updated definition of sensitive activities. This definition is as follows:

> *"Sensitive Activity(ies) - Te Puna Springs" is specific to Area A Te Puna Springs Structure Plan and means activities which are sensitive to noise, spray, and odour and which have the potential to generate reverse sensitivity effects. This is limited to residential dwellings, minor dwellings, accommodation facilities, places of assembly, education facilities and medical/scientific facilities.*

In my view the original definition as notified needed to be more specific to the Te Puna Springs plan change.

3.3 A number of further amendments were made to better align with plan formatting including the requirements for screening and landscaping, and the non-complying activity status of sensitive activities. These matters have been addressed in the s.42A report.

3.4 A further activity performance standard was sought in Section 19.4.1 (general) of the plan to provide for a building height of 12m along with reformatting of what is essentially a removal of the requirement for continuous retail frontage which would ordinarily only apply to main street commercial areas.

3.5 Since the plan change was lodged and following submissions, there were a number of meetings held with submitters and further correspondence was provided to each submitter in an attempt to address their concerns. This is discussed in Section 5 of my evidence.

4. Need for the Plan Change

4.1 As set out in the evidence of Tim Heath, there has been significant growth within the Te Puna area since this time, largely as a result of rural subdivision throughout the 1990's and 2000's, and then subsequently through the creation of lifestyle lots in the Minden Lifestyle Zone.

4.2 Much of the commercial development which has occurred in the Te Puna Village has occurred out of zone. Approximately 50% of the area developed for commercial purposes on the southern side of State Highway 2 is located within the rural zone. This has not occurred in a well planned or structured manner.

4.3 I have reviewed previous District Plans in an effort to determine when any commercial zoning last occurred. It would appear that no land has been rezoned since the early 1990's. This explains the pressure for out of zone development.

4.4 The Regional Policy Statement (RPS) provides guidance that plan changes should be supported by way of a structure planned approach where sites are greater than 5ha (policy UG9B and Method 18 of the RPS). Although the additional area to be rezoned is less than 5ha in area, I have adopted a structure plan approach as I believe this to be best practice. The approach incorporates the existing zoned land in an integrated and comprehensive manner with the further land.

4.5 I note that due to the small size of the area to be rezoned, the structure plan is more fine grained than would normally be anticipated and has been subject to some criticism and scrutiny by the Regional Council in their submission. The District Plans current provisions provide useful guidance in relation to structure plans in relation to stormwater management, ecological areas, and roading and access. Section 12.4.9.1 of the Plan sets out that:

> "*All subdivision and development in the identified structure plan areas shown on the planning maps shall provide for the following in the "general locations" shown on the structure plans".*

In my view the final boundaries of matters such as buffer areas, the extent of building platforms, and the avoidance of streams, are not required to be survey accurate as advocated by the Regional Council. Rather, this needs to occur at the time of development as provided for under 12.4.9.1.

4.6 The circumstances where plan changes can occur outside of urban limits under policy UG 7A is also met as the site is an extension of an existing business zone and is not in an urban area as defined in the RPS. As the proposed area to be rezoned is less than 5ha in area, policy NH7A and 8A need not apply. The RPS is clear in that the allocation of responsibility for natural hazard identification and risk assessment require the natural hazard identification and risk assessment approach described in Policies NH 1B, NH 2B and NH 7A to NH10B to be given effect to by the Regional Council. Their roles is to undertake area-based natural hazard susceptibility mapping for flooding from natural water courses outside urban areas with reticulated stormwater networks. I am uncertain as to whether the Regional Council have undertaken any area based natural hazard susceptibility mapping for the site, but the District Plan does acknowledge floodable areas in the location of the streams which are identified in the stormwater analysis prepared for the plan change.

4.7 Notwithstanding the above, the potential natural hazards relating to the site have been well canvassed and relate to the risk of flooding. These effects have been assessed in the evidence of Neill Raynor and in ongoing correspondence with the Regional Council. The land to be used for commercial purposes is located well above the flood level and floodable areas (the gully and stream locations) which are mapped and identified and do not form part of the buildable areas.

4.8 The applicant's entire site is proposed to be rezoned commercial, as the District Plan does not currently contain alternative zonings for streams, gully areas, or stormwater management areas. Where these areas contain significant features (i.e. such as significant ecological features) these are shown in the plan as overlays. There are none shown on the site, and we are not proposing any SEA's as part of the plan change based on the conclusions of the Wildland Consultant's assessment. The findings of this assessment are further outlined in 5.4 of my evidence below.

5. Amendments to the Plan Change

5.1 Prior to lodging the application for the plan change with the Council, I met with a number of submitters in 2018-2019 to discuss the proposal and to make neighbours in particular aware of the plan change. This included immediate neighbours such as Zariba Holdings, Mr & Mrs Muggeridge, and Doug Kirk. There was also a series of workshops completed and the Council undertook wider consultation with the community in relation to considering the future needs of the Te Puna Village.

5.2 I note that the s.42A report suggests that there are agreements in place with these parties. To clarify, draft agreements have been presented to both the Muggeridge's and Kirk's, but to date these have not been executed.

5.3 In response to submissions, the applicant undertook ecological reporting, and sought approval to connect to the Omokoroa Pipeline. Modifications were made primarily to the structure plan itself, as well as subtle amendments to the existing plan provision and the addition of further provisions was considered. Suggested amendments to the provision were communicated to submitters in a letter from me dated 19 May 2022. A copy of that letter is included as **Attachment B.**

5.4 Further investigations were carried out on the location, condition and general nature and ecological values of existing waterways on the site and the potential for waterways to be better defined and enhanced. This work (carried out by Wildland Consultants) identifies that although highly degraded, there is potential for stream and gully features to be enhanced and restored. The village green area (previously thought to contain an underground Spring/Puna) was moved to the actual location of the Puna. This is in area 3 (to the south of the Hall site) on the revised structure plan. A copy of the Revised Structure Plan is included as **Attachment C** to my evidence.

5.5 Three branches of streams which are present on the site (shown in areas 3 and 4 on the revised Structure Plan) and buffer areas around these were identified.

5.6 Removal of a through connection to State Highway 2 and the internal minimisation of roading necessary to service the site occurred. This avoided interference with stream corridors. Further landscape strips and riparian restoration strips (areas 5,6, and 7 on the revised Structure Plan) were also added.

5.7 In my opinion these were all positive amendments to the Structure Plan and were in response to concerns raised by submitters relating to:

- Flood conveyance and stormwater management
- Restoration of natural systems/ecology
- Through access from SH2and traffic conflict
- Provision for a sustainable stormwater solution (including provision for the Hall site and land surrounding the plan change area).
- Landscaping and open space
- Protection of the streams & Puna from future development
- A sustainable wastewater solution

5.8 As set out in the evidence of Ann Fosberry, the through connection to SH 2 is no longer considered necessary. To address the concerns of submitters I have proposed the additional roading provision for the Structure Plan provisions for Te Puna Springs in 8.4 of the Plan as follows:

> 8.4 "*No access to and from the site via SH2 shall be permitted until such time as the SH2 Takitimu North Link is operational".*

5.9 The evidence of Fiona Wilcox outlines the further ecological work completed which identified the extent of streams and gully areas. As part of very early discussions snd workshops held with neighbours and Pirirākau, it was agreed by the applicant that they would work closely with the Hapu and the surrounding community to rehabilitate and enhance the existing gully and stream areas.

5.10 As identified in the Wildlands assessment, there has been past land modification with the gully's being highly modified environments dominated exotic weed species, with natural watercourses having been modified. The site receives stormwater from a number of properties including DMS (who established the existing stormwater attenuation on the site as part of their discharge consent), Te Puna Road, State Highway 2, and land on the southern side of SH2. The stream and gully rehabilitation and planting will also involve a wider conversation with these parties outside of the plan change process. This will include the likes of DMS.

5.11 Future development of the land will require a regional stormwater discharge consent, consent for works in the bed of a stream/diversion, and also a consent for large scale earthworks.

5.12 Updated provisions in relation to riparian margins have been included in the Section 42A report and I generally agree with the wording suggested. However I recommend that a trigger and the basis for assessment be added to this rule (underlined) as follows:

> *8.3 Riparian Margins*
>
> *i. At the time of building or subdivision consent (whichever occurs first) restoration and enhancement of the riparian margins shall be undertaken as part of stormwater management improvements in accordance with the Wildlands Ecological report dated May 2022 (or other similar report prepared by a Suitably Qualified Expert). This restoration and enhancement shall be based on a plan approved by Council and shall include the following:*
>
> - *Buffer planting*
> - *Fish passage*
> - *A Stream enhancement plan*

6. Stormwater Management

6.1 Mr Raynor's evidence details the applicant's stormwater approach which is set out in detail in the application for the plan change. The District Plan contains the following relevant objective and policy relating to stormwater:

> *Objective 12.2.2.1.6 Subdivision and development that minimises the effects from stormwater runoff.*
>
> *Policy 12.2.2.7 Subdivision and development practices that take existing topography, drainage and soil conditions into consideration with the aim of minimising the effects of stormwater runoff.*

6.2 The District Plan contains general and structure plan specific provisions relating to the management of stormwater which will apply at the time of future development of the land. These are as follows:

> ***12.4.5 Stormwater***
>
> *12.4.5.1 Stormwater systems shall be provided or extended in accordance with Rule 12.4.3 and reticulation shall be provided*

for the subdivision in such a manner as to enable each lot to be connected to the Council system.

12.4.5.2 *Regional Council discharge consents shall be provided as applicable.*

12.4.5.3 *Each new or existing site shall be individually connected to the reticulated stormwater system in accordance with Council's Development Code.*

12.4.5.5 *A stormwater reticulation and disposal system shall be provided that is adequate to safeguard people from injury or illness and to protect property from damage caused by surface water.*

12.4.5.6 *A primary flow path for flood waters shall be provided as a system of stormwater pipes (or other alternative proven designs giving regard to operation and maintenance approved by Council) designed to cope with the runoff from the design flood.*

12.4.5.7 *A secondary flow path shall be provided as the overland route taken by floodwaters when the primary path is unable to cope either because of blockages or because the hydraulic capacity of the primary path is exceeded by a larger than design flood.*

12.4.5.13 *Where flowpaths provide connection to only one existing or proposed road or other feature and otherwise run through private property (e.g. privateway) the flowpath shall be within a defined channel or swale including calculation and design of capacity. The flowpath shall be protected by an easement in favour of Council and a consent notice on the title prohibiting ground re-shaping and the erection of any barriers to the flowpath.*

12.4.5.15 *Discharge to ground soakage may be allowed subject to the criteria as outlined in Council's Development Code.*

12.4.10 Structure Plans – Stormwater General

12.4.10.1 *The stormwater disposal systems shall be a combination of reticulated pipework, swales or appropriate open channels in the subdivision areas and open channels within the stormwater management reserves and ecological and stormwater reserves identified on the structure plans and Planning Maps. Stormwater treatment shall generally be provided within the identified stormwater management reserves.*

12.4.10.2 Within the stormwater management reserve, where the open channel is indistinct, pipework may be provided to connect to a defined open channel or stormwater treatment device.

12.4.10.3 Stormwater management reserves are areas identified for the retention of existing swales, gullies, watercourses, trees and vegetation that provide a means of collection, disposal and natural treatment of stormwater. Stormwater management reserves are identified having regard to natural landscape features such as tops of banks. Ecological and stormwater reserves include land for stormwater management but also include land that has an important ecological function and values.

