



Resource Consent Application

Tauriko West Stormwater Discharge

Tauranga City Council

Prepared by:

SLR Consulting New Zealand

SLR Project No.: 810.V08175.00001

26 June 2024

Revision: Final 5.0

Revision Record

Prepared for: Claudia Hellberg
Team Leader, City Waters – Planning
Tauranga City Council

Prepared by: Danielle Petricevich
Principal Planner
SLR Consulting Limited



Checked by: Nicky Sedgley
Technical Director, Planning
SLR Consulting Limited



Authorised by: Ian Mayhew
Technical Director, Planning
SLR Consulting Limited



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Issued: 26 June 2024

Basis of Report

This report has been prepared by SLR Consulting New Zealand (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Tauranga City Council (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Application details

Consent authority:	Bay of Plenty Regional Council
Applicant:	Tauranga City Council, City Waters – Planning
Address for service:	SLR Consulting Limited Attention: Danielle Petricevich 17 Grey Street Tauranga Email: danielle.petricevich@slrconsulting.com
Address for fees:	21 Devonport Road Private Bag 12022 Tauranga 3143 Attention: Claudia Hellberg Email: claudia.hellberg@tauranga.govt.nz
Site:	Tauriko West, Tauranga
Site area:	333 hectares
Plan(s):	Bay of Plenty Regional Natural Resources Plan (RNRP) National Environmental Standard for Freshwater (NES-F)
Brief description of the proposed activity:	To discharge stormwater from residential developments to water and onto or into land in circumstances where it may enter water
Resource consent(s) required:	Discharge of stormwater to water and onto or into land in circumstances where it may enter water under Rule DW R8 of the RNRP (discretionary activity) Discharge of stormwater within 100 m of a natural inland wetland associated with urban development under Regulation 45C(5) of the NES-F (restricted discretionary activity)
Status of the proposed activity:	Discretionary



Figure 1: Tauriko West development area

Development area (shown in pink). Source: Tauranga City Council



1.0 Information requirements

This application has been prepared in accordance with the requirements of Schedule 4 of the Resource Management Act 1991 (the Act or RMA) and the specific information requirements for this proposal contained in Appendix 3 of the Bay of Plenty Regional Natural Resources Plan (RNRP).

The completed Bay of Plenty Regional Council (BOP RC) application forms are attached at Appendix A.

2.0 Proposal

4Sight Consulting (now SLR Consulting (SLR)) has been engaged by Tauranga City Council (TCC or Council) to coordinate and prepare a resource consent application for the discharge of stormwater to water and onto or into land in circumstances where it may enter water from the Tauriko West Urban Growth Area (Tauriko West) (see Figure 1, above), as a comprehensive stormwater consent (CSC).

2.1 TCC Context

Tauranga City is a Tier 1 urban environment under the National Policy Statement for Urban Development 2020, updated May 2022 (NPS-UD), meaning it is facing the highest level of urban growth pressures. Council does not meet the residential development capacity requirements set out in section 3.2 of the NPS-UD in the short or medium term¹.

In recent years a significant amount of work has been undertaken to identify Growth Areas in the Bay of Plenty. This has resulted in the development of TCC's SmartGrowth Future Development Strategy (SmartGrowth Strategy). The SmartGrowth Strategy incorporates the Future Development Strategy (FDS), which is designed to meet the requirements of the NPS-UD.

Tauriko West is part of Council's response to meeting its obligations under the NPS-UD, alongside other greenfield and intensification plan changes and other initiatives. It is identified as a Priority Development Area for residential development under the SmartGrowth Strategy and is included in *Appendix C: Indicative growth area timing and business land provision* of the Bay of Plenty Regional Policy Statement (RPS), with an indicative timing of development in the RPS of '2019'.

Timing of the development of Tauriko West has been delayed in part due to the gazetting of the National Policy Statement for Freshwater Management 2020 (NPS-FM) and the National Environmental Standards for Freshwater (NES-F), both of which required amendment to provide a consenting pathway for urban growth areas and which now contain specific provisions relating to urban development in the Bay of Plenty.

2.2 Tauriko West

Currently Tauriko West is an approximately 333 hectare (ha) greenfield site situated between State Highway 29 and the Wairoa River in Tauranga. The majority of the site is owned by three landowners and supports predominantly pastoral and horticultural land uses.

¹ Tauriko West - NPS-UD Development Capacity Assessment



The proposal is to develop the site to predominantly residential, with capacity for 3,600 to 4,000 dwellings, including provision for school facilities and one local and two neighbourhood commercial centres to provide for support commercial activities such as dairies, cafes, small-scale professional services and the like.

Tauriko West was identified as having significant benefits for greenfield residential capacity², which include:

- Located on the periphery of the existing city in close proximity to well established commercial, industrial and other nearby residential areas.
- Relatively easy to service with infrastructure, and connect to existing local networks/supply.
- Adjacent to SH29 – for direct highway access.
- Owned by three main landowner/developers, and not fragmented into many titles.
- Held a superior advantage over other potential growth areas within the Western Corridor for earlier development, subject to local authority boundary reorganisation and urban limit changes.

Other key benefits of Tauriko West include:

- An attractive location that faces north-west and slopes gently towards the Wairoa River.
- Provides a strong opportunity to develop a high quality urban environment and community.
- Located near Tauranga City enhancing easier integration with the City's transport network.
- Situated in close proximity to areas of employment, business opportunity, industrial development, and retail facilities (including Tauriko Business Estate and The Crossing commercial centre).
- Well supported by other SmartGrowth initiatives and Waka Kotahi upgrades planned for SH29/SH29A.

The vision for Tauriko West is to create a thriving community for locals to live, learn and play within, with amenities that include schooling, parks, reserves, neighbourhood shopping and connections to the Wairoa River through a recreated river edge and:

'To deliver the Tauriko West Urban Growth Area, maximising developable land, while achieving appropriate community and environmental outcomes.'

A number of processes have occurred to enable the growth area to be developed. These included Change 4 to the Bay of Plenty Regional Policy Statement (RPS) to amend the current Urban Limit and provide indicative timing of growth for the urban development of Tauriko West and the alteration of the local government boundary to move the small area of Tauriko West that was previously within the Western Bay of Plenty District Council boundary to within the (realigned) TCC boundary. These have been completed. Since then, BOP RC

² SmartGrowth Strategy 2023



has made further changes to the Urban Limits provisions under Plan Change 6 to the RPS in response to NPS-UD requirements to provide greater flexibility for future urban growth.

Building of the new community at Tauriko West requires a change to be made to the Tauranga City Plan (TCP) Accordingly, a variation to Plan Change 33 (PC33) – Enabling Housing Supply was notified from 11 March 2024 until 9 April 2024 for submissions. This plan change is supported by a wide range of technical and supporting documents³.

Variation 1 to PC33 effectively rezones the rural land of Tauriko West as a new Medium Density Residential Zone (MDRZ), enabling up to three dwellings per property and a building height of 11m. Variation 1 will also require an average yield of at least 25 dwellings per hectare of net developable land to help council provide sufficient development capacity under NPS-UD requirements. These higher densities enable increases in walking, cycling, and public transport use, and more efficient services and infrastructure, with all the benefits of a more compact city and walkable communities – including associated reduction in greenhouse gas emissions⁴.

2.3 Scope of this Consent

This CSC application seeks to authorise the discharge of stormwater from the finished developed area in accordance with the rules in the relevant statutory documents, in this case the RNRP and the NES-F. The reasons for consent are discussed below.

This application does not seek resource consents to authorise the physical works required to construct the development – for example earthworks and landform modification, stream works, works in wetlands etc – nor the stormwater management structures such as outfalls, culverts etc. These authorisations, where required, will be obtained by the respective developing parties (developers) as the development proceeds.

Accordingly, this application and assessment focuses on the post development management of stormwater and associated adverse effects. Effects generated from the bulk earthworks (including associated sediment discharges), change in landform or other works will be assessed when the relevant consents are applied for by each of the developers.

However, in order to prepare this application and assessment of environmental effects, a landform design and development layout – Landform Option 5 – has been assumed as discussed further below. This landform has been prepared following an iterative process of assessing a number of different options and is considered to be representative of the final landform, although some departures may occur as detailed design is undertaken.

To help achieve consistent and integrated outcomes across the different landowners, and between the stormwater, earthworks and other development processes, several key documents have been prepared. These include a Stormwater Design Philosophy Statement (DPS) and Stormwater Management Plan (SMP), which are intended to work together to ensure positive, integrated community and environmental outcomes while managing and minimising potential negative effects. These documents are directly relevant to the

³ <https://www.tauranga.govt.nz/council/council-documents/tauranga-city-plan/proposed-plan-changes/plan-change-33-enabling-housing-supply/variation-1-to-plan-change-33/variation-1-to-plan-change-33-key-documents>

⁴ <https://www.tauranga.govt.nz/council/council-documents/tauranga-city-plan/proposed-plan-changes/plan-change-33-enabling-housing-supply/variation-1-to-plan-change-33>



management of stormwater and are introduced below and appended to, and form part of, this CSC application and are introduced below.

2.4 Stormwater Design Philosophy Statement

TCC is applying for this resource consent to enable the future stormwater discharges from the residential development to occur and be managed in a consistent and effective way, utilising a low impact design (LID) approach.

Central to this is the DPS (Appendix B). The DPS sets out TCC's direction and requirements for stormwater management to assist with preparation of the Tauriko West Structure Plan, associated resource consents (including stormwater, earthworks, subdivision consents and design), designations, and re-zoning for residential development and the variation to Plan Change 33.

Importantly, the DPS was prepared in the context of a range of statutory and guidance documents (and updated as and when changes to the documents occurred), including:

- National Directions under the Resource Management Act, 1991 (RMA), in particular:
 - NPS-UD (gazetted 23 July 2020);
 - NPS-FM and NES-F (both gazetted 5 August 2020, and amended on 8 December 2022, with the amendments taking effect on 5 January 2023).
- TCC's existing City-wide Comprehensive Stormwater Consent (CSC) Consent Number: 66823.
- TCC's Infrastructure Development Code (IDC)⁵.
- The Stormwater Management Guideline for the Bay of Plenty Region (2012, updated 2015) (Stormwater Guidelines)⁶.

The DPS outlines expectations for stormwater management and, in some cases specific design or performance requirements and this will be considered by the developers as part of their concept Masterplan for their respective developments. The DPS provides an integrating function across all aspects of the Tauriko West development noting, as outlined above, aspects such as earthworks, stream works etc will be undertaken by the developing parties and subject to their own resource consent requirements.