12.4.10.4 All new subdivisions shall be designed for attenuation of the defined return period storm event (AEP) to pre-development levels. This may be achieved by a combination of subdivision design, land use restrictions, drainage design features (e.g. low impact design) and end of pipe solutions. Pre-development levels are defined as those relating to the natural ground level and stormwater flowpaths situation (as distinct from the existing situation) as assessed by Council's Authorised Officer.

12.4.10.5 All new subdivisions are to treat stormwater for removal of sediment to a standard of at least 75% gross removal (according to Auckland Council TP10 methods or equivalent). This may be achieved by a combination of drainage design features (e.g. swales) and end-of-pipe solutions (e.g. ponds). Where an individual subdivision cannot achieve this, or a combined approach is more effective, a financial contribution shall be levied towards provision of a comprehensive facility by Council.

12.4.10.6 All developments shall be required to demonstrate how they will address on or adjacent to the site:

a. Passage of surface flows from upstream and from the site itself to avoid risk of erosion.

b. Protection of houses from flooding in the defined storm AEP event.

c. Improvement of stormwater quality.

d. Management of runoff peaks to downstream so they are no greater than prior to development or are fully managed through to the receiving environment (e.g. the Tauranga Harbour).

e. All site developments (both subdivision earthworks and subsequent building excavations and earthworks) shall comply with the provisions of the Regional Council publication, "Erosion and Sediment Control Guidelines No 2001/3" and subsequent revisions.

f. Mitigate any detrimental effects of flow concentration at outlets.

12.4.10.7 Access for maintenance purposes shall be provided within the Stormwater management reserve in accordance with Council's Development Code.

12.4.10.8 Stormwater management reserves shall be vested in Council.

6.3 In this instance the stormwater system is likely to remain private, rather being vested in Council as a local purpose stormwater reserve, however the provisions in 12.4.5 relating to stormwater apply to development regardless of whether a reserve or subdivision is proposed.

6.4 The District Plans structure plan rules for stormwater provide for a combination of treatment and attenuation options and promote the retention of existing swales, gullies, watercourses and vegetation as well as low impact design and end of pipe solutions. In my opinion the proposal is in no way inconsistent with the outcomes sought by these provisions.

6.5 A number of concerns were raised by the Regional Council in relation to stormwater matters and I have been actively working through these concerns with Regional Council staff. The applicant's technical approach to stormwater is in accordance with the Regional Councils Stormwater Management Guidelines for the Bay of Plenty region, Guideline 2012/01 April 2012 (updated as at December 2015). The applicant's approach leaves no doubt in my mind that there is an adequate and entirely normal stormwater solution which will enable the site to be fully serviced from a stormwater perspective.

6.6 Also of relevance is the National Policy Statement: Freshwater which came into force on 3 September 2020. The fundamental concept of the NPSFW is Te Mana o te Wai which refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

6.7 I am satisfied that the Plan Change and its potential for ecological enhancement of streams their margins, and the Puna will give effect to the Objective of the NPS-FW and its relevant policies, including:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.

Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

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

7. Wastewater

7.1 The matter of wastewater is no longer a contentious issue associated with the plan change as it has been resolved through a separate approval process. I understand that the concerns raised by the DHB have been addressed and the specific Rule 8.2 would apply as follows:

> 8.2 - Wastewater
>
> i. All development shall be connected to a Council reticulated system and a volumetric capital connection fee will be charged for each new connection to Council's reticulation at the time of building consent. Disposal of wastewater to an OSET system within the structure plan area is not permitted.

7.2 Non-compliance with 8.2 would require a specific discretionary activity resource consent from the District Council (should an onsite effluent disposal system ever be considered for this site). In my view such an outcome is highly unlikely given that a reticulated connection is provided. A connection to the reticulation is also a requirement of the Local Government Act.

7.3 I would not support an alternative non-complying or prohibited activity status as suggested in correspondence with the DHB, as this would be inconsistent with the Regional Plan which provides for permitted on-site effluent disposal within the zone.

8. Reverse Sensitivity and Rural Effects considerations

8.1 The applicant undertook early assessment in preparing the plan change to consider the potential effects on rural activities on adjacent sites and purposely the applicant has been committed to not wanting to constrain these existing rural uses i.e., orcharding activities.

8.2 I have had a number of discussions with the Muggeridge's and the Kirk's in relation to the 30m buffer zone which has been established around the perimeter of the site and in the formulation of provisions to deal with sensitive activities. I support the use of these provisions based on work previously undertaken by the District Council and the applicant's supporting assessment in relation to matters such as spray drift as set out in the Section 32 analysis. I am confident that this buffer will be appropriate in dealing with any potential affects as it introduces a non-complying activity status for any sensitive activities within 30m of the rural neighbours. As noted earlier in my evidence I supported broadening of the nature and range of activities that fell within the definition of a sensitive activity as part of the applicants submission.

8.3 In relation to existing orcharding activities there is a buffer including the stream which adequately separates building areas from the Muggeridge's orchards. Any future buildings will be on the southern side of the Kirks Kiwifruit orchard which his currently sheltered by a large artificial shelterbelt. Normal daylighting and yard setbacks will apply as per the existing rules in 'Chapter 19 of the District Plan. It is not unusual for larger buildings to be located in proximity to Kiwifruit orchards, such as packhouses, cool stores and postharvest facilities.

8.4 A 12m building height was sought through the applicant's submission. Currently the District Plan provides for 12.5m high buildings in the Te Puke and Katikati commercial zones. In considering the issue of an appropriate building height for a commercial zone, Plan Objective 19.2.1.4 is relevant. The Plan objective seeks the following intended resource management outcome:

> *Commercial development of a scale that is appropriate for the location.*

8.5 Policy 19.2.2 of the District plan is also relevant. The policy states:

> *Apply height limits that are appropriate for the location of the Commercial Zone especially in relation to smaller communities such as Maketu, Pukehina and Paengaroa where large commercial buildings/structures could detract from the amenity of the area.*

8.6 The site is one which in my opinion is peri-urban in nature. It is located adjacent to State Highway 2 has been highly modified through past earthworks and land contouring practices and adjoins existing commercial and industrial style buildings. For example, the site is immediately opposite a large post-harvest facility (DMS) on the eastern side of Te Puna road. Based on the site's locational characteristics, larger buildings and structures would not detract from the amenity of the area. Larger buildings are part of the character of the area, and this extends to permitted structures such as the existing artificial shelter along the northern boundary of the Plan Change area.

8.7 I agree with the evidence of Morné Hugo and am satisfied that a 12m building height would be appropriate for this location as per the District Plan Objective 19.2.1.4. Unlike the small settlements of Maketu, Pukehina and Paengaroa, the site is not

located in close proximity to residential development, and no dwellings or accommodation is permitted to be built within 30m of the site boundary.

9. Conclusions

9.1 I generally concur with the Council's Section 42A report and the proposed amendments which have been suggested. In my view most of these amendments/modifications are improvements creating greater benefit than earlier versions of the provisions and many are because of the applicant's submission. The removal of permitted activities from the plan change is because of the applicants change in circumstances.

9.2 I am satisfied that the further provisions as set out in my evidence can adequately resolve traffic, wastewater and stormwater/ecological concerns raised by submitters (the latter considerations also being subject to future Regional Resource Consent processes). Based on the Section 32 and Section 32AA analysis completed for the plan change, I consider that the commercial zoning sought by the applicant with appropriate amendments should be accepted.

Aaron Collier
Planner

23 June 2022

ATTACHMENT A

RMA s32AA Evaluation

\

RMA s32AA evaluation template

Restriction on access to State Highway

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Western Bay of Plenty District Plan
That a further provision be added to the Te Puna Springs structure plan provision as follows: "No access to and from the site via State Highway 2 shall be permitted until such time as the SH2 Takitimu North Link is operational"	There is an existing access to the site on the southwest corner of the structure plan from the slip road and slip road access to the commercially zoned land north of the BP site. The slip road intersection on State Highway 2 is left in, left out, and has recessed parking behind the State Highway 2 bus stop. Right turns in and out are prohibited. The slip road from State Highway 2 is currently used by commuters during peak times with drivers diverting to Te Puna Road and then onto Te Puna Station Road. As part of the Tauranga Northern Link project a full interchange will be constructed on Minden Road. The potential for a current "rat run" issue through the slip road will cease and Te Puna Road traffic volumes will also reduce. The existing access fronting the slip road is to that part of the site which is likely to be developed by the applicant as part of a final stage. To avoid conflict with the current "rat run" the further provision is recommended.
Relevant objectives	The proposal is consistent with the plans traffic related objectives of the plan including: • 4B.2.1.1 - To provide an integrated, efficient, safe and sustainable transport network. • 4B.2.2.1 - To recognise and provide for the existing and future transport network… • 4B.2.2.2 - To avoid, remedy or mitigate the adverse effects of land use, development and subdivision on the safety, efficiency, sustainability and capacity of the transport network. • 4B2.2.3 - To manage the land use, development and subdivision of areas to achieve compatibility of the roads they front and the wider transport network… The proposal is therefore consistent with the Plan's objectives in relation to the development of roading and the management of traffic effects.
Scale and significance	The scale of the proposed change is small and localised and simile the significance is localised. The proposal is a short team provision to manage the site until such time as the Tauranga Northern Link outcomes are in place and SH2 is closed at Loop Road.
Other reasonably practicable options to achieve the objectives (alternative options)	**Alternative 1:** Do nothing – this would result in no provisions controlling the access to the State Highway frontage which could result in traffic conflict issues.

Benefits and Costs Analysis

Benefits	There are traffic safety benefits associated with the proposal.
Costs	There are no known costs.
Effectiveness / efficiency	The proposed provision will be both effective and efficient and is likely to be short term in nature which will restrict access (only affecting the applicant and no other party).
Risks of acting / not acting If there is uncertain or insufficient information about the subject matter	There is no uncertain or insufficient information about the subject matter. The Tauranga northern Link is scheduled to be completed in the next couple of years and State Highway 2 will then be closed and will revert to a local road. The risk of not acting could mean that there are traffic conflicts created.

Evaluation of the proposal

Reasons for the selection of the preferred option.	There are benefits associated with imposing an access restriction, as a temporary measure to restrict access to State Highway 2 until such time as the Tauranga Northern Link is in place.
Extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA.	The provision is the most appropriate way as it will result in the protection of commuters and a safe systems approach.
Assessment of the risk of acting or not acting if there is uncertain information about the subject matter of the provisions.	It is considered that there is no uncertain information. The provision proposed is an interim provision only.

RMA s32AA evaluation template

Further provisions to protect riparian margins and streams

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Western Bay of Plenty District Plan
8.3 Riparian Margins (i) at the time of building or subdivision consent (whichever comes first), restoration and enhancement of the riparian margins shall be undertaken as part of stormwater management and improvements in accordance with the Wildlands Ecological Report dated May 2022 (or other similar report prepared by a suitably qualified expert). This restoration and enhancement shall be based on a plan approved by Council and shall include the following: • Buffer planting • Fish passage • A stream enhancement plan	As part of the Ecological reporting prepared for the plan change it has been recommended that the gully systems and streams be restored and enhanced, and the further provision provides for this to occur.
Relevant objectives	The proposal is generally consistent with the objectives of the District Plan: • Objective 5.2.1.2 – Support and encourage the protection and enhancement of ecosystems of importance for both the natural processes they offer and ecological benefits in terms of connectivity, buffering, or the provision of habitat for threatened species. • Objective 5.2.1.4 – Preservation of wetland and riparian areas and where practicable the enhancement or restoration of the values and functions of degraded wetland and riparian areas.
Scale and significance	The spatial extent of the stream locations has been identified at a Structure Plan level and will be subject to various future resource consent processes from the Regional Council. The proposal to exclude stream margins from building and general commercial development has been agreed to and accepted by the applicant and the further provision proposes a mechanism at the time of detailed design for the site to enable the final boundaries of the riparian margins and the nature of stream restoration

	and enhancement to be completed.
Other reasonably practicable options to achieve the objectives (alternative options)	**Alternative 1:** Do nothing – this is an inappropriate option as it would not give effect to the plan's objectives in relation to riparian margins and the potential for enhancement.

Benefits and Costs Analysis

Include riparian margin provision

Benefits	The benefits are largely to be significant given that the streams and their margins are currently highly degraded.
Costs	There may be significant costs involved for the applicant, but the applicant is happy to share these costs with other contributors (particularly those that discharge stormwater to the applicants site).
Effectiveness / efficiency	Riparian margin planting and stream restoration is likely to result in some efficiencies and effectiveness in terms of stormwater quality and ultimate discharges to Tauranga Harbour.
Risks of acting / not acting If there is uncertain or insufficient information about the subject matter	The risks of not acting are that the nature of the existing discharge and the degraded stream environment would continue if the land is not rezoned, and the stream margins and gully areas are unlikely to be enhanced. The applicant has also agreed with Pirirakau that they will assist with the restoration and protection of Puna which are located on the site

Evaluation of the proposal

Reasons for the selection of the preferred option.	There are considerable economic and cultural benefits associated with the protection and enhancement of the riparian margins.
Extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA.	The proposed provision will result in the protection and enhancement of the riparian areas consistent with the acts purpose.
Assessment of the risk of acting or not acting if there is uncertain information about the subject matter of the provisions.	It is considered that at the time of development there will be no uncertain information and the rezoning is supported by a technical ecological assessment which provide recommendation for the protection of the riparian margin.

RMA s32AA evaluation template

Include 12 m building height

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Western Bay of Plenty District Plan
Amend Activity performance standards 19.4.1(General) to refer to: (iv) Te Puna Springs Structure Plan Area The maximum height of buildings/structures shall be 12m	The proposal will enable taller buildings to accommodate commercial activities under the plan change, consistent with the approach elsewhere for commercial zones.
Relevant objectives	The proposal is generally consistent with the objectives of the District Plan which are as follows: 19.2.1.4 - Commercial development of a scale that is appropriate for the location. 19.2.2.11 - Apply height limits that are appropriate for the location of the Commercial Zone especially in relation to smaller communities such as Maketu, Pukehina and Paengaroa where large commercial buildings/structures could detract from the amenity of the area.
Scale and significance	Not considered significant as daylighting based on a 12m building height and yard setbacks will continue to apply
Other reasonably practicable options to achieve the objectives (alternative options)	**Alternative 1:** apply 9m – this is an inappropriate option as it would not give effect to the plan's objectives in relation to a scale of building appropriate to the location.

Benefits and Costs Analysis

Include 12m building height

Benefits	The benefits are largely to be significant given that a wider range of buildings and uses will be provided for
Costs	There are no known costs. Normal commercial zone setbacks and boundary interfaces will apply and no dwellings or accommodation is permitted within 30m of the boundary at the rural interface
Effectiveness / efficiency	A 12m height will result in efficiencies in relation to the use and development of the site providing for a wider range of uses other than small scale retail.
Risks of acting / not acting If there is uncertain or insufficient information about the subject matter	There is no uncertain information and the 12m is supported by a landscape Architects assessment

Evaluation of the proposal

Reasons for the selection of the preferred option.	There are considerable economic and other benefits to the community to providing for a 12m building height which result is a wider range of potential uses on the site.
Extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA.	Based on the clear District Plan objective and supporting policy in relation to height, a 12m building height is the most appropriate height in achieving the purpose of the Act.
Assessment of the risk of acting or not acting if there is uncertain information about the subject matter of the provisions.	It is considered that there is no uncertain information and the 12m is supported by a landscape Architects assessment

ATTACHMENT B

Letter to Submitters

\

COLLIER CONSULTANTS LTD
PO Box 14371
Tauranga Mail Centre
TAURANGA 3143
M: 021 744 707

19 May 2022

Bay of Plenty Regional Council
PO Box 364
Whakatane

Attention: Nathan Tepairi

Email: Nathan.tepairi@boprc.govt.nz

Dear Nathan,

Plan Change 93 – Te Puna Springs

I refer to your submission received in relation to public notification of Plan Change 93 – Te Puna Springs.

As you are aware the purpose of Plan Change 93 was to expand the existing commercial area at 17 Te Puna Road and remove the split zoning of rural/commercial across the property.

Rule changes were proposed for the Structure Plan Area, including to allow for the existing mix of commercial uses, the Te Puna Hall, and ancillary offices, as well as providing for reverse sensitivity provision to avoid conflict with established horticultural and rural activities. Te Puna Springs Estate Limited lodged a submission seeking that various industrial type activities no longer be provided for as permitted activities, given that Supermac/Modcom will relocate from the site if the land is rezoned.

As part of Plan Change 93 a Structure Plan was developed which proposed a new link road through the site with access from Te Puna Road linking into the existing slip lane at State Highway 2.

Stormwater and a number of landscaping requirements were also identified in the framework.

The applicant (Te Puna Springs Estate Limited) has carefully considered all submissions received on Plan Change 93, including your submission. In response, the applicant has undertaken further work to address a number of matters raised. This further work has included the following amendments and refinements:

1. The applicant applied for a wastewater connection to the Omokoroa pipeline. This connection was recently granted by the Western Bay of Plenty District Council. A copy of the Council's resolution is enclosed for your reference.

2. Further investigations were carried out on the location, condition and general nature and ecological values of existing waterways on the site and the potential for waterways to be better defined and enhanced. We enclose an Ecological Report prepared by Wildland Consultants

which addresses in detail the presence and existing values of ecological and stream features on the land. The report identifies that although highly degraded, there is potential for these features to be enhanced and restored.

In response to the recommendations contained within the Wildlands Ecological Assessment, the Structure Plan has been revised. A copy is enclosed for your reference. The updated Structure Plan contains the following amendments:

1. Removal of the village green area (previously thought to contain an underground Spring/Puna) to the actual location of the Puna. This is in area 3 (to the south of the Hall site) on the revised structure plan.

2. The identification of three branches of streams which are present on the site. The applicant is proposing to include buffer areas around these streams. These are shown in areas 3 and 4 on the revised Structure Plan.

3. Removal of the through connection to State Highway 2 and the internal rationalisation of roading necessary to service the site. This will avoid interference with stream corridors.

4. The establishment of further landscape strips and riparian restoration strips (areas 5,6, and 7 on the revised Structure Plan).

5. The identification of the open channels/streams and stormwater management areas.

These amendments to the Structure Plan and plan change were in response to concerns raised by submitters relating to:

- Flood conveyance and stormwater management
- Restoration of natural systems/ecology
- Through access from SH2and traffic conflict
- Provision for a sustainable stormwater solution (including provision for the Hall site and land surrounding the plan change area).
- Landscaping and open space
- Protection of the streams and Puna from future development
- Providing for a sustainable wastewater solution to service the site. In relation to this matter, there will be an accompanying permitted activity rule status added to the structure plan rules for activities that connect to the Council reticulated wastewater system. Although it will obviously be much cheaper and more efficient to connect to the reticulated system, and all activities within the Te Puna Springs Structure Plan area will realistically connect, the applicant will include a new rule to avoid the use of onsite wastewater systems. It is expected the Te Puna Hall will also connect to the reticulated system once established, as this will provide a more environmentally sustainable outcome for its urban community activities.

We would be happy to meet with you to discuss further the changes proposed and whether these now address the matters that you have raised in your submission.

If you would like to meet or discuss the amendments further, please do not hesitate to contact me.

Yours faithfully,

Aaron Collier
Director/Planner

Attachments:

- Attachment A - Revised Te Puna Springs Structure Plan
- Attachment B - Wildland Consultants Report
- Attachment C - Copy of WBOPDC Wastewater Resolution

ATTACHMENT A

REVISED TE PUNA SPRINGS STRUCTURE PLAN

LEGEND

1. Commercial area
2. Hall
3. Spring/Puna
4. Stormwater management area
5. 4m wide landscape buffer strip
6. 2m wide landscape buffer strip
7. 10m wide riparian restoration strip

KEY

- Specimen trees
- Landscape buffer strip
- 30m Setback for sensitive activities
- Open channels/streams

Boffa Miskell
www.boffamiskell.co.nz

N

0 50m

1:1,500 @ A3

Data Sources: Aurecon Limited

Projection: NZGD2000 N.Z. Transverse Mercator

TE PUNA SPRINGS INDUSTRIAL DEVELOPMENT

Structure Plan

| Date: 21/04/2022 | Revision: L |

Plan prepared for Aurecon by Boffa Miskell Limited

Project Manager: **Morne.Hugo@boffamiskell.co.nz** | *Drawn:* ALi | *Checked:* MHu

T18002

Sheet 1

ATTACHMENT B

WILDLAND CONSULTANTS REPORT

ECOLOGICAL ASSESSMENT OF WATERWAYS WITHIN TE PUNA SPRINGS ESTATE, 23 TE PUNA ROAD, TAURANGA

providing outstanding ecological services to sustain and improve our environments

Wildlands

R6278

ECOLOGICAL ASSESSMENT OF WATERWAYS WITHIN TE PUNA SPRINGS ESTATE, 23 TE PUNA ROAD, TAURANGA

Contract Report No. 6278

May 2022

Project Team:
Lucian Funnell - Stream habitat assessment, report author
Fiona Wilcox - Wetland and vegetation assessment, report author
William Shaw - Report author

Prepared for:
Te Puna Springs Estate Limited
PO Box 16349
Tauranga 3147

Reviewed and approved for release by:

W.B. Shaw
Director/Lead Principal Ecologist
Wildland Consultants Ltd

TAURANGA OFFICE: 69 GARGAN ROAD, TAURIKO, TAURANGA 3171
Ph 07-574-2642; Fax 07-574-2643

99 SALA STREET, WHAKAREWAREWA, 3010, P.O. BOX 7137, TE NGAE, ROTORUA 3042
Ph 07-343-9017; Fax 07-343-9018, email ecology@wildlands.co.nz, www.wildlands.co.nz

CONTENTS

1. INTRODUCTION

A private plan change request by Te Puna Springs Estate Limited ("Te Puna Springs") has been submitted to rezone land at 23 Te Puna Road, Tauranga. The request seeks to have approximately 5.93 hectares of land on the western side of Te Puna Road rezoned from the current partial Rural and partial Commercial zoning, to a new scheduled site provision within the Commercial Zone as set out in the plan change application (Aurecon 2021).