Elements of the DPS include:

- Flood Management
 - Overland flow paths should be designed to cater for 100 year ARI flows, including provisions for climate change over a 100+ year period;
 - Minor overland flow paths can be located in the road; larger flows are expected to be located within designated off-road overland flow paths, which are then connected to a stream and eventually directed into the Wairoa River; and

⁵ <https://www.tauranga.govt.nz/our-future/council-plans/infrastructure-development-code>

⁶ Stormwater Management Guidelines for the Bay of Plenty region, Bay of Plenty Regional Council 2012.



- Natural stream channels should be utilised for flood flows as much as possible.
- General management/Low Impact Design
 - Minimise impacts on and works with natural systems as much as possible.
 - Mimic natural processes to achieve enhanced outcomes for ecosystems and communities.
 - At source reduction/retention through:
 - Minimisation of impervious surfaces (e.g. permeable paving for driveways);
 - Infiltration of day-to-day stormwater into the ground, where possible;
 - Using unlined stormwater devices, where appropriate.
 - Minimising pipe network required through:
 - Pipe inlets only on one side of the road, if possible; and
 - Utilisation of overland flow paths (designed for flood conveyance) and stream corridors for primary flows, wherever possible;
 - Bioretention devices, for example raingardens, vegetated swales and wetlands, should be used in preference to other stormwater management and treatment devices; and
 - Connecting springs to natural streams or relocated modified watercourses to retain, as far as possible, stream flows and maintain ecological values; and
 - Stream erosion mitigation measures are to be implemented through hydrological (typically extended detention up to the 2-year ARI event) and hydraulic measures (design of streams, especially if re-aligned) to manage any erosion issues within the Tauriko West area.
- Streams
 - Retains an upstream and downstream connection to the original stream including all-natural stream connections to the Wairoa River;
 - Maintains, at a minimum, or preferably enhances ecosystem values, including habitat and hydrological features (sinuosity, riffles, refuges, stability) that are appropriate for ecologically significant species where these are present in the diverted stream and associated tributaries/drainage channels.
- Water quality
 - Require use of inert building material (e.g. no unpainted zinc roofs);
 - High traffic roads with more than 5000 vehicles per day should receive at source treatment through biofiltration devices (e.g. raingardens);
 - Car parks with more than 25 car parks will receive treatment through biofiltration devices; and
 - Design overland flow swale systems, so they provide an additional level of water quality treatment through the use of appropriate planting.

Additionally, these are expected to be incorporated into the landscape design and the multiple usage of green infrastructure is encouraged.



2.5 Stormwater Management Plan

The central document for the management of stormwater at Tauriko West is the SMP prepared by WSP (Appendix C). The SMP works in conjunction with the DPS and the variation to Plan Change 33 to enable the development and mitigate the stormwater related effects.

The SMP has been prepared with an understanding of existing issues and constraints in the Tauriko area and in the context of the future development vision. Its primary purpose is to provide a framework for the sustainable and effective management of stormwater from the future Tauriko West Area, adopting a LID approach.

The objectives of the SMP are to:

- 1 Align with statutory requirements for stormwater management outcomes and designs with development needs in Tauriko West.
- 2 Outline an integrated approach to land use development and stormwater management including applying the DPS and a low impact design approach to the proposed landform and development.
- 3 Support the structure plan, rezoning plan change, and discharge consent.
- 4 Recognise and support Te Mana o Te Wai in a way that acknowledges the mauri and values of fresh water and manages these in conjunction with addressing housing and wider needs of the community.

The SMP provides a ‘toolbox’ for stormwater management in recognition that the final landform, development areas etc. may be subject to change. As such, the specific stormwater management elements that are adopted will be confirmed as the planning and design of the development progresses – with design and sizing in accordance with the SMP.

While the SMP in its entirety is relevant to this application, specific aspects are highlighted below.

2.5.1 Development Landform (Landform Option 5)

The SMP and the assessment of adverse effects is based on Tauriko West being developed generally in accordance with Landform Option 5 (see Figure 2). This landform option has been prepared in conjunction with the developers following an iterative process of considering multiple landform options that sought to achieve a different balancing of six key outcomes:

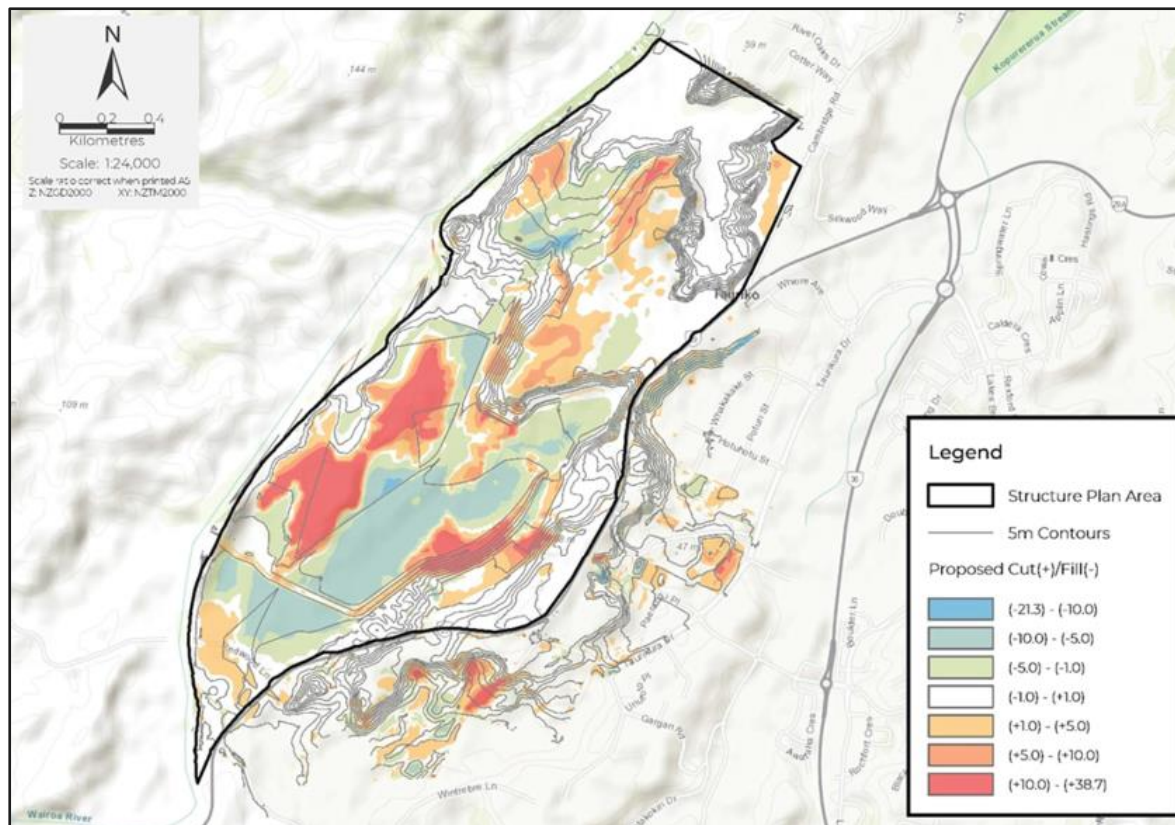
- Maximising development yield;
- Managing and mitigating effects on watercourses and wetlands;
- Addressing climate adjusted flood risk for a 2130 scenario (RCP 8.5H+);
- Addressing other natural hazards for slope stability, seismic / liquefaction risk;
- Post development stormwater management;
- Protection of significant cultural sites and values.

Landform Option 5 represents an option that minimises work around key wetlands and provides for the retention (albeit realigned) central stream, while providing sufficient development yield to meet growth requirements and development aims and managing potential geotechnical issues across the development site.



Figure 2: Landform Option 5

Source: SMP (Appendix C)



Although Landform Option 5 requires significant earthworks to create a safe and developable form, it was developed with considerations of key LID principles. This includes allowing for watercourse catchments to remain approximately the same and minimise impact on the more significant natural wetlands and applying LID components to the various sub-catchments, while having larger flat areas in the upper catchment to facilitate development and achieve desired and cost-effective development yields. Key elements include:

- Building platforms meet or exceed the requirements of the City Plan and IDC with flood levels calculated on the basis of the 100-year 2130 Wairoa River flood event + 20 year tidal event + climate change RCP 8.5H+.
- Cut high ground and fill low lying areas to create development platforms.
- Enhanced existing degraded, modified watercourses in the southern gully to enable groundwater connectivity and development.
- Improved connectivity for people to and along watercourses and stormwater management features, through walkways and cycleways.
- Optimising the ability to manage potential adverse effects, against yield and development costs, including adopting a LID approach to achieve this.



2.5.2 Stormwater management and low impact design

As indicated previously, landform scenarios have been iterated to balance necessary development yield against protecting key natural environment features as far as possible or otherwise creating opportunities for mitigation, enhancement and offset.

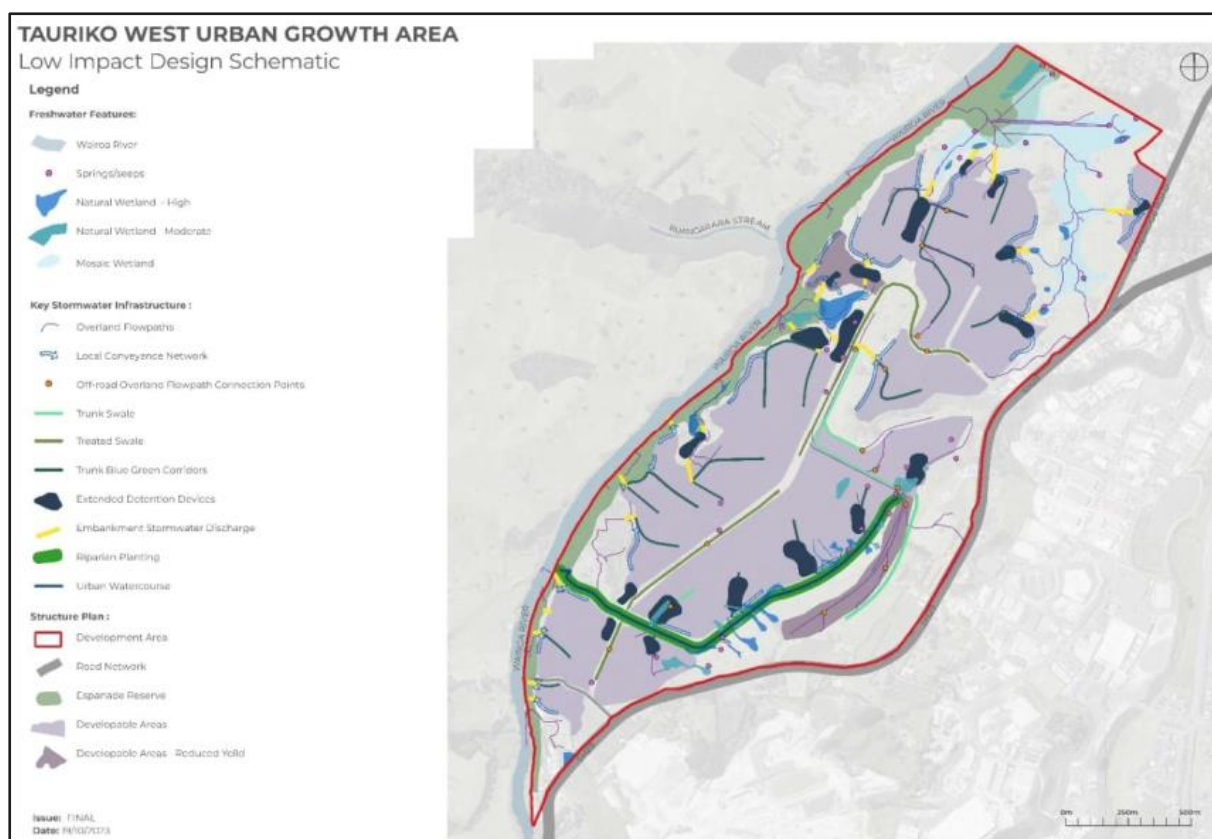
It is acknowledged that developing Tauriko West in accordance with Landform Option 5 requires substantial earthworks, and additional modification to the already significantly modified watercourses, to deliver the growth outcomes and desired development yields described above and to provide necessary flood protection to future houses on the site.