The proposed development would require removal of an existing stormwater pond, infilling of the southern stream reaches on the property, and creation of an off-line pond/wetland area (Aurecon 2021). The new pond/wetland would include extended detention ponds and a larger, main pond from which the settled stormwater would discharge back into the lower (northern) stream reach. The plan change provides an opportunity to enhance the ecological values of the existing stream. Development of options for appropriate ecological enhancement measures requires an understanding of the current values of watercourses on the subject property. This report therefore provides descriptions and an ecological assessment of the current in-stream and riparian margins of the existing watercourses.

2. BACKGROUND INFORMATION

2.1 Ecological context

The property is located in the coastal bioclimatic zone of the Tauranga Ecological District. The Tauranga Ecological District (*c.*85,670 hectares) is situated in the Western Bay of Plenty, between the eastern foothills of the Kaimai-Mamaku Range and the Pacific Ocean, and includes the western extent of the coastal dunes system that extends between Waihī Beach and Ōpōtiki. The Ecological District lies largely within the coastal and semi-coastal bioclimatic zones.

Tall podocarp-broadleaved forest would have historically covered all of the hill country and some of the flat land of the Ecological District, including the dune systems, with the exception of the foredunes and the extensive freshwater wetlands on the plains. Forest vegetation would have been dominated by rimu (*Dacrydium cupressinum*) and tawa (*Beilschmiedia tawa*), with other podocarp species such as miro (*Prumnopitys ferruginea*) and mataī (*Prumnopitys taxifolia*) also common. Kauri (*Agathis australis*) is likely to have been present at the northern end of this Ecological District (Stokes 1980). Pōhutukawa (*Metrosideros excelsa*) forest would have occurred on the headlands and hill slopes near the harbour.

Estuarine systems would have been dominated by mangroves (*Avicennia marina* subsp. *australasica*), sea rush (*Juncus kraussii* var. *australiensis*), and oioi (*Apodasmia similis*), which would have graded into saltmarsh ribbonwood (*Plagianthus divaricatus*) and mānuka (*Leptospermum scoparium*) between saltwater and freshwater systems. Freshwater wetlands would have been dominated by raupō (*Typha orientalis*), sedges, harakeke (*Phormium tenax*), and tī kōuka (*Cordyline australis*), with local patches of swamp forest dominated by kahikatea (*Dacrycarpus dacridioides*) with maire tawake (swamp maire; *Syzygium maire*) and large areas of kiekie (*Freycinetia*

banksii). Large freshwater wetlands existed on the Kaituna-Pongakawa plain, and around the Maketu and Waihi Estuaries. Smaller wetlands would have occurred around the harbour margins and along the margins of the major river valleys such as the Wairoa, Kopurererua, and Waimapu.

Present-day vegetation is dominated by exotic species, primarily those associated with agriculture, horticulture, and exotic plantation forest which together cover *c.*77% of Tauranga Ecological District. Indigenous vegetation has been significantly reduced in extent, with indigenous forest, scrub, and shrubland covering *c.*6% of the District and estuarine and wetland habitat covering *c.*3% the District (Landcare Research 2015).

2.2 Catchment character

The wider catchment comprises a mixture of horticultural, pastoral, and lifestyle properties with small areas of mixed indigenous and exotic species forest, scrub, and shrubland. Immediately surrounding the subject property, the land use is predominantly industrial and horticultural and is located in close proximity to a main highway which defines the southern boundary of the property.

2.3 Existing freshwater fauna records

Waterways within the property comprise tributaries of the Oturu Creek, which discharges into Tauranga harbour *c.*2.5 kilometres north of the site. A range of indigenous fish species have been recorded in Oturu Creek, with seven species recorded from the lower reach of Oturu Creek close to Tauranga Harbour, and three species found from higher in the Oturu Creek catchment (Table 1). The upper catchment records are from a stream reach located close to the subject property, and these records are likely to be representative of the species present in the waterways at the site.

Table 1: Fish species recorded in the upper and lower Oturu Creek catchment; data from NZFFD.

Species	Common Name	Lower Catchment	Upper Catchment
Anguilla australis	Shortfin eel	Y	Y
Anguilla dieffenbachii	Longfin eel	Y	Y
Galaxias maculatus	Inanga	Y	Y
Gobiomorphus huttoni	Redfin bully	Y	-
Gobiomorphus cotidianus	Common bully	Y	-
Gambusia affinis	Gambusia	Y	-
Retropinna retropinna	Common Smelt	Y	-

3. METHODS

3.1 Overview

A site visit was undertaken on 3 March 2022 during fine still weather. Vegetation and habitat types along the riparian margins of the waterways within the property were mapped and described, and a list of vascular plant species observed was compiled. Representative site photographs were taken and incidental observations of fauna were recorded. Two methods for quantifying the ecological and habitat values of the

waterways within the site were used: 1) a rapid stream habitat assessment, and 2) water sampling for eDNA analysis. Further details on these two assessments are provided below.

3.2 Stream habitat assessment

A brief site walkover was undertaken to visually assess the uniformity of the waterways within the site and to determine the number of stream habitat assessments required. Two reaches of the stream were chosen for assessment using the rapid site characterisation Protocol 1 (Harding *et al*. 2009): one along the upper main stream channel which has been heavily modified and which has little riparian cover, and the other in the lower reach of the stream which appears to be relatively unmodified and has good riparian cover.

3.3 eDNA sampling

Sampling of freshwater habitats was undertaken at six locations between 1030 to 1300, during fine weather. Three samples were collected from the stream below the pond, one sample just below the existing pond, and two samples from above the pond (Figure 1). At each location, one eDNA sample was taken using the method outlined by Wilderlabs. This consisted of collecting water with a syringe and pushing that water through a filter. Multiple water samples were taken at each point either until the filter became clogged or until 1,000 millilitres of water had been passed through the filter. Samples were sent off to be analysed for fish, insect, bird, and mammal DNA using a DNA metabarcoding method (Wilkinson 2020).

The analysis supplies DNA sequence counts for each sample which can then be used to loosely predict the abundance/biomass of organisms in the environment sampled. Good prediction of abundance and biomass requires combining results over multiple replicate samples, however a single sampling period gives an indication of species that are present within or alongside the stream. Several factors can influence eDNA sequence counts, including the distance of organisms from the sampling point, the presence of dead/decaying organisms, and assay biases (Wilkinson 2020).

4. VEGETATION AND HABITAT TYPES

4.1 Terrestrial and wetland vegetation and habitat

Fourteen vegetation and habitat types were identified along the riparian margins of water courses within the site.

- Tree privet forest and scrub.
- Blackberry-climbing dock vineland.
- Exotic grassland and herbfield.
- Raupō-*Carex geminata*-(swamp millet) reedland and sedgeland.
- Lombardy poplar-tree privet-(pine)-(black wattle) treeland and scrub.
- Tutunawai-Mercer grass-(swamp millet) grassland and herbfield.
- Grey willow-(she oak) forest and treeland.
- (Queensland poplar)/mixed exotic species grassland and herbfield.

- Blackberry vineland.
- Patchy exotic grassland.
- Open water.
- Mixed exotic species herbfield.
- Main stream channel.
- Southwestern tributary.
- Southern tributary.

These predominantly comprise exotic-dominant habitats, however small areas of indigenous dominated habitat area also present. The 14 types are mapped in Figure 1 and described below.

1. Tree privet forest and scrub (*c.*0.18 hectares)

Tree privet forms a dense canopy up to eight metres tall on the margins of the stream in the northern half of the site. The understorey and groundcover is depauperate with only occasional small patches of *Diplazium australe* within bare ground. Occasional Lombardy poplar (*Populus nigra* 'Italica') and flowering cherry (*Prunus* species) are also present in the canopy.

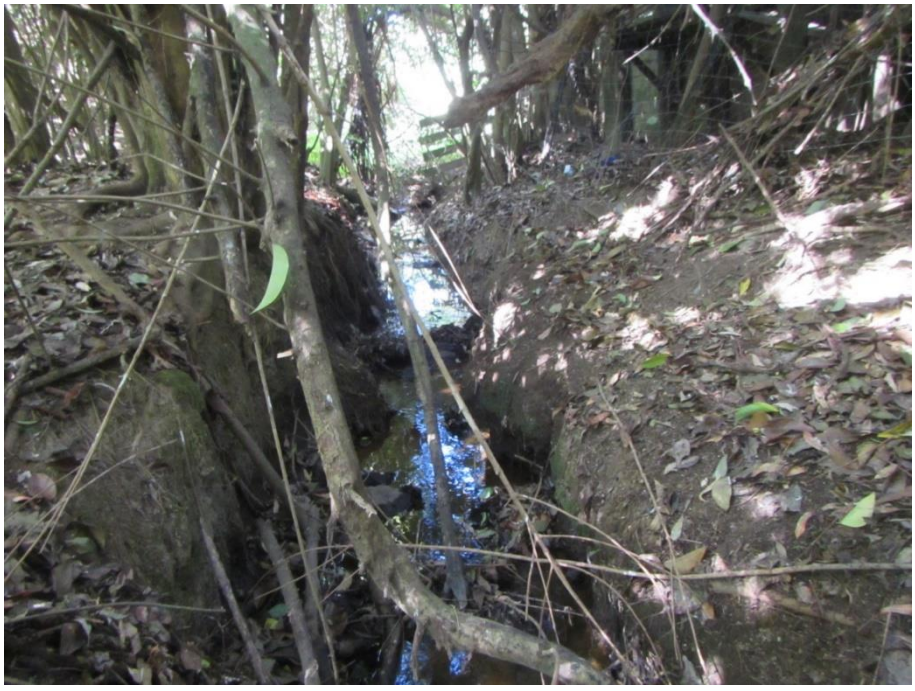

Plate 1: Main northern stream channel near the northern property boundary. The main cover is tree privet stems and vegetation diversity is lacking. 2 March 2022.

2. Blackberry-climbing dock vineland (*c.*0.11 hectares)

Upper riparian margins on the eastern side of the lower stream reach support vineland dominated by blackberry (*Rubus fruticosus*) and climbing dock (*Rumex sagittatus*) with occasional emergent gorse (*Ulex europaeus*), flowering cherry, and black wattle (*Acacia mearnsii*). These areas also have a narrow strip of exotic grassland and herbfield at the top of the slope.

Figre 1. Vegetation, habitat types and eDNA sampling locations along the riparian margins of watercourses at 23 Te Puna Road, Tauranga.

3. Exotic grassland and herbfield (*c.*0.06 hectares)

A small area of grassland and herbfield dominated by exotic species on flat, compacted ground beside and within an ephemeral flow path. Species present include broadleaved fleabane, wild carrot (*Daucus carota*), paspalum (*Paspalum dilatatum*), Mercer grass (*Paspalum distichum*), summer grass (*Digitaria sanguinalis*), sweet vernal (*Anthoxanthum odoratum*), narrow leaved plantain (*Plantago lanceolata*), and creeping buttercup (*Ranunculus repens*).

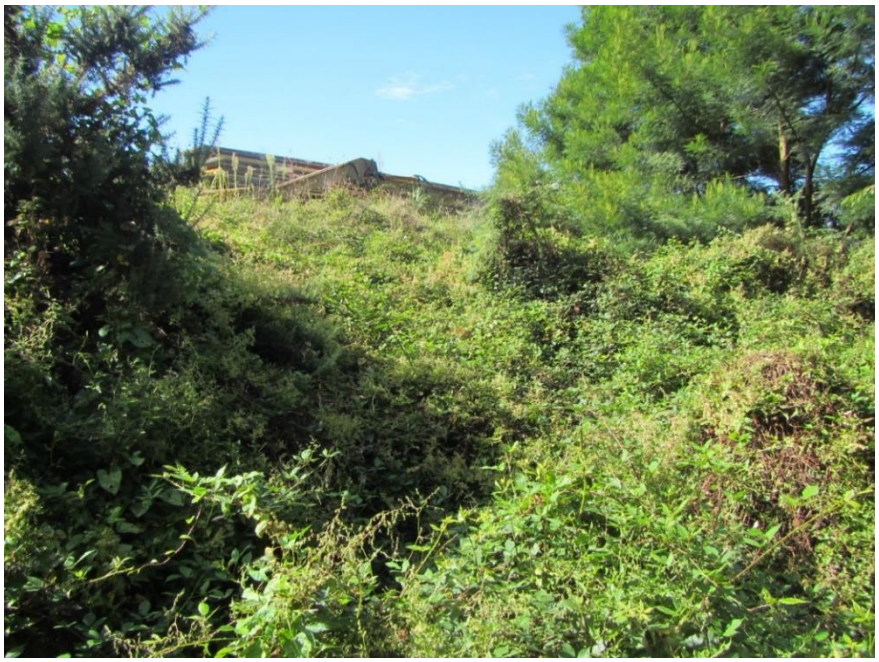

Plate 2: Blackberry and climbing dock vineland on the upper eastern riparian margins in the northern half of the site. 2 March 2022.

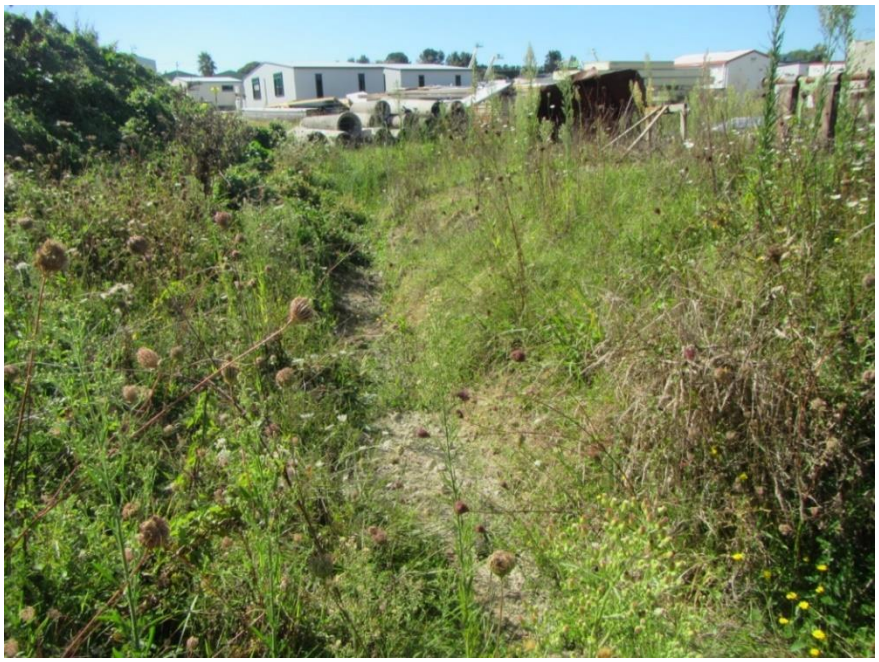

Plate 3: A small ephemeral flow path surrounded by mixed exotic grassland and herbfield. 2 March 2022.

4. Raupō-*Carex geminata*-(swamp millet) reedland and sedgeland
(*c.*0.05 hectares)

A small area of wetland habitat is present on the northeastern side of the pond in the centre of the main watercourse. Raupō (*Typha orientalis*) reedland with lesser proportions of *Carex geminata* and swamp millet (*Isachne globosa*) dominates the eastern half of this area, with *Carex geminata* becoming more dominant towards the open water habitat. *Diplazium australe* is locally common amongst the *Carex* dominated area, and occasional small blackberry canes and Japanese honeysuckle (*Lonicera japonica*) vines are also present towards the drier margins of this type.

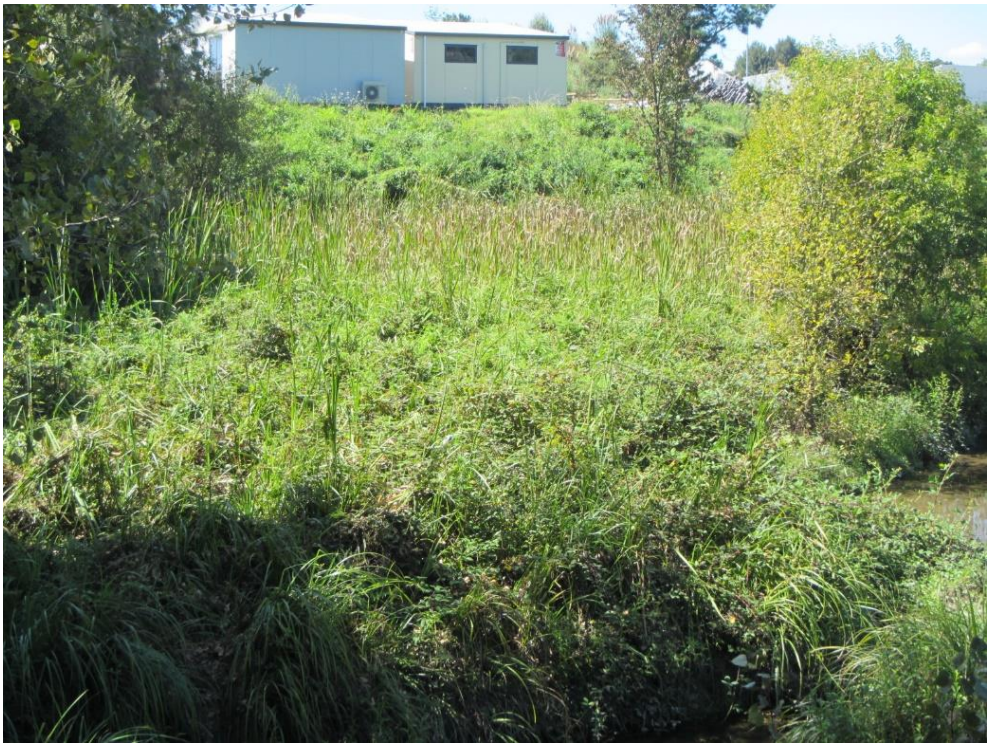

Plate 4: A small area of indigenous wetland habitat dominated by raupō and *Carex geminata* is present beside the existing pond. 2 March 2022.

5. Lombardy poplar-tree privet-(pine)-(black wattle) treeland and scrub
(*c.*0.05 hectares)

A small area of exotic species treeland and scrub on steep slopes north of the pond. Occasional *Diplazium australe* are present.

6. Tutunawai-Mercer grass-(swamp millet) grassland and herbfield
(*c.*0.01 hectares)

Dense tutunawai (*Persicaria decipiens*) herbfield is present closest to the pond margins and in areas with a higher water table. Mercer grass grassland is present in slightly drier areas within this type. Small patches of swamp millet are also present.

7. **Grey willow-(she oak) forest and treeland (***c.*0.02 hectares)

   A small area of grey willow (*Salix cinerea*) forest and treeland on moderate slopes north of the wetland area. Grey willow forms a dense canopy in most of the area, however the eastern part of this type comprises scattered small she oak (*Casuarina* sp.) trees over exotic grassland and herbfield. Occasional indigenous and exotic species are present beneath the grey willow canopy including *Diplazium australe*, mamaku (*Cyathea medullaris*), and veldt grass (*Ehrharta erecta*).

8. **(Queensland poplar)/mixed exotic species grassland and herbfield** (*c.*0.02 hectares)

   Queensland poplar (*Homalanthus populifolius*) is regenerating prolifically within mixed exotic species grassland and herbfield on gentle slopes which have been cleared of woody vegetation on the western side of the pond. Grass and herb species present include wild carrot, beggar's tick (*Bidens frondosa*), white clover (*Trifolium repens*), oxeye daisy (*Leucanthemum vulgare*), narrow leaved plantain, summer grass, and veldt grass. Occasional gorse seedlings are also present.

9. **Blackberry vineland** (*c.*0.01 hectares)

   A small area of blackberry vineland on a raised mound.

10. **Patchy exotic grassland** (*c.*0.02 hectares)

    A small, narrow area of compacted fill which supports a patchy distribution of an unidentified exotic grass and scattered gorse and tree privet seedlings.

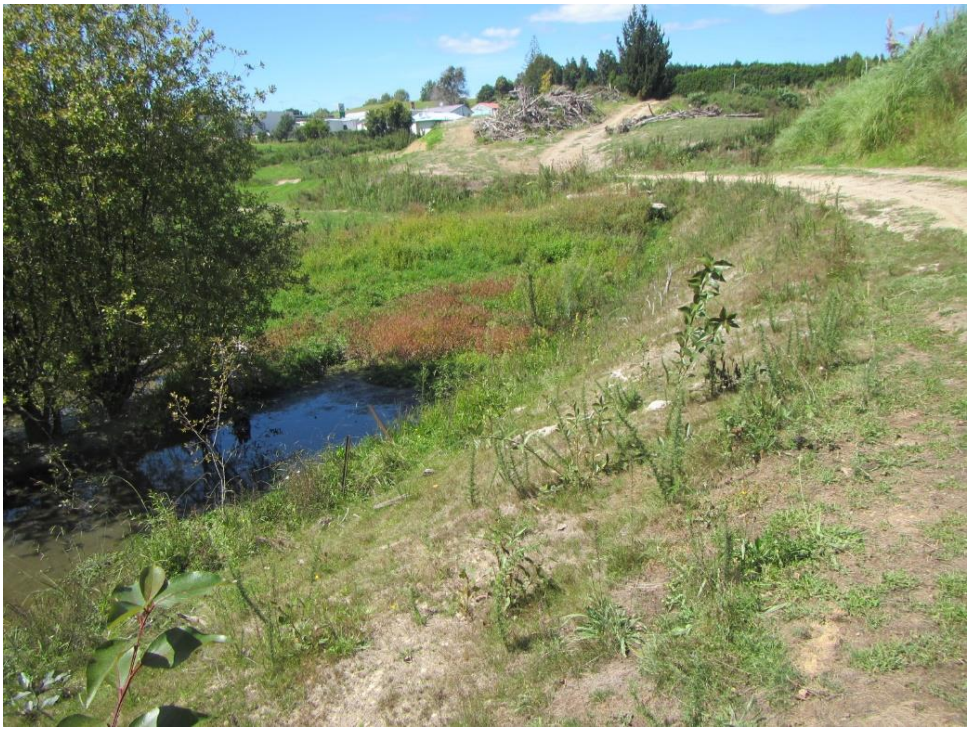

Plate 5: Compacted fill on the western side of the pond. A range of exotic species is regenerating, including grasses, gorse, and tree privet. 2 March 2022.

11. Open water (*c.*0.02 hectares)

A small shallow area of open water which receives flows from the southern water courses. Sharp-fruited rush (*Juncus acuminatus*) and water purslane (*Ludwigia palustris*) are present on the margins.