As such, one of the core principles of LID outlined in the Stormwater Guidelines⁷: *Reducing site disturbance* can only be partially met across the site – although it is noted that more substantial earthwork /landform altering options were considered and rejected before Landform Option 5 was adopted for design purposes.

A focus has therefore been on retaining key wetland areas, maintaining (and potentially enhancing) hydrological connections across the site including retaining a central stream which provides a connection between the upper catchment, central springs/seeps and the Wairoa River and other related aspects of LID. The LID concept is shown in Figure 3.

Figure 3: Low impact design concept plan

Source: SMP (Appendix C) - note location of extended detention devices is indicative only



⁷ Bay of Plenty Stormwater Management Guidelines, page 4, section 1.5.3



Key features of this LID approach include:

- Natural wetlands – the more significant natural wetlands have been identified and incorporated into the overall design and approach.
- Maintaining hydrological connections across the site – between springs, seeps and waterways. This is a key component to retain baseflows to streams and wetlands across the site.
- Source control measures including a requirement for the use of inert building materials and impervious area controls.
- ‘At source’ stormwater treatment of high contaminant generating activities – in this case the ‘spine road’ and larger carparks. This can be via swales or rain gardens.
- Localised pipe network or road-side swales – conveying stormwater from properties to blue-green corridors.
- Overland flowpaths – existing watercourse and natural wetland sub-catchments have been broadly retained, with the landform designed to minimise impact on retained waterbodies.
- Swales as blue-green corridors - acting as both trunk primary conveyance, and secondary overland flowpaths where safety criteria in the road corridor is exceeded. These corridors can also include pedestrian/cycleways, providing multi-functional corridors and provide connection to existing springs/seeps.
- Extended detention devices (if required) – flow from blue-green corridors and swales may be controlled in extended detention prior to discharge into watercourses or natural wetlands to mitigate the effects of increased imperviousness (post development) on the watercourses. Extended detention devices are not required for direct flows into the Wairoa River.
- Urban Watercourses – efficient development and the need to provide building platforms above future flood heights (allowing for climate change) is likely to require the re-alignment of some of the (low to moderate ecological value) watercourses. At the same time, this offers opportunities for enhancement including through stream design and riparian buffers.

Accordingly, while significant earthworks and land recontouring will be required to enable the growth area to be fully developed under Landform Option 5, substantial measures have been identified that apply a wide range of LID approaches and measures to manage the post development stormwater in a way that integrates with, and manages and minimises effects on the freshwater and other values of the area.

The approach outlined above, together with the medium density zoning proposed by Plan Change 33 and Variation 1, is consistent with the other LID principles in the Stormwater Guidelines⁸:

- Reduce site impervious surfaces + clustering development

While the medium density provisions of Plan Change 33 and Variation 1 enable individual sites to develop to a maximum imperviousness of 70%, the development is

⁸ Stormwater Guidelines, page 4



estimated to add only 150ha of impervious area to the existing 330 hectare site – reflecting that significant areas are being retained as open space or enhanced/development for recreational use.

- Constructing biofiltration/bioretenion practices

As detailed above, the use of biofiltration/bioretenion techniques and devices is central to the LID approach detailed in the SMP.

- Water reuse

While not specifically required by the plan change, water re-use continues to be promoted by TCC.

- Creating natural areas

As indicated above, and as detailed in the Framework Plan prepared for Variation 1 to Plan Change 33⁹, extensive consideration has been given to multifunction spaces with good connectivity and ecological enhancement (particularly in areas geotechnically unsuitable for development), including:

- Wairoa River edge becomes a publicly accessible river reserve that provides a continuous walking and cycling pathway with spaces for recreation and strong focus on cultural and heritage recognition and community connectivity;
- Opportunities for informal recreation, walking and cycling within the ecological and open space network;
- A strategic open space network that enables green links between the river edge and key locations.

2.5.3 Low Impact Design Infrastructure

In addition to the approach to LID, the SMP provides a toolbox of methods that can be used in the planning and design phases of the developments to give effect to the DPS, the national regulatory context (including the NPS-FM, NES-F) and regional requirements and guidelines. This includes specific design considerations and assumptions, together with indicative device sizing.

It is recognised that these options will need to be assessed as part of the proposed development. The SMP indicates that the following matters should be considered to support sub-division or development in advance of subdivision:

- Catchment and sub-catchment boundaries.
- Water quality treatment devices.
- Primary stormwater network including blue-green corridors and swales and how springs/seeps are integrated.
- Extended detention devices.
- Method for getting water from the top to the bottom of escarpments.
- Location of proposed overland flowpaths and compliance with safety criteria.

⁹ Tauriko West Framework Plan Design Report July 2023. Studio Pacific Architecture



- Planting plan including riparian planting.
- Staging/timing including reliance on devices that are in neighbouring sites.
- Operation and Maintenance Plan.
- Lifecycle costs.

2.5.4 Summary

The SMP provides a stormwater management framework and toolbox that will be used to ensure stormwater management from development within the site is consistent with the DPS. Additionally, the proposed infrastructure design complies with Bay of Plenty Stormwater Management Guidelines and TCC IDC requirements.

This provides a framework for managing stormwater quality and quantity from the developed site, recognising that the individual stormwater management components are dependent on the final form of the development, including the need to provide sufficient development capacity, which will ultimately be determined by each of the developers.

The above philosophies and stormwater management tools have been recognised in Variation 1 to PC33 and this resource consent application to ensure consistent regulatory coverage and implementation.

3.0 Reasons for the Application

An assessment of the proposal against the relevant statutory documents has been undertaken and the following reasons for consent have been identified.

3.1 Bay of Plenty Regional Natural Resources Plan (RNRP)

Resource consent is sought under the RNRP for the discharge of stormwater to water and onto or into land in circumstances where it may enter water. Resource consent is required under Rule DW R8 (Rule 37) for discharges to water or onto or into land in circumstances where it may enter water, as a *Discretionary Activity*. This is because the performance standards of Rule DW R21 (Rule 30A) Restricted Discretionary – Discharge of Stormwater to Surface Water cannot be met in relation to *not contributing to flooding of another property*.

The rule explanation in the RNRP notes that DW R8 applies to, but is not limited to, comprehensive catchment discharge consents for stormwater, discharges from contaminated sites, and large-scale discharge of contaminants from trade and industrial premises (including waste disposal discharges).

3.2 National Environmental Standard/s for Freshwater (NES-F)

Resource consent is also sought under Regulation 45C(5) of the NES-F, as a *Restricted Discretionary Activity*, for the discharge of water into water within, or within a 100 m setback from a natural inland wetland, for the purpose of urban development.

While it is recognised that some modification of wetlands may occur during large scale earthworks, including enhancement and aquatic mitigation/off-setting, it is likely that stormwater from the completed development will be discharged within 100 m of a natural inland wetland. As the natural wetlands are intended to be integrated into a LID approach, there will be a hydrological connection between the discharge and the wetlands. The discharges may change the water level range or hydrological function of the wetland (potentially to enhance the wetland). Hence consent under the NES-F is required.



3.3 Overall activity status

Overall, resource consent for the discharge of stormwater is a *Discretionary Activity*.

4.0 Site and surrounding environment

4.1 Site Location

Tauriko West is situated between the Wairoa River (western boundary) and State Highway 29 (eastern boundary) and is located near the southwestern extent of the TCC Territorial Authority boundary (as seen in Figure 4, below).