12. Mixed exotic species herbfield (<0.01 hectares)

A small floodplain on the western side of the stream supports herbfield dominated by exotic species, including beggar's tick, water pepper (*Persicaria hydropiper*), creeping buttercup, and black nightshade (*Solanum nigrum*), and occasional woolly nightshade (*Solanum mauritianum*) seedlings. *Diplazium australe*, climbing dock, montbretia (*Crocosmia ×crocosmiiflora*), and *Carex geminata* are also present.

13. Main stream channel

A narrow strip of unmown vegetation is present alongside the main stream channel. The stream banks support either exotic herbfield dominated by broadleaved fleabane, or supports patches of tutunawai and soft rush with creeping buttercup also common. Sharp-fruited rush is locally common.

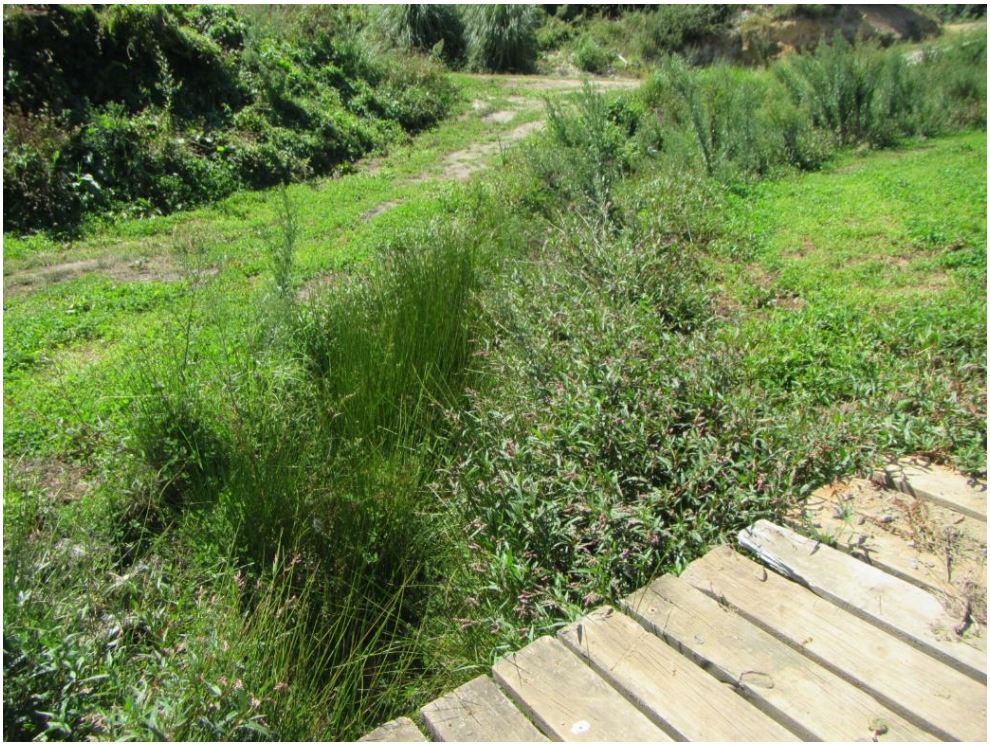

Plate 6: The main stream channel south of the pond supports a narrow strip of riparian vegetation dominated by soft rush and tutunawai. 2 March 2022.

14. Southwestern tributary

The banks of this small, narrow stream channel support a diverse range of regenerating exotic herbs as well as scattered regenerating woody species, and small, local patches of kiokio (*Blechnum novae-zelandiae*) and *Diplazium australe*.

Species noted within this area include broadleaved fleabane, Australian fireweed (*Senecio bipinnatisectus*), lotus (*Lotus pedunculatus*), creeping buttercup, starwort (*Callitriche stagnalis*), blackberry, Queensland poplar, tree privet, water pepper, tutunawai, soft rush, sharp-fruited rush, water purslane, Yorkshire fog (*Holcus lanatus*), greater bindweed (*Calystegia silvatica*), and glossy karamū (*Coprosma lucida*).

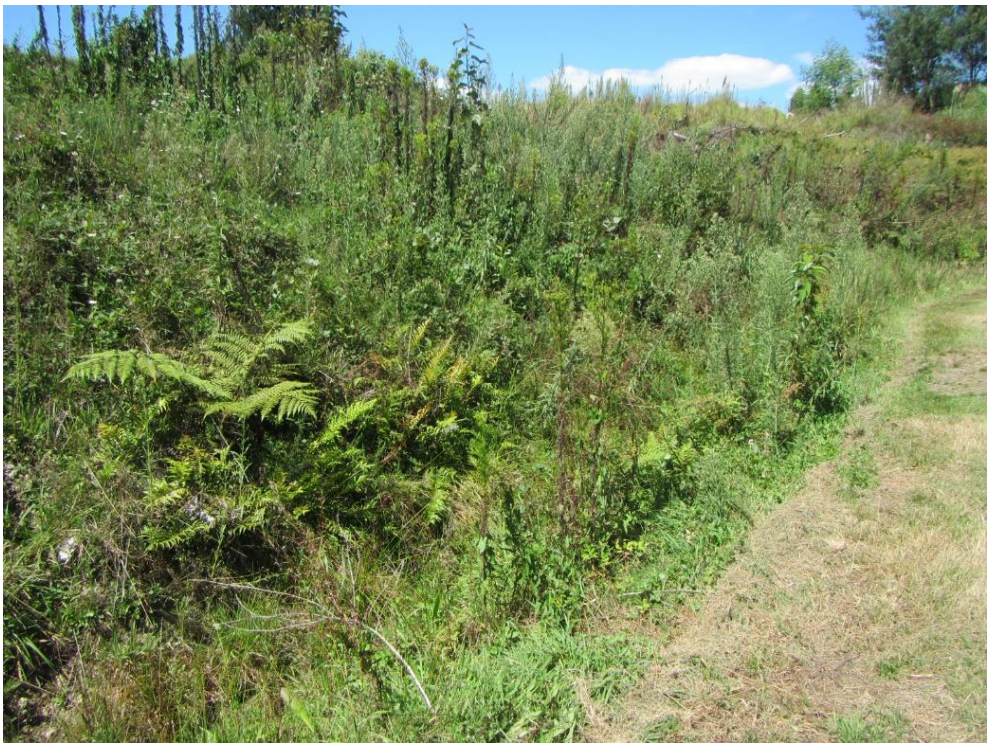

Plate 7: The southwestern tributary is small and very narrow and supports a variable width riparian margin containing a wide range of mostly exotic species. 2 March 2022.

15. Southern tributary

The banks of this small, narrow stream channel also contain a mixture of indigenous and exotic species include broadleaved fleabane and tutunawai however dryland species are more common in this reach.

4.2 Freshwater

4.2.1 Instream character and habitat

When the stream was sampled the stream flow was low as there had been low rainfall over recent months. The stream can be categorised as soft-bottomed, with the stream bed substrate predominantly comprising sand and silt with some small gravel patches and patches of willow roots.

Two main riparian habitat types were observed along the watercourses within the site, and are separated by a shallow pond that flows into the lower stream reach through a culvert.

4.2.2 Southern reaches above the pond

Upper reaches of the stream are located south of, and feed into, the existing pond. Water from the pond flows into the lower (northern) stream channel via a culvert under a compacted earth crossing. The upper (southern) stream reaches are fed from three different sources. The main water source appears to be a spring located near the eastern boundary of the property which is permanently flowing (Site Manager, pers. comm.). The other two streams are part of stream systems that flow from the southern side of State Highway 2 and which pass, via culverts below the road, into the southern end of the property. These two small feeder streams flow into the main stream a little above the pond before flowing down through a sediment trap then into the pond. A small area of pooling has formed upstream of the sediment trap as the water velocity has been retarded in this area due to the trap (Plate 8). The sediment trap was installed at this location *c.*18 months ago, prior to earthworks and vegetation clearance around the waterways (Site Manager, pers. comm.).

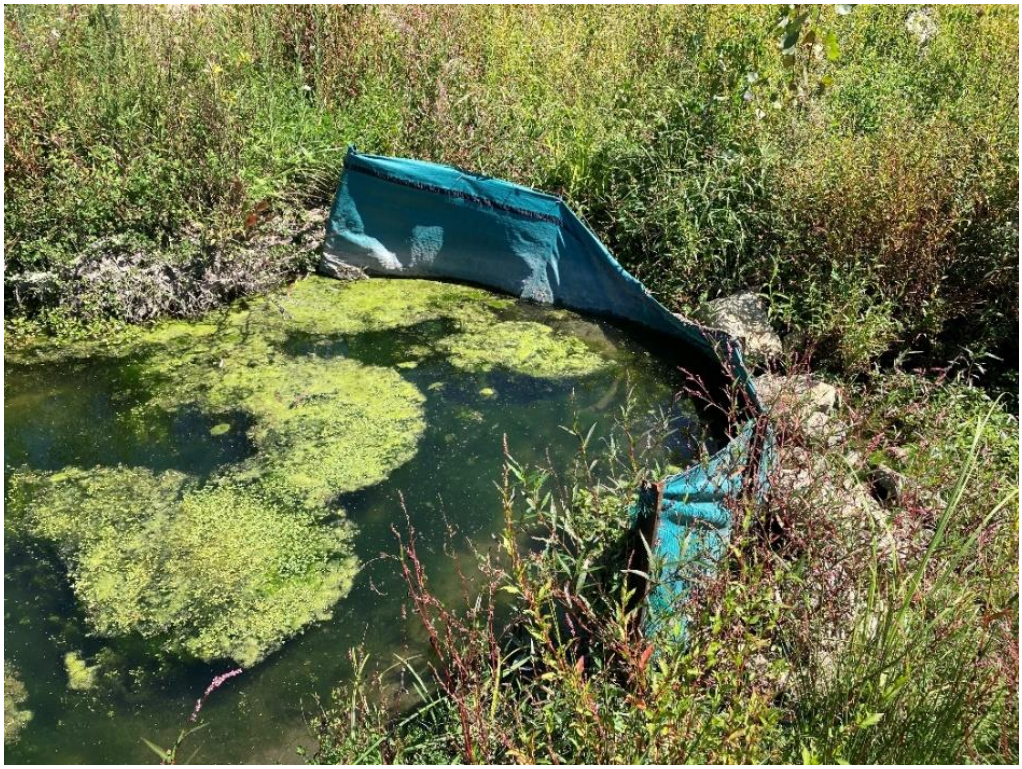

Plate 8: Sediment trap just above the pond which has enabled a small pool of water to bank up behind it. 2 March 2022.

The main stream channel, in the southern half of the site, is relatively uniform and narrow (*c.*0.3-0.8 metres), and appears to have been partially channelised over time. The stream bed substrate is soft and comprises silt and sand with little gravel and no coarser substrate types such as cobbles or boulders. The stream is predominantly straight with homogeneous slow run most of the way and only a few riffles. Stream margins support a narrow strip of unmown vegetation dominated by tutunawai, broadleaved fleabane (*Erigeron sumatrensis*), and soft rush (*Juncus effusus*).

Riparian vegetation provides some instream habitat and shade but most of the water column is unshaded, which has allowed instream periphyton to become common. The

stream banks are relatively stable in most areas, but there are small patches of bare soil where bank erosion has occurred.

4.2.3 Northern reach below the pond

The lower end of the stream, below the culvert, passes through dense forest and scrub cover dominated by tree privet (*Ligustrum lucidum*). The dense riparian cover provides good shade to the water column and important inputs of wood and leaves. The mature root systems of the trees provide important bank stability, preventing bank erosion and protecting the natural instream habitat. The stream is weakly sinuous, and mainly comprises lengths of slow runs, with some pools and occasional riffles, and some undercut banks. The stream bed substrate is soft and comprises even proportions of find silt and sand with local patches of gravel. Occasional cobbles (≤300 millimetres) are present, and in-stream woody debris generally comprises small sticks. No large woody debris was noted. The stream character is fairly typical of lowland stream character located in close proximity to the coast.

5. FLORA

Sixty-seven vascular plant species - including 14 indigenous species and 53 adventive and naturalised species - were recorded from the riparian margin habitats inspected during the site visit. None of the species recorded are classified as Threatened, At Risk (as per de Lange *et al.* 2018), or regionally uncommon.

6. FAUNA

6.1 Freshwater

While undertaking the freshwater surveys, two mature eels (*Anguilla* sp.) were observed. One sighting was in the northern stream reach at habitat assessment Site 1 and the other was near eDNA sample Site 5 (see Figure 1).

Watercourses on the property consist of a pond and stream environments that provide some habitat for indigenous freshwater fish. At the time of sampling in March 2022, the stream environment was slow-flowing with many shallow pools and a predominantly soft muddy substrate. Good shade is provided by the tree privet canopy in the northern stream reach, which is important for maintaining water temperatures suitable for fish. The northern reach also has a more diverse range of instream habitat types, with pools and undercut banks providing refuges for fish. The southern stream reaches are not as well shaded and have less instream habitat diversity, and are therefore not preferable for many fish species, however they may still provide important habitat linking to upper reaches of the streams south of State Highway 2.

The slow homogeneous flows and soft bottom of the southern reaches means that these areas are likely to have relatively low macroinvertebrate community diversity (Harding *et al*. 2009). The more heterogeneous flows and variable instream habitats within the northern reach, and the good vegetation inputs from the surrounding vegetation creates habitat capable of supporting a more diverse macroinvertebrate community. However,

the invertebrate (MCI[1] and EPT[2]) communities are nevertheless likely to be constrained by the absence of a stony, hard bottom with fast-flowing water.

To determine which fish species are currently utilising the watercourses on the property, environmental DNA (eDNA) samples were collected from the pond and various locations along the stream. Table 2 contains the raw sequence count data for fish DNA detected to species level at each of the sample sites. An interpretation of the data is also presented below.

Table 2: DNA sequence counts of freshwater fauna groups detected across six samples in the waterways located at 23 Te Puna Road, March 2022.

Group Level	Scientific Name	Common Name	Northern Stream reach			Pond	Southern Stream reach	
			Sample Site 1	Sample Site 2	Sample Site 3	Sample Site 4	Sample Site 5	Sample Site 6
Species	*Anguilla australis*	Shortfin eel	336	802	1464	440	2015	297
Species	*Anguilla dieffenbachii*	Longfin eel	838	0	24	330	0	0
Species	*Galaxias fasciatus*	Banded kōkopu	147	161	0	0	290	1082
Species	*Gambusia affinis*	Mosquitofish	80	0	0	0	0	0

Based on the eDNA data, it is reasonable to assume that shortfin eels, longfin eels, and banded kōkopu utilise the entire stream system at 23 Te Puna Road. Shortfin eels and banded kōkopu generally reside in lowland, slow-moving streams, and longfin eels are often locally common when there is sufficient instream cover (McQueen and Morris 2013). All three indigenous species are good climbers and will be able to travel through the short culvert that currently divides the two reaches.

Mosquitofish were only detected in one sample, within the northern stream reach. It is surprising that they were not detected further up the stream system as they can very quickly colonise an area, particularly in ponds and slow-moving streams with instream vegetation (McQueen and Morris 2013). The lack of instream vegetation in the northern reach may be a factor preventing mosquitofish from becoming common, and the culvert will prevent mosquitofish from dispersing into the pond and the southern reaches, as they lack the ability to climb.

6.2 Avifauna

Five indigenous bird species, which are common in forest, shrubland, and rural-residential habitats, were seen and/or heard during the survey:

- Kōtare (New Zealand kingfisher; *Todiramphus sanctus vagans*).
- Pīwakawaka (fantail; *Rhipidura fuliginosa*).
- Pūkeko (*Porphyrio melanotus melanotus*).

[1] Macroinvertebrate Community Index

[2] Ephemeroptera, Plecoptera, and Trichoptera orders of insects. Many species within these three groups are sensitive to changes in water quality. Therefore, in general, the more EPT taxa in a waterway, the better the water quality.

- Riroriro (grey warbler; *Gerygone igata*).
- Tūī (*Prosthemadera novaeseelandiae novaeseelandiae*).

Two exotic bird species - common pheasant (*Phasianus colchicus*) and Eurasian blackbird (*Turdus merula merula*) - were also noted during the survey. None of the indigenous bird species noted are classified as 'Threatened' or 'At Risk' by Robertson *et al.* (2017).

The eDNA data detected one additional indigenous bird species (silvereye, tauhou; *Zosterops lateralis lateralis*) and two of the five indigenous bird species recorded on-site (pūkeko and kōtare/NZ kingfisher) as well as four additional exotic bird species: mallard (*Anas platyrhynchos*), song thrush (*Turdus philomelos clarkei*), house sparrow (*Passer domesticus*), and myna (*Acridotheres tristis*).

6.3 Introduced pest mammals

The eDNA data detected the following animal species:

- Norway rat (*Rattus norvegicus*)
- House mouse (*Mus musculus*)
- Black rat (ship rat; *Rattus rattus*)
- Ferret (*Mustela furo*)
- Pig (*Sus scrofa*)

In addition to the above pest animal species, possums (*Trichosurus vulpecula*), and hedgehogs (*Erinaceus europaeus*) are likely to be present, and other mustelids (stoats; *Mustela erminea* and weasels; *M. nivalis vulgaris*), and feral and domestic cats (*Felis catus*) may also use the site occasionally.

7. ECOLOGICAL VALUES

7.1 Riparian margin habitat

Although most of the riparian margin vegetation throughout the property is dominated by exotic species, the vegetation - particularly along the northern stream reach - does provide some habitat value for common indigenous and exotic bird species, good shading to the stream, and a source of external food sources for instream biota. The riparian margin habitat will also help to maintain good water quality parameters within the stream. It is therefore of moderate ecological value.

Riparian margin habitat in the southern half of the site has lower habitat value, for both terrestrial fauna and aquatic fauna, but does provide some stream protection. It is of relatively low ecological value.

7.2 Wetland habitat

The small area of indigenous-dominated wetland habitat located on the northeastern margin of the pond is representative of a common wetland habitat beside an area of open water area in Tauranga Ecological District and contains the expected plant species

and diversity. It is likely to provide occasional habitat for pūkeko. Although freshwater wetlands have been greatly reduced in extent within Tauranga Ecological District (Wildland Consultants 2008), the wetland habitat around the pond appears to have developed following construction of the pond *c.*13 years ago. Therefore, although the wetland habitat is of relatively high ecological value, it does not constitute natural wetland habitat.

7.3 In-stream habitat

The southern stream reaches have the homogeneous characteristics of a modified, straight, slow-flowing stream which provides little instream habitat variation for both macroinvertebrates and fish. In spite of this, eDNA data indicates that indigenous fish species do utilise these reaches. The southern stream reaches are therefore of moderate ecological value.

The northern stream has a more diverse range of instream habitat types, a more abundant source of organic debris, and good stream shading, all of which provide fish refuges and are likely to support a more diverse fish and macroinvertebrate community. This is supported by the eDNA data which indicates that three indigenous fish species utilise the northern stream reach. The northern stream reach is therefore of moderate ecological value.

8. OPTIONS FOR MITIGATION, RESTORATION, AND ENHANCEMENT

It is proposed that all watercourses on the property will be retained in their current location with only the middle reaches being partially modified to enable construction of the retention and extended detention ponds (see Figure 2 and Appendix 2). A buffer zone will also be retained on both sides of each tributary in the southern half of the site, and along the eastern margin of the northern stream reach[1]. The buffer zone will be planted with appropriate indigenous species.

Any new culverts which are required for the pond configuration should be low gradient and sufficiently large to enable ongoing low velocity water flows, which will allow fish passage. All of the existing wetland vegetation will be removed by the creation of the proposed retention ponds (see Figure 2). Any fish present within the construction area should be captured and moved prior to removal of the existing pond. A fish management plan should be prepared as part of the regional council consent process, prior to the fish salvage works being undertaken.

Although lowland wetlands are rare in Tauranga Ecological District, it is proposed that the margins of the stormwater ponds, once constructed, will be planted with appropriate indigenous wetland species to help with stormwater treatment and for amenity purposes. The new pond system will be permanently wet. As the existing wetland habitat on the site has developed since construction of the pond, this wetland habitat does not represent a significant constraint to development of the site.

[1] The mapped buffer extent may over-estimate the buffer width because it does not take account of slope or contour; this buffer width should therefore be read as indicative only. Mapped stream locations are also approximate and will be confirmed on the ground prior to construction.

Data Acknowledgment
Maps contain data sourced from LINZ
Crown Copyright Reserved

Report: 6278
Client: Te Puna Springs Estate
Ref: 03 0008
Path: E:\gis\TePunaSprings\Mxd\
File: 6278_Figure2_ProposalV3.mxd

Figure 2. Proposed commercial development layout relative to current stream and wetland locations and proposed riparian margin enhancement at Te Puna Springs Estate.

0 25 50 m

Wildlands © 2022
www.wildlands.co.nz, 0508 WILDNZ
Scale: 1:1,100
Date: 6/05/2022
Cartographer: KM
Format: A3

Table 3: Summary of constraints to development and comments on options for mitigation.

Habitat Type	Ecological Value	Level of Constraint	Comments
Wetland habitat	High	Low	• Capture and relocate fish prior to existing pond being removed. • Establish a permanently wet pond system, with planted wetland and terrestrial margins. • Ensure ecological input into species selection for planting around the pond margins so that similar habitat values are re-created.
Northern Stream	Moderate	High	• The northern stream reach should not be piped. • Avoid clearance and infilling within 10 metres of the stream. • Ensure that the pond outflow discharges into this stream at a continuous rate to maintain a base flow.
Southern Streams	Low/ Moderate	Moderate/ Low	• Retain a minimum riparian margin of 5 metres on each side.

As part of the plan change, a stream enhancement plan should be prepared and implemented. Enhancement of the riparian margins of the northern stream reach should focus primarily on reducing the dominance of exotic species and increasing indigenous plant species diversity. Given the high degree of naturalness of the instream character, instream habitat remediation is not considered to be necessary in this instance.

Restoration and enhancement of the northern riparian margins should be undertaken in stages to ensure that blanket removal of the existing stream cover is not undertaken. Blanket vegetation removal would result in significant erosion as the soil on the slopes is very friable. Restoration and enhancement of the southern stream reaches would mainly comprise planting the riparian margins with appropriate indigenous species. Consideration could also be given to some instream enhancement measures to improve instream conditions for freshwater fauna.