Figure 4: Site location

Site (shown in blue) relative to TCC TA Boundary (purple). Source: Bay eXplorer Maps



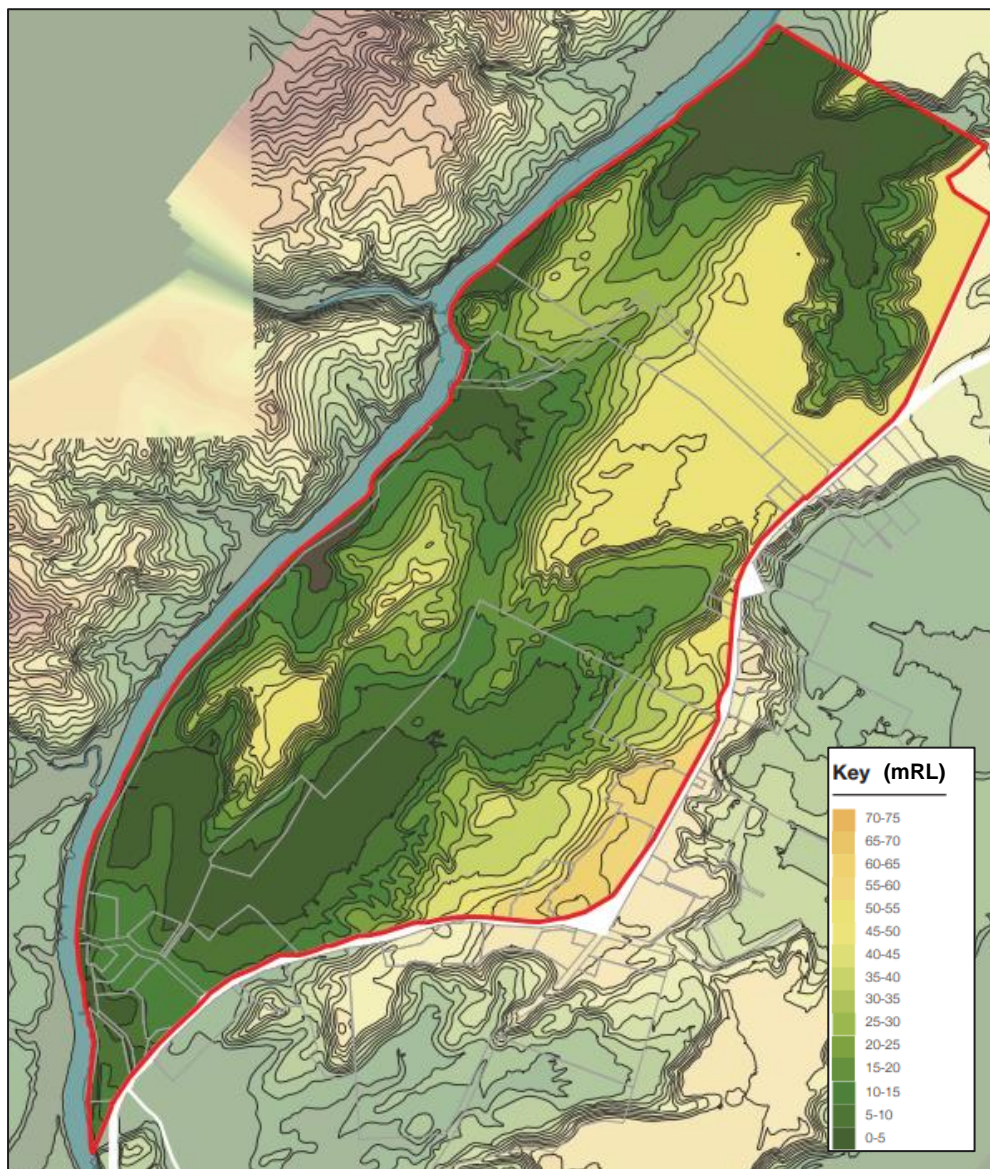
4.2 Topography

The site (as described in the Tauriko West Framework Plan Design Report, see Appendix D), comprises elevated terraces and domes (RL30 to RL65 metres, Moturiki Datum) flanked by moderately steep to steep escarpments which extend down to incised low-lying gully features (RL2 to RL15 metres).

Towards the west and south there are lower terrace features (RL5 to RL30 metres) with gentle to moderately steep slopes extending down to low-lying areas (see Figure 5). As part of the developments, each of the landowners will need to undertake bulk earthworks to provide appropriate areas for building platforms. This will result in changes to the present-day topography of the site. These earthworks will be subject to individual resource consent applications that will be lodged with the Bay of Plenty Regional Council.

Figure 5: Site topography

Site (red outline) Source: Tauriko West Framework Plan Design Report (Appendix D)



4.3 Land Use, Soils and Vegetation

The majority of the site is currently used as farmland, with some dwellings, orchards, a school and shops.

A map of the soils across the site is provided in the SMP (Appendix C) and the soils across the site largely comprise sand, and sandy, silt, clay or peat loams. The soil type and runoff behaviour mean that the south part of Tauriko West and the lower part of the central modified watercourse are susceptible to sheet erosion¹⁰. Furthermore, as a result of evidence of previous deep-seated instability, identified relic slip features and general ground conditions across the general development area stormwater disposal from each future lot via soakage to ground is not considered suitable¹¹.

The land use cover is primarily exotic grassland which is as a direct result of this land use. There are small pockets of wetlands and forests and orchards (primarily being kiwifruit) – these are described further below. Future land use will primarily be residential, with supporting land uses such as recreational reserves, roads, a school, and small-scale commercial activities.

4.4 Site Ecology

An Ecological Assessment of the area was undertaken by Boffa Miskell (Sep 2023), for the Tauriko West Structure Plan (see Appendix E). In summary, this assessment concludes the following:

- The terrestrial vegetation present on the site is considered to have Low or Negligible value, due to the high proportion of exotic and invasive species, and the lack of indigenous communities. No terrestrial vegetation communities are considered to be significant under the National Policy Statement for Indigenous Biodiversity (NPS-IB) and the RPS.
- There are a number of At-Risk or Threatened fauna that may potentially use the site, including eight Threatened or At-Risk bird species, one At-Risk lizard species, and one Threatened Bat species. These have ecological values ranging from Moderate to Very High.
- There are numerous vegetation features with high and moderate likelihood of being classified as natural inland wetlands, as well as a selection of constructed wetlands/waterbodies with adjacent wetland communities. Most of the wetlands or constructed waterbodies on site are considered to have Low or Negligible ecological value. The one exception is Wetland 9, which has higher complexity, is a persistent feature in the landscape, and provides functional buffering for inputs to the Wairoa River. This wetland is considered to have Moderate ecological value.
- There are three main flowing watercourse systems across the site, including the network of waterways within the northern, central and southern gullies. Each gully includes highly modified natural watercourses, as well as artificially constructed drains. The main stems of the streams present on the site provide habitat for At-Risk aquatic fauna and retain perennial surface flows. However, macroinvertebrate

¹⁰ Newsome, P., Wilde, R. H., & Willoughby, E. (2008). Land Resource Information System Spatial Data Layers - Data Dictionary. Palmerston North: Landcare Research New Zealand Ltd.

¹¹ SMP page 10



communities lack numbers or variety, lack functional riparian vegetation, and are highly modified. They are considered to have Moderate ecological value. The tributaries and ephemeral flow paths are considered to have Low and Negligible value, respectively.

- The aquatic fauna present in the stream includes several At Risk species, which have Moderate or High value.

In respect of the proposed development (as represented by Landform Option 5), the ecology assessment indicated that while the development will inevitably lead to some loss or modification of vegetation, wetland areas and modified watercourses, this could be mitigated by replacement, enhancement or offsetting. Boffa Miskell concluded:

Overall, the proposed rezoning of the Tauriko West Site will facilitate a change in land use across this landscape. Currently, the Site is dominated by agricultural and horticultural land uses, with corresponding low-value ecological features where these exist. The rezoning provides an opportunity for a superior outcome when compared to the current land use, such that redevelopment can result in improvements to ecosystem provision, health, function, condition, resilience, and viability.

The hybrid landform approach (Option 5) provides a platform where some effects can be reasonably anticipated; however, these effects can be managed via the effects management hierarchy to achieve this overall improved ecological outcome.

It is further noted that the effects considered by Boffa Miskell primarily relate to those associated with the land development processes – for which the necessary authorisations will be sought by the developers. The report indicates that matters such as altered sediment and contaminant loading in receiving aquatic environments and the increase in impermeable surfaces, with associated run-off implications, will need to be assessed in the relevant consenting processes. As is indicated in the SMP (and provided for in conditions) all discharges to internal watercourses are required to adopt extended detention to mitigate potential flow effects. Potential effects on water quality, and the associated implications of land use change, are assessed in other technical reports, which are summarised and discussed below.

Boffa Miskell undertook a supplementary ecological assessment, comparing the potential effects (and benefits) of the three landform options – low modification, hybrid (Landform Option 5) and high modification development approach (Appendix F). This assessment provides an additional summary of the existing ecological features and how potential effects of the development process can be mitigated. In summary it notes:

- There are approximately 41 features which may meet the definition of ‘natural inland wetland’ including 25 that have a high likelihood and an additional 16 that have a moderate likelihood. The majority (38; excluding the wetland mosaic feature) are actively grazed and are dominated by pasture species palatable to livestock. No wetland features are considered to have high ecological value; however, some may have moderate values.
- The majority (61%) of watercourses within the site are considered to be artificial watercourses/farm drains. The remaining natural watercourses are highly modified and frequently resembling straightened and incised channels. Beneficial, functional riparian vegetation is largely absent for all watercourses, though many of the watercourses in lowland areas have been fenced to exclude stock access.
- Irrespective of whether the watercourses are considered natural or artificial, inanga (*Galaxias maculatus*; At Risk – Declining) were observed throughout the site



suggesting adequate connectivity with the downstream Wairoa River and interconnectedness between the various watercourses.

- The terrestrial environment is dominated by exotic vegetation, including grazed pasture, planted exotics (plantation/woodlots, shelterbelt, orchard, garden/amenity), and exotic-dominated scrub. Generally, the terrestrial environment has very low or negligible community or habitat value.
- As per the requirements of the NPS-IB:
 - No Significant Natural Areas (SNAs) have been identified within the site;
 - New Zealand Pipit may have an intermittent presence, however it is unlikely they use this site as primary habitat, given the ongoing disturbance through grazing and farm management i.e. not expected to provide stable, permanent foraging habitat; as such it is considered that this site is not a “highly mobile fauna area” for pipit; and
 - Targeted surveys have not found any long-tailed bats inhabiting the site.

The evaluation provides mitigation options and opportunities for each of the three options and concludes:

When considering ecosystem health and outcomes, as opposed to policy, the hybrid option becomes the preferred ecological option for both the stream and wetland environment. Overall, the hybrid option allows for better effects management that is likely to be contained within the Tauriko West growth area and results in better functioning and ecologically valuable wetlands after the development than currently exist. Additionally, the features avoided as part of the hybrid landform option ensures some existing features (the better features) remain within the landscape to provide wetland habitat until such time that any offset wetlands are considered fully functional.

Again, while this largely pertains to effects associated with the physical development process, it indicates the opportunities provided by the proposed future development to restore and enhance freshwater systems.

4.5 Hydrology

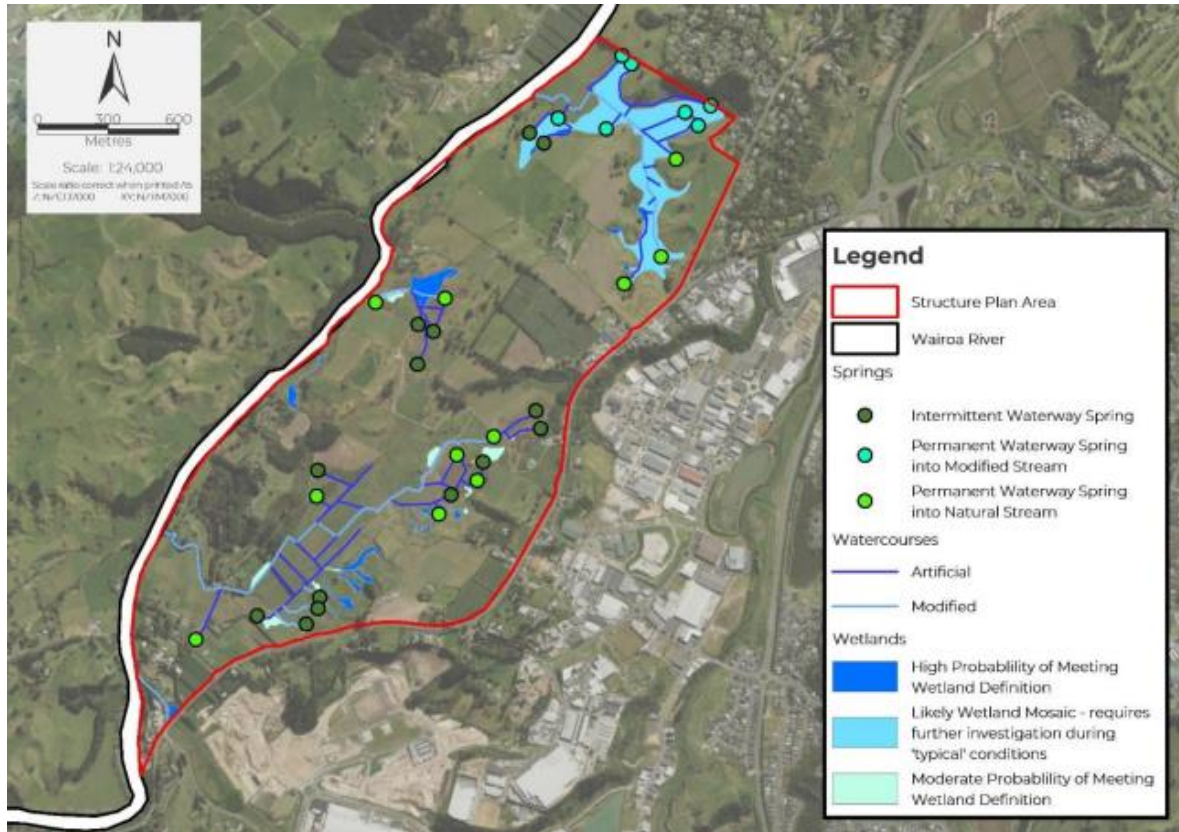
The hydrology of the site is outlined in the SMP¹² and the key freshwater features are summarised in Figure 6.

¹² SMP Section 4.4 through to 4.7



Figure 6: Tauriko West – existing freshwater features

Source: SMP (Appendix C)



4.5.1 Surface Water

There are three main watercourse systems within the northern, central and southern gullies the site. Each system includes:

- Highly modified natural watercourses, as well as networks of artificially constructed drains both of which have a combination of perennial, intermittent, and ephemeral reaches. The modified natural watercourses have been artificially straightened and incised for use and drainage purposes.
- The modified reaches typically have:
 - Soft bottomed with occasionally woody debris;
 - Slow flowing conditions (velocity <0.2 m/s), with occasional fast run conditions where gradients increase;
 - Limited in habitat heterogeneity, with poor fish cover availability and opportunities for sensitive macroinvertebrate colonisation.
 - No functional riparian vegetation other than occasional isolated trees or shelterbelts;
 - Crossing points that did not pose any obvious fish passage impediments.
- In respect of water quality and ecological values:



- The main stems of each of the watercourse systems have moderate ecological value but are assessed as being 'Significant' to the extent that they meet criteria for matters of national importance as defined in the BoPRPS – relating to the presence of at risk species (as discussed above);
- Macroinvertebrate Community Index (MCI) scores that are generally indicative of poor water and/or habitat quality and probable severe pollution;
- Water quality that indicate (based on a small number of discrete water samples) – high dissolved oxygen (with some exceptions); low concentrations of heavy metals and sediment; high *E. coli* and nutrients, likely associated with current land uses.

Other aspects of surface water hydrology on site are:

- The ground water table, geology and topography in Tauriko West has generated springs in some parts of the site.
- Surface runoff due to rainfall is predominantly conveyed via sheet/overland flow and captured in watercourses.
- The floodplain within the site is primarily linked to flood levels in the Wairoa River.
- A range of wetlands areas across the site (as discussed above), often associated with the margins of streams, springs and seeps.

4.5.2 Groundwater

Key features of groundwater within and surrounding the site are:

- Static groundwater levels are likely to be around 40 metres below ground level (bgl) under the ridges on the site, and indicate a relatively flat hydraulic gradient across the site to the valley floors and the Wairoa River.
- Springs occur where the groundwater level intersects the land surface.
- Groundwater discharge from the site primarily occurs to the Wairoa River.

4.6 Surrounding Environment

4.6.1 Location and Land Use

As previously described, the Wairoa River is located immediately adjacent to the western boundary of the site and State Highway bounds the eastern side of the site. There are residential areas to the north, lifestyle blocks and farmland to the south of the site.

Further to the east of the site on the other side of State Highway 29 is Tauranga Crossing (a retail shopping centre) and Tauriko Business Estate (an industrial business estate, zoned Tauriko Industry in the TCC City Plan).

Further to the west (on the western side of the Wairoa River) is primarily farmland, which is located within the Western Bay of Plenty District Council's Territorial Boundary.

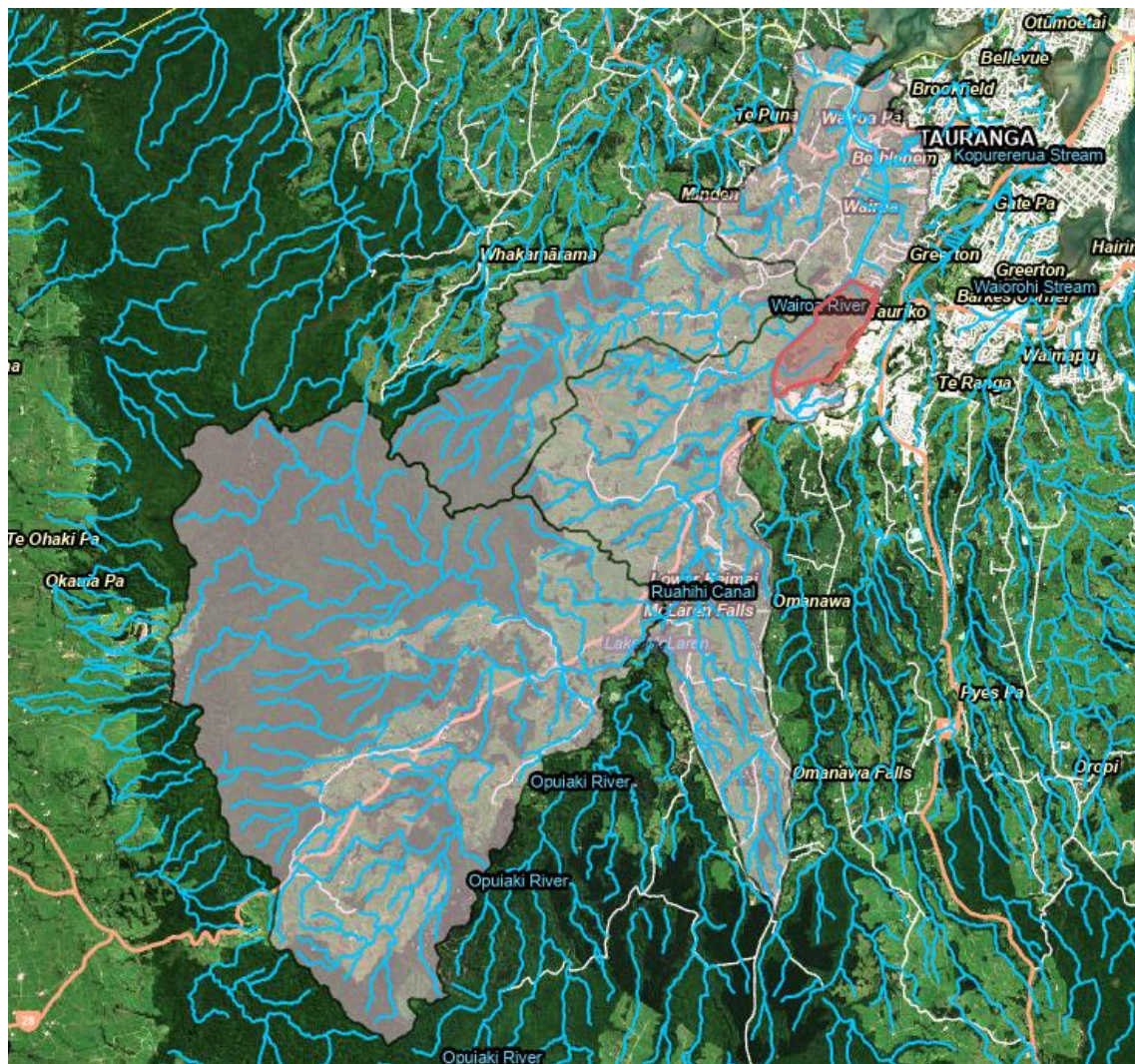


4.6.2 Wairoa River Catchment

The Wairoa River catchment (see Figure 7) is around 2,132 km² and is dominated by pasture (45%) and indigenous forest (44%)¹³. The Wairoa River is approximately 14 km long and is the largest freshwater tributary into the Tauranga Harbour. Four power stations harness energy from the Wairoa River to generate hydro-electricity¹⁴.

Figure 7: Wairoa River Catchment

Source: Bay eXplorer maps.



Under Schedule 9 (4) of the RNRP, the Wairoa River has an Aquatic Ecosystem Water Quality Classification. This classification requires that any discharge of contaminants or water to water in a river or stream with this classification shall not alter the quality of the water beyond the standards and criteria set out in Schedule 9 (4) after reasonable mixing.

¹³ <https://www.lawa.org.nz/explore-data/bay-of-plenty-region/river-quality/wairoa>

¹⁴ <https://www.boprc.govt.nz/environment/fresh-water/rivers-lakes-and-wetlands/rivers>



Schedule 1 (Aquatic Ecosystem Areas) also contains the following items relevant to Wairoa River and/or tributaries within its catchment:

- a. Wairoa River is listed as Habitats and migratory pathways of indigenous fish species.
- b. Tributary(ies) are listed as Habitats of threatened indigenous flora and fauna.
- c. Wairoa River has several sites listed as Whitebait spawning sites.
- d. Tributary(ies) listed as Important Habitats for trout.

Schedule 10 (Freshwater bathing sites) lists two freshwater bathing monitoring sites on the Wairoa River. The Wairoa at SH2 site is located downstream of the site near Bethlehem. The other (Wairoa Below McLaren Falls) is upstream of the site at McLaren Falls.

4.6.3 Tauranga Moana and Harbour

The Tauranga Moana (catchment) covers an area of almost 1,300 km² and contains 27 major rivers (including the Wairoa River) and 46 minor streams. It also includes the city of Tauranga, and extensive horticultural and agricultural areas.

Tauranga Harbour, which alone covers an area of 210 km², supports New Zealand's largest commercial port. The Tauranga Moana coastal marine estate is one of New Zealand's largest estuaries and the entire harbour has been identified as being an outstanding natural feature and landscape.¹⁵

Tauranga Harbour and the open coast are highly valued by the community for their recreational, cultural and natural values. Tauranga Harbour is an important source of kaimoana, provides culturally important resources and is a symbol of identity for Māori.

Key issues identified within the harbour and its contributing catchment include¹⁶:

- Concentrations of nitrogen in streams and rivers in Tauranga Moana are stable or improving and do not generally reach levels where they are toxic to aquatic life.
- Nutrient enrichment of our estuaries can lead to declines in estuary health. Although nutrient levels are generally low in Tauranga Harbour, land use intensification will increase the risk of nutrient enrichment.
- Freshwater fish communities are healthy in some streams and not so healthy in others. Healthy communities are more common in streams draining catchments dominated by native forest compared to streams draining catchments dominated by pasture and urban developments.
- The degradation of freshwater and wetlands and the resulting loss of biological diversity impacts Te Mana o Te Wai (the intrinsic value of water), this is of particular concern to tangata whenua.
- Nutrient enrichment of our estuaries can lead to declines in estuary health. Although nutrient levels are generally low in Tauranga Harbour, land use intensification will increase the risk of nutrient enrichment.

¹⁵ Tauranga Moana State of the Environment Report 2019. Environmental Publication 2019/04

¹⁶ From Tauranga Moana State of the Environment Report 2019



- Levels of heavy metals are relatively low in sediments around much of Tauranga Harbour which is good. However, the risk of heavy metal contamination will increase as urban and industrial development accelerates.
- The rate of sedimentation in Tauranga Harbour has increased over the years because of population growth, changing land use and soil disturbance related to development.
- Fine sediments from the land can affect our estuaries and the plants and animals that live in them. Tauranga Harbour can be a muddy place in sheltered inner estuary areas.

As the downstream receiving environment of a large catchment, Tauranga Harbour is subject to a wide range of pressures from both rural and urban sources. As is described in section 6, the change from rural to an urban land use in Tauriko West results in a reduction in the loads of key contaminants (albeit small in the context of the wider catchment) including sediment, nutrients and microbial pathogens (as indicated by *E. coli*).

5.0 Engagement

5.1 BOP RC

The Applicant and their consultants have attended several pre-application meetings with BOP RC representatives. In addition to the below, the BOP RC has been involved with the development of the DPS (over the previous 5-6 years) and has been supportive of the DPS.

A joint site visit and workshop was held on 4 August 2023 where key areas of the site were visited and a workshop held to discuss potential issues and directions. This meeting was attended by relevant BOP RC staff and consultants. Key issues raised at the workshop include:

- Plan Change and structure plan to address RPS Method 18 and NPS-FM Policy 3 for integrated land use planning.
- Addressing the NPS-FM for land form modification, Effects Management Hierarchy, Functional Need test and integration of stormwater management.
- Wetlands, and the wetland mosaic area of grazed paddocks and isolated wetland patches.
- Ecological impacts on watercourses, proposed recreated stream.
- Aquatic offsetting.
- Flood risk assessment and modelling, storage, mitigation and attenuation.
- Te Mana o te Wai and other NPS-FM requirements.
- Water quality, runoff calcs, imperviousness ratio, treatment.
- Stormwater DPS.
- LID.
- Extended detention devices.
- Climate Change.



- SMP.
- Geotech, steep slopes and setbacks.

A subsequent on-line meeting was held on 6 December 2023 with key BOP RC representatives. Key issues raised and Council suggestions from the pre-application meetings are summarised below:

- How certain is it that Landform Option 5 or similar will be implemented by developers and how can this be assured.
- How can TCC assure that LID is effectively implemented during subdivision and development stages.
- Feedback on draft proposed conditions has also been received from Marlene Bosch, this feedback has been incorporated into the proposed conditions attached to this application in Appendix O.
- Questions and feedback in relation to the SMP.

A further pre-application meeting was held with BOP RC on 13 March 2024. The purpose of the meeting was to update Council on how the consent application was progressing and provide updates on technical reports and address any questions raised when these reports were circulated. Key issues raised and Council suggestions from the pre-application meetings are summarised below:

- Draft conditions – Council has since provided written feedback and a set of proposed conditions, taking into consideration this feedback, are attached to this application.
- Wairoa River water quality assessment – Experts have since met and discussed the assessment and no significant issues have been raised.
- The link between Variation 1 to Plan Change 33 and this consent application, including key documents such as the DPS, SMP and consent conditions.
- The use of extended detention within internal streams only and the mitigation of volume and rate of discharge.

5.2 Consultation with Tangata Whenua

5.2.1 Te Rangapū Manawhenua o Tauranga Moana Partnership

This forum is an autonomous body made up of 17 representatives from each of the hapū and iwi in the TCC area. The group provides a forum for tangata whenua within the TCC area to discuss and develop Council concepts, procedures, policies, and projects that will impact on Tauranga Moana Tangata Whenua. It also implements initiatives to advance and protect the interests of tangata whenua. TCC has kept this forum informed of strategic aspects, with a specific presentation in 2021 on the Tauriko West urban growth area and the Cultural Values Assessment signed off by the hapū recognised as having mana whenua status.

5.2.2 Iwi Authorities

Formal engagement with the respective Iwi Authorities on the rezoning process under the RMA commenced in early 2023, initially seeking how each Iwi Authority wished to undertake



this engagement process. Follow up engagement continued thereafter with the following Iwi Authorities:

- Ngāti Ranginui Iwi Society.
- Te Runanga o Ngāi Te Rangi.
- Te Runanga o Ngāti Pukenga Iwi.
- Waitaha Iwi – Te Kapu o Waitaha

Full details of iwi and hapū engagement for the Tauriko West urban growth area are attached in Appendix G. In summary:

- Waitaha Iwi advised on 14 April 2023, that they respectfully support their whanaunga Ngāti Hangarau, Ngāi Tamarawaho, and Pirirakau in respect of the rezoning proposed.
- Ngāti Pukenga advised on 22 May 2023, that the Tauriko West UGA is outside the Ngāti Pukenga rohe; and they are happy for TCC to use the content of their email for consultation outcomes purposes.
- Ngāti Ranginui responded and requested a special hui to address the plan change aspects, which was scheduled for and undertaken on 16 May 2023. Ngāti Ranginui requested a further hui to address impacts on the Wairoa River and TCC's Comprehensive Stormwater Consent (CSC). The next hui was held on 29 August 2023 with a focus on the CSC, and draft conditions to address cultural monitoring and a proposed cultural health index. Consultation with Ngāti Ranginui on the CSC has continued on an ongoing basis, in parallel with hapū engagement.
- There was no response from Ngāi Te Rangi to the correspondence sent out on 13 April 2023. Follow up contact was in May and June 2023, but no response was received.

Further engagement with the respective Iwi Authorities was undertaken by TCC later in 2023 and through 2024, pursuant to the pre-notification requirements of Clause 4A of Schedule 1 of the RMA for the rezoning through Variation 1 to PC33: Tauriko West. Ngāti Ranginui responded on the rezoning aspect, and sought further consultation on the stormwater management approach for TCC and the CSC. Consultation has continued on an ongoing basis for the CSC.

5.2.2.1 Feedback Comments from Ngāti Ranginui Iwi Authority: Stormwater Management Feedback – 24 May 2024

TCC presented details on the draft CSC and draft conditions at Te Kauae a Roopu's hui on 6 March 2024. The details of the hui were subsequently circulated to the respective hapū members and Ngāti Ranginui Iwi Authority. A copy of the draft CSC, supporting AEE and draft consent conditions were also provided to all 6 Hapū and the Iwi on 9 May 2024, seeking feedback over the next 2 weeks until 24 May 2024.

Ngāti Ranginui Iwi Authority provided feedback/commentary dated 24 May 2024, on the relevant stormwater related aspects for the CSC. This feedback is summarised below. See Appendix G for further details and a response.

- Impacts on wetlands
 - Concerned with filling in wetlands, impacts on wetlands, and offsets.
 - Under s6e RMA, wetlands are considered a matter of national importance.



- Refer to the Iwi Environmental Management Plans and the Co-iwi Environmental Plan Management plan.
- Wetlands, groundwater and rainfall
 - Ngāti Ranginui note that “all wetlands are interrelated to the groundwater effect of a natural water course and the water table will discharge as per rain levels”.
 - Ngāti Ranginui emphasised how this can be addressed through integrated management of the catchment, although since raising this they have been advised this is the responsibility of BOP RC and Government agencies for environmental protection.
- Wetlands Assessment by SLR
 - There are a range of options available to mitigate effects so there is no loss of extent and values in retained wetlands (post-landform development by landowners).
 - Ngāti Ranginui identified how over 80% of New Zealand’s wetlands have been drained; how wetlands should be protected from development at all costs, and how this is a s6e RMA matter for Māori – as wetlands are a matter of national significance.
- CSC applying to post-development of the modified landform
 - Whanau and TCC need to deal in good faith, and it would be a good gesture to have the kaitiaki team working in tandem with the council monitors to build capability for the hapū and iwi kaitiaki.
- Contaminants
 - A comparison between future urban and existing rural, showing a decrease on rural type contaminants.
 - Ngāti Ranginui noted how hydrocarbons from highway runoff need to be included for the stormwater assessment.
- Wairoa River Assessment
 - Tauriko West is only a small contributor to flows in the Wairoa River, particularly as the large upper catchment dominates. Changes in discharge are to have minimal effect on river water quality.
 - Ngāti Ranginui acknowledge that the reductions in contaminants anticipated will improve water quality - but only marginally, and not enough for material change; and that there will be a minor increase in zinc - but small and within recognised guideline values.
- Monitoring of key contaminants
 - With regards to the draft condition proposed for the cultural baseline health index and monitoring for a proposed 35 year discharge consent with built-in review clauses, Ngāti Ranginui noted how they see baseline monitoring as ongoing for the life of the consent.
 - The iwi also noted that the consent should only be for a 15 year period to establish the effects within the area, and any increase subject to the review – as the issues to be mitigated are through environmental accumulative effects.
- Flood risk



- Regarding those areas identified at risk of flooding in the various flood risk assessment scenarios modelled, Ngāti Ranginui noted how any low lying areas with flood risk buildings should be for commercial use, if any use at all. The iwi described how these areas are part of the river ecosystem and need to be treated as such.

5.2.3 Te Kauae a Roopu – hapū engagement

Te Kauae a Roopu (TKAR) is a partnership group made up of six hapū with links to Tauriko West and who whakapapa to Tauranga Moana iwi Ngāti Ranginui. The six hapū are Ngāti Kahu, Ngāti Rangī, Ngāti Pango, Pirirakau, Ngāti Hangarau, and Ngāi Tamarawaho. TKAR was established in 2017 to incorporate Māori knowledge, perspectives, and values into decision-making processes for the broader 'Tauriko for Tomorrow' project.

TKAR has regular hui with other key stakeholders including TCC, BOPRC and the New Zealand Transport Agency (NZTA) to work on assessments and investigations relating to technical design and specifications, and to ensure key cultural values are aligned in all aspects of the project.

Through regular hui with TKAR, there have been presentations and discussions on stormwater management and the CSC, since 2018. The Stormwater Topic has been raised in the following hui:

- August 29, 2018
- March 7, 2019
- July 22, 2020
- April 14, 2021
- June 1, 2021
- May 20, 2023
- July 25, 2023
- August 29, 2023
- December 5, 2023

The range of issues raised by TKAR in these hui included:

- Important to reduce sedimentation and improve quality of water entering the Wairoa River.
- Poorly controlled stormwater runoff from individual building sites needs management.
- Effects of climate change need to be accounted for in stormwater assessment.
- Improved water quality of runoff into the awa to improve and reduce long term impacts is needed.
- A rigorous Hydrological Management Plan should be prepared that ensures that the waterways of the Wairoa River will not, in any way, be overburdened by excessive



stormwater runoff or contaminated by any substance toxic, sedimentary, chemical or other, than is necessary.

- Comprehensive Stormwater Consent scope needs to be defined and discussed with TKAR.

Further details on Tangata Whenua Engagement and Feedback on the structure planning, rezoning and stormwater management for Tauriko West are set out in Appendix G.

In July 2023, engagement continued with TKAR in relation to the draft comprehensive stormwater consent preparation. Advice was also sought from BOPRC around this time to confirm that all groups which BOPRC considered to have an interest in the stormwater consent were represented at TKAR, therefore, that it was appropriate to continue to focus engagement processes through TKAR rather than engaging with individual iwi and hapū. At this time, BOPRC advised that the iwi and/or hapū groups who have an interest in the area of the site are:

- Ngāti Ranginui (Ngāti Ranginui Iwi Society Inc)
- Pirirākau Incorporated Society
- Ngāti Kahu
- Ngāti Hinerangi (Ngāti Hinerangi Trust)
- Ngāi Te Rangi (Te Rūnanga O Ngāi Te Rangi Iwi Trust)
- Ngāti Pūkenga (Te Rūnanga o Ngāti Pūkenga Iwi)
- Ngāti Hangarau

A comparison of these groups with the members of TKAR (including a check of regular attendance at hui) was undertaken, and it was determined that all of the groups that BOPRC considers to have an interest in the comprehensive consent are represented at TKAR, with the exception of Ngāti Hinerangi and Ngāi Te Rangi iwi.

In relation to Ngāti Hinerangi, it was noted that this is a Waikato based Tainui iwi, and while their area of interest does extend along the western boundary of the Wairoa River, this is because Tainui descent groups came over the Kaimai and Whakamarama into Tauranga and settled on the western side of the lower Wairoa River and Te Puna. It is understood that the ancestors of these groups (Ngāti Pango) share the Wairoa marae with Ngāti Kahu and Ngāti Rango who are all represented at TKAR. It is further understood that Ngāti Hinerangi are not actively involved in resource management processes in the Bay of Plenty. On this basis, no formal engagement has occurred with Ngāti Hinerangi.

In relation to Ngāi Te Rangi, attempts to meet with Ngāi Te Rangi in relation to the broader Tauriko for Tomorrow project have been ongoing over the last two years, however, TCC has not been successful in meeting with their main representative, specifically about this proposal.

On 27 June 2023, BOPRC advised that, in principle, it has no issue with engagement processes for the comprehensive stormwater consent being channelled through TKAR, provided separate engagement attempts continued with Ngāi Te Rangi.



A summary and timeline of engagement efforts is included as Appendix G to this report, but in short, presentations on the proposed SMP and CSC were delivered at TKAR on 30 May 2023, 25 July 2023, and 29 August 2023. At the May hui, members expressed a strong interest in a cultural study being undertaken for the Wairoa River, which included a physical assessment of the waterway. On this basis, the option of undertaking a cultural health index (CHI) assessment was presented to TKAR, with an overview of the CHI tool provided, and a discussion was had about the comprehensive consent containing a suite of conditions to ensure that a CHI was undertaken and funded by TCC, but in partnership with interested hapū.

Whilst the idea of the CHI being prepared as part of the comprehensive stormwater consent process was generally well-received by hapū, efforts to advance this option following the August 2023 hui were put on hold to try and organise further hui as the Wairoa Marae representative advised that it was not correct for engagement in relation to the comprehensive consent to advance through TKAR ahead of direct consultation with hapū, and particularly elders, located at the Wairoa marae, despite these hapū being represented at TKAR. It was agreed at this hui, that several steps back would be taken, and that an on-site hui would be organised where TCC's comprehensive consent project team could present information about the project.

A hui with Ngāti Ranginui was also to be held on 23 January 2024. However, Ngāti Ranginui representatives were unable to attend this meeting. TCC have received correspondence from Ngāti Ranginui (see Appendix G) acknowledging the essential nature of engagement with hapū and that any information that TCC seek from Ngāti Ranginui would be in regard to protection of the natural environment and Te Mana o Te Wai principles.

On 6 March 2024 a further hui was held with TKAR. Ngāti Ranginui was also invited to this meeting but were unable to attend. The meeting was to update TKAR on the progress made with technical reports and the consent application. The information was generally well received, and the project team were able to answer and provide further information to any questions raised by hapū. A key action resulting from this meeting were for TKAR hapū to meet and decide on the implementation of a CHI, as this is still the preferred cultural monitoring method of the hapū.

Additionally, TCC has submitted on the BOP RC Long Term Plan, to seek funding for a Wairoa Catchment Management Plan (CMP), which would include the development of a Cultural Baseline Health Index (CBHI) for the whole of the catchment. We understand that both TKAR and Ngāti Ranginui are supportive of this submission, but this relates to actions that are required to be implemented by BOP RC (and not TCC as the applicant).

The applicant is committed to continue consultation with iwi and hapū and have provided a draft of this application to iwi and hapū prior to lodgement to ensure that they are fully aware of what is proposed and the conclusions reached within this report.

However, TCC is unable to address a catchment wide management plan for the whole Wairoa awa, but has supported BOP RC with work under the NPS-FM for freshwater management units (FMUs) including the Tauranga Harbour; and has recommended a sub-catchment be adopted by BOP RC for the Wairoa with a holistic approach, recognising Te Mana o te Wai and Ki Uta Ki Tai (mountains to sea).



In the absence of a holistic approach at this stage, TCC would accept a condition requiring the development of a CHI for the discharge of treated stormwater from Tauriko West's future urban area. TKAR have been given time to consider the CHI approach and any amendments they would like to make to this and provided a copy of this application and the draft conditions. The proposed CHI condition has been drafted in an open way which will allow TKAR input into the development of the CHI to ensure that it is fit for purpose and includes the cultural values TKAR identify as being important.

6.0 Assessment of effects on the environment

6.1 Introduction

As this application is for a discretionary activity, the consideration of effects by the consent authority is not restricted or limited. However, the relevant positive effects and potential adverse effects associated with the long term discharge from stormwater are considered to be:

- Positive effects and benefits
- Cultural effects
- Effects on freshwater and flood levels
 - Surface water quality
 - Water quantity
 - Effects on wetlands
- Other effects
 - Amenity and Recreation

In order to understand and assess potential effects, a range of technical assessments were undertaken that corresponds with the scale and significance of the effects that the activity may have on the environment. These are summarised below.

6.2 Positive Effects and Benefits

Tauranga is the fourth smallest territorial authority in New Zealand by land area at 135km² and has experienced exponential growth driven by strong inward migration and investor activity from outside the local market area. This strong growth is expected to continue in the future.

In June 2022, the resident population of the city was estimated to be around 158,300 people and 56,150 occupied dwellings. The population is expected to continue to grow over the next thirty years to 212,700, an increase of 54,400. Occupied dwellings are projected to grow by 26,600 over the next 30 years. Coupled with this growth, Tauranga has become the least affordable city in New Zealand when comparing the ratio of house prices to incomes¹⁷.

¹⁷ Section 32 evaluation report Variation 1 to Plan Change 33 – Tauriko West Urban Growth Area



Tauranga City is a Tier 1 urban environment, meaning it is facing the highest level of urban growth pressures, but Council does not meet the residential development capacity requirements set out in the NPS-UD in the short or medium term.

Tauriko West is a key component of Council's response to meeting its obligations under the NPS-UD, alongside other greenfield and intensification plan changes and other initiatives. It will provide significant additional development capacity compared to the current zoning of the land, being 3,600-4,000 dwellings compared with approximately 50 dwellings which are currently enabled. In addition, infrastructure capacity is being planned and delivered to enable the dwellings in Tauriko West at significantly higher density than previously delivered in urban growth areas in Tauranga. It is anticipated that the full amount of development capacity will be realised over the long term with timing dependent on property market cycles and infrastructure investment timing¹⁸.

As such, Tauriko West is a major residential development with the capacity to provide a substantial quantity of much needed housing of various typologies and densities necessary to support inevitable growth in Tauranga City, with the social and economic benefits that are associated with this well formulated and planned growth. Additionally, as discussed in Section 2.2, it is in a location that was identified as having significant benefits for greenfield residential capacity.

However, the potential benefits of the proposed development (of which the management of stormwater runoff is an essential contributor to) go beyond the provisions of necessary housing. As indicated in the supplementary ecological assessment (see Section 4.4) the proposed development under the hybrid landform (Landform Option 5) allows:

...for better effects management that is likely to be contained within the Tauriko West growth area and results in better functioning and ecologically valuable wetlands after the development than currently exist. Additionally, the features avoided as part of the hybrid landform option ensures some existing features (the better features) remain within the landscape to provide wetland habitat until such time that any offset wetlands are considered fully functional.

That is, not only does Landform Option 5 offer better ecological outcomes than other alternative development options, it provides advantages over the status quo land use by providing opportunities for improving the management and values of the existing freshwater and other features, including wetlands, that would not otherwise be likely to be realised. The effective management of stormwater in the long term, as provided for by the proposed conditions of consent, will help ensure this occurs.

Furthermore, as outlined in the Framework Plan (and the concept plans within this document), the development provides a significant opportunity to:

- Promote native planting throughout the development with a focus on ecological restoration, local habitat creation and re-establishment of local biodiversity;
- Preserve and enhance sites of cultural significance to mana whenua, including the setting of these sites by creating heritage trails, markers and interpretation boards
- Protect and enhance the natural character of the Wairoa River; and

¹⁸ Tauriko West -NPS-UD Development Capacity Assessment. Appendix 7(a) of the s32 evaluation for Variation 1 to PC 33.



- Provide a street network that is well-integrated with walking and cycling routes through parks, open space and the Wairoa River Reserve – thus facilitating and improving access to and along the Wairoa River.

In summary the proposed development that this application to discharge stormwater is necessary to enable, will provide significant housing capacity and a development that has the potential to provide a high level of amenity and functionality combined with opportunities to enhance environmental outcomes.

6.3 Cultural Effects

6.3.1 Ngā hapū of Te Kauae a Roopu Cultural Values Assessment

A Cultural Values Assessment (CVA) was commissioned by TCC and Waka Kotahi to address cultural values relevant for the developers, TCC, Waka Kotahi and Ministry of Education in Tauriko West.

This CVA is a relationship document which is designed to give guidance for parties of the Hapū of Te Kauae a Roopu cultural values. This CVA represents views of the hapū of Ngāti Kahu, Ngāti Pango, Ngāti Rangī, Ngāti Hangarau, Pirirākau, and Ngāi Tamarāwaho.

The purpose of this CVA is primarily to inform and influence the Tauriko West Development by further enhancing collaborative relationship understandings.

6.3.1.1 Report Summary

The report includes a summary of cultural outcomes sought in a contemporary context and communicated in English (which cannot fully grasp the true intent of the spiritual, ancestral, and holistic values identified). The table within section 3.6 on pages 17 to 22 of the CVA detail the various cultural values and how these are expected to be expressed within the development. Matters specific to the stormwater discharge activity all fall under the cultural value of kaitiakitanga, in which restoration and enhancement of natural ecology and restoration of indigenous flora and fauna back into the landscape are sought. Further details on how these might be achieved with the stormwater discharge activity include:

- On site treatment and disposal of stormwater where appropriate. Which avoids channelled displacement and promotes overland soakage.
 - Stormwater needs to be treated appropriately before being discharged into the environment. Allow for nature processes to treat stormwater.
- Maximise indigenous or endemic vegetation in natural areas.
 - Provide for indigenous vegetation in public landscaping designs, rather than exotic. Indigenous vegetation will encourage native wildlife.

6.3.1.2 Wānanga Sessions

During 2022 and 2023, a series of wānanga sessions were facilitated by Josh Te Kani for Te Kauae a Roopu to capture cultural matters of importance, historical details, and heritage aspects for tangata whenua and Tauriko West. The outcomes were tabulated to describe the following details:

- He Pukenga Wai – Place Based values
- He Pukenga Tangata – Insights and understandings



- He Pukenga Korero – desired outcomes: Council/Agency Response and TKAR Responsibility

The key place-based values identified through Wānanga Kōrero comprise:

- Ahikaa
- Kaitiakitanga
- Manaaki Tangata
- Māramatanga

One of the key actions/responsibilities identified through the wānanga is for “TCC’s Comprehensive Stormwater Consent to protect the awa, address water quality, and stormwater runoff and wetland impacts and consider impacts on the mauri (life vitality) of the natural environment through the resource consent process. TKAR to liaise with TCC’s City Waters Team on any partnership with TCC monitoring for the awa.”

Further details of the Wānanga Kōrero are set out in Appendix 13(h) – ‘Te Kauae a Roopu Cultural Values Summary for Potential Cultural Amenity Treatments, and Council/NZTA Response’, as part of the s32 report for Variation 1 to PC33¹⁹.

Other relevant details were identified to address ‘Kaitiakitanga’, and the restoration and enhancement of natural ecology, waterways and natural areas; and to restore indigenous flora and fauna back into landscape as detailed in Table 1 (below).

Table 1: Expression of Kaitiakitanga Values.

Source: s32 report for Variation 1 to PC33.

EXPRESSION	DESCRIPTION	COUNCIL/AGENCY RESPONSE AND TKAR RESPONSIBILITY
Restoration of waterways and natural areas.	Stormwater needs to be treated appropriately before being discharged into the environment.	A ‘treatment train’ approach to stormwater management will be incorporated into TCC’s Comprehensive Stormwater Consent (CSC) and Catchment Management Plan (CMP).
On site treatment and disposal of stormwater where appropriate. Which avoids channelled displacement and promotes overland soakage.	Allow for nature processes to treat stormwater.	TCC will require incorporation of appropriate stormwater runoff treatment in open space and community facility designs, spine road and for general residential areas. TCC and the developers have an agreed Design Philosophy Statement (DPS) for managing stormwater based on a Low impact design approach.

¹⁹ <https://www.tauranga.govt.nz/council/council-documents/tauranga-city-plan/proposed-plan-changes/plan-change-33-enabling-housing-supply/variation-1-to-plan-change-33/variation-1-to-plan-change-33-key-documents>



		TKAR have been consulted in the preparation of TCC's CSC
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It was also acknowledged that BOPRC and TCC's Environmental Monitoring Team are to ensure compliance for stormwater treatment, discharge and management; and that TCC's Spaces and Places Team are to liaise with TKAR on 'telling the story of the whenua and awa' as part of the opportunities for informing and educating the local community on cultural heritage.

6.3.2 Cultural Heritage Report

A Cultural Heritage Report (updated May 2023) was undertaken by Te Onewa Consultants to identify and assess sites of significance to Māori within Tauriko West. The report also sought to articulate known relationships with the project area including the adjacent Wairoa River.

6.3.2.1 Report Summary

The Cultural Heritage Report provides a source of technical information and assessment that has been considered and inputted into the design of the landform and framework for implementation through future development. The preparation and completion of the Report included the following:

- A literature review;
- Site visit;
- Resource inventory and assessment of significance;
- Recommended management options; and
- Conclusions.

In order of priority, the most important elements of Tauriko West that were identified as requiring special consideration in the structure planning/framework planning and rezoning proposals, are as follows:

- 1 The Wairoa River and its immediate surrounds;
- 2 Te Whakakotahi o nga awa – the confluence of the Ruangarara and the Wairoa rivers, including the knoll landform;
- 3 A terraced kainga and later area of Captain Tovey's House;
- 4 The Ruangarara Camp and Bush Campaign Track, and
- 5 Several archaeological sites – mostly middens or rua (food pits).

6.3.2.2 Report Conclusion

The management options considered appropriate to implement in Tauriko West are identified as:

- Protection mechanisms such as setback of development from the Wairoa River.
- Design solutions for the interface between urban development and the Wairoa River.
- Avoidance of and possible reservation/incorporation of cultural heritage items into open space.



- The undertaking of appropriate archaeological monitoring and investigations.

6.3.3 Iwi and Hapū Management Plans

An assessment of the relevant Iwi and Hapū Management Plans is included within Section 7.4.1 of this report. Effects/matters highlighted in these management plans relate to:

- Kaitiakitanga
- Mauri of wai (including in particular, the Wairoa River)
- Integrated management
- Water quality

It is noted that the plan change for Variation 1 to PC33 has also assessed all relevant Iwi and Hapū Management Plans, for reference this is included within Appendix 4 of the s32 Report.

6.3.4 Effects on Cultural Values Assessment and Conclusions

All of the recommended conclusions of the CVA, Wānanga Kōrero and Cultural Heritage Report can be implemented through the implementation of the SMP or are inherent in the design details of the implementation of the proposed Landform Option 5 on which this assessment was based. Land use has been set back from the Wairoa River and future stormwater discharges are not anticipated to affect the sites of significance identified. The implementation of the LID tools outlined in the SMP is expected to improve water quality in the Wairoa River.

Achieving all the priorities set out in the CVA, Wānanga Kōrero and Cultural Heritage Report and Iwi and Hapū Management Plans will involve an ongoing collaborative approach between all parties involved. It is considered that the stormwater discharge will not conflict with any priorities identified in the relevant Iwi and Hapū Management Plans.

Additionally, effects on the cultural values within the Wairoa River will be able to be monitored through the implementation of a CHI relating to the discharge of treated stormwater from Tauriko West. While it is acknowledged that the preference of iwi and hapū is for a management plan and associated monitoring framework for the whole Wairoa awa, this holistic approach is not within TCC's ability to deliver. In the absence of a holistic approach at this stage, TCC would accept a condition requiring the development of a CHI for the discharge of treated stormwater from Tauriko West's future urban area, in conjunction with relevant hapū and iwi.

Implementing the CHI in combination with the other consent conditions, will allow for an adaptive management approach, where the consent holder can continue to work with iwi and hapū to ensure the cultural values of the Wairoa River are maintained, and where possible enhanced.

6.4 Effects on Freshwater

The development of Tauriko West has the potential to adversely affect the ecological values of rivers, streams and wetlands. This may occur as a result of physical modification (moving/altering etc) or the discharge of stormwater from the future urban environment.

As highlighted previously, authorisations for the development of the landform, including earthworks and any physical works on stream and wetlands are the responsibility of developers. Consistency across all phases of development is guided by the DPS, which



seeks to integrate outcomes across the development process and the long-term discharge of stormwater, and which outlines the following design objectives for the modification and diversion of watercourses:

- Retains an upstream and downstream connection to the original stream including all-natural stream connections to the Wairoa River;
- Maintains, at a minimum, or preferably enhances ecosystem values, including habitat and hydrological features (sinuosity, riffles, refuges, stability) that are appropriate for ecologically significant species where these are present in the diverted stream and associated tributaries/drainage channels;
- Retains/re-creates hydrology (e.g. permanent flowing water) to support existing aquatic species, by connections from springs and seeps from the escarpments and connection to the groundwater table/permanently flowing water; and
- Minimises risk of erosion.

In respect of wetlands, the DPS recognises that some modification or loss of wetlands may occur – subject to obtaining resource consent and (where necessary) the application of the effects management hierarchy and it is expected