A summary of the suggested restoration steps is given below, with full details on restoration and implementation provided in a separate report:

- Separate the riparian margin habitat into three zones:
  - Stream flats which are periodically inundated by flooding;
  - Lower stream margins (2-5 metres width);
  - Upper stream margins.

- Undertake pest plant control. Poison tree privet *in situ* rather than felling, to ensure that stream bank stability is retained.

- Prepare site for planting.

- Plant appropriate, eco-sourced indigenous species.

- Undertake maintenance of plantings for 3-5 years.

- Consideration could also be given to setting up a pest animal control network within the riparian margin habitat to improve breeding and nesting success of avifauna (and potentially enhance lizard habitat, if they are present).

If the existing wetland habitat is retained, a planted indigenous species buffer around the wetland margin would be beneficial. If the existing wetland habitat is not retained, consideration should be given to vegetating the larger stormwater pond with vegetation similar to that which is removed from the existing pond. The new pond should be a permanently wet system.

9. CONCLUSION

Watercourses in the southern part of the property have been heavily modified over many years and have relatively low ecological value. Although degraded, they are still nevertheless used by indigenous fish. They may also provide linking habitat for indigenous freshwater fauna present in the upper reaches south of State Highway 2. Any culverts that are installed as part of the pond construction should be large and of low gradient, to support continued fish passage.

The northern stream reach retains a high degree of naturalness and provides good habitat for indigenous freshwater fauna. Development of this area should be avoided as much as it is practicable to do so. Restoration of the stream margins should be undertaken, to improve indigenous biodiversity values. The width of the northern riparian margin zone for restoration should be 10 metres minimum.

The proposal will retain and enhance the freshwater values within watercourses on the property and will increase indigenous biodiversity values of the site.

ACKNOWLEDGMENTS

Annaliese Michel provided site access. Graham (Site Manager) provided useful information on the history of the property, and flow levels within the waterways, and timings of various earthworks and sediment control structures within the property.

REFERENCES

Aurecon 2021: Te Puna Springs Proposed Private Plan Change, 23 Te Puna Road, Tauranga. *Aurecon New Zealand Report Reference No. 251282*. Prepared for Te Puna Springs Estate Limited, 333 pp.

de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B., and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22*. Department of Conservation, Wellington. 82 pp.

Dunn N.R., Allibone R.M., Closs G.P., Crow S.K., David B.O., Goodman J.M., Griffiths M., Jack D.C., Ling N., Waters J.M., and Rolfe J.R. 2018: Conservation status of New Zealand freshwater fishes, 2017. *New Zealand Threat Classification Series 24.* Department of Conservation, Wellington. 11 pp.

Harding J., Clapcott J., Quinn J., Hayes J., Joy M., Storey R., Greig H., Hay J., James T., Beech M., Ozane R., Meredith A., and Boothroyd I. 2009: Stream habitat assessment protocols for wadeable rivers and streams of New Zealand. School of Biological Sciences. University of Canterbury. 136 pp.

McQueen S. and Morris R. 2013: A Photographic Guide to Freshwater Fishes of New Zealand. New Holland.

Robertson H.A., Dowding J.E., Elliot G.P., Hitchmough R.A., Miskelly C.M., O'Donnell C.F.J. Powlesland R.G., Sagar P.M., Scofield R.P., and Taylor G.A. 2013: Conservation status of New Zealand birds. *New Zealand Threat Classification Series 4*. Department of Conservation, Wellington. 22 pp.

Wilkinson S. 2020: eDNA assay guide. Wilderlab NZ Ltd.

VASCULAR PLANT SPECIES RECORDED AT THE SITE IN MARCH 2022

INDIGENOUS SPECIES

Dicot. trees and shrubs

Coprosma lucida	karamū, kāramuramu, glossy karamū
Knightia excelsa	rewarewa
Piper excelsum subsp. *excelsum*	kawakawa

Ferns

Blechnum novae-zelandiae	kiokio
Cyathea dealbata	ponga, silver fern
Cyathea medullaris	mamaku
Diplazium australe	
Pteris macilenta	titipo, sweet fern
Pyrrosia elaeagnifolia	leather-leaf fern

Grasses

Isachne globosa	swamp millet

Sedges

Carex geminata agg.	rautahi

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

Typha orientalis	raupō

Dicot. herbs (other than composites)

Persicaria decipiens	tutunawai
Viola cunninghamii	

NATURALISED AND EXOTIC SPECIES

Gymnosperms

Pinus sp.	pine

Monocot. trees and shrubs

Alocasia brisbanensis	elephant's ears

Dicot. trees and shrubs

Acacia mearnsii	black wattle
Alnus glutinosa	common alder
Berberis glaucocarpa	barberry
Casuarina sp.	sheoak
Crataegus monogyna	hawthorn
Cytisus scoparius	broom
Datura stramonium	thorn apple
Eucalyptus sp.	eucalyptus
Homalanthus populifolius	Queensland poplar
Ligustrum lucidum	tree privet
Persea americana	avocado
Populus nigra 'Italica'	Lombardy poplar
Prunus sp.	ornamental cherry
Rubus sp. (*R. fruticosus* agg.)	blackberry
Salix cinerea	grey willow
Salix ×fragilis	crack willow
Solanum mauritianum	woolly nightshade
Ulex europaeus	gorse

Dicot. lianes

Calystegia silvatica	greater bindweed
Hedera helix	ivy
Lonicera japonica	Japanese honeysuckle
Rumex sagittatus	climbing dock

Grasses

Cortaderia selloana	pampas
Digitaria sanguinalis	summer grass
Ehrharta erecta	veldt grass
Holcus lanatus	Yorkshire fog
Paspalum dilatatum	paspalum
Paspalum distichum	Mercer grass

Sedges

Cyperus eragrostis	umbrella sedge

Rushes

Juncus acuminatus	sharp-fruited rush
Juncus effusus var. *effusus*	soft rush, leafless rush

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

Crocosmia ×crocosmiiflora	montbretia

Composite herbs

Bidens frondosa	beggars' ticks
Erigeron sumatrensis	broad-leaved fleabane
Leontodon taraxacoides	hawkbit
Leucanthemum vulgare	oxeye daisy
Taraxacum officinale	dandelion

Dicot. herbs (other than composites)

Callitriche stagnalis	starwort
Daucus carota	wild carrot
Geranium molle	dovesfoot cranesbill
Lotus pedunculatus	lotus
Ludwigia palustris	water purslane
Modiola caroliniana	creeping mallow
Persicaria hydropiper	water pepper
Phytolacca octandra	inkweed
Portulaca oleracea	wild portulaca
Ranunculus repens	creeping buttercup
Rumex obtusifolius	broad-leaved dock
Solanum nigrum	black nightshade
Trifolium repens	white clover
Verbena bonariensis	purple-top

APPENDIX 2 - TE PUNA SPRINGS STRUCTURE PLAN LAYOUT REVISION L, APRIL 2022

LEGEND

1. Commercial
2. Commercial
3. Hall
4. Spring/Puna
5. Commercial
6. Commercial
7. Commercial
8. Commercial
9. Stormwater management area
10. 4m wide landscape buffer strip
11. 2m wide landscape buffer strip
12. 10m wide riparian restoration strip

KEY

- Specimen trees
- Landscape buffer strip
- Grassed area
- Traffic calming strip
- 30m Setback
- Open channels/streams

Boffa Miskell
www.boffamiskell.co.nz

N

0 50m

1:1,500 @ A3

Data Sources: Aurecon Limited

Projection: NZGD2000 N.Z. Transverse Mercator

Legend

- Area A
- Area B

TE PUNA SPRINGS INDUSTRIAL DEVELOPMENT

Structure Plan

| Date: 21/04/2022 | Revision: L |

Plan prepared for Aurecon by Boffa Miskell Limited

Project Manager: **Morne.Hugo@boffamiskell.co.nz** | *Drawn:* ALi | *Checked:* MHu

T18002

Sheet 1

Providing outstanding ecological services to sustain and improve our environments

Call Free 0508 WILDNZ
Ph: +64 7 343 9017
Fax: +64 7 3439018
ecology@wildlands.co.nz

99 Sala Street
PO Box 7137, Te Ngae
Rotorua 3042,
New Zealand

Regional Offices located in
Auckland, Hamilton, Tauranga,
Whakatane, Wellington,
Christchurch and Dunedin

ECOLOGY RESTORATION BIODIVERSITY SUSTAINABILITY

www.wildlands.co.nz

ATTACHMENT C

COPY OF WBOPDC WASTEWATER RESOLUTION

From: aaron@collierconsultants.co.nz
Sent: Wednesday, 18 May 2022 7:06 PM
To: aaron@collierconsultants.co.nz
Subject: FW: CONNECTION OF TE PUNA SPRINGS BUSINESS PARK TO OMOKOROA WASTEWATER TRANSFER PIPELINE

From: Carolyn Irvin <Carolyn.Irvin@westernbay.govt.nz>
Sent: Monday, 16 May 2022 4:06 pm
To: aaron@collierconsultants.co.nz
Cc: Coral-Lee Ertel <Coral-Lee.Ertel@westernbay.govt.nz>
Subject: RE: CONNECTION OF TE PUNA SPRINGS BUSINESS PARK TO OMOKOROA WASTEWATER TRANSFER PIPELINE

Hi Aaron
Please see below resolution passed and carried at the Performance and Monitoring Committee meeting on 5 May 2022, published today:

11.2 Connection of Te Puna Springs Business Park to Ōmokoroa Wastewater Transfer Pipeline

Resolution PM22-3.5
Moved: Deputy Mayor J Scrimgeour
Seconded: Mayor G Webber

1. That the Asset and Capital Manager's report dated 5 May 2022 titled 'Connection of Te Puna Springs Business Park to Ōmokoroa Wastewater Transfer Pipeline' be received.

2. That the report relates to an issue that is considered to be of low significance in terms of Council's Significance and Engagement Policy.

3. That, subject to Plan Change 93 – Te Puna Springs Commercial Zone proceeding, Council **approves** the connection of the Te Puna Springs Commercial Zone into the Ōmokoroa transfer pipeline.

   And

4. That Te Puna Springs Business Park be charged a volumetric capital connection charge of $3,658 per household equivalent, and this be built into the FINCO schedule for the park.

Kind regards
Carolyn

ATTACHMENT C

Revised Structure Plan

\

LEGEND

1. Commercial area
2. Hall
3. Spring/Puna
4. Stormwater management area
5. 4m wide landscape buffer strip
6. 2m wide landscape buffer strip
7. 10m wide riparian restoration strip

KEY

- Specimen trees
- Landscape buffer strip
- 30m Setback for sensitive activities
- Open channels/streams

Boffa Miskell
www.boffamiskell.co.nz

N

0 50m

1:1,500 @ A3

Data Sources: Aurecon Limited

Projection: NZGD2000 N.Z. Transverse Mercator

TE PUNA SPRINGS INDUSTRIAL DEVELOPMENT

Structure Plan

| Date: 21/04/2022 | Revision: L |

Plan prepared for Aurecon by Boffa Miskell Limited

Project Manager: **Morne.Hugo@boffamiskell.co.nz** | *Drawn:* ALi | *Checked:* MHu

T18002

Sheet 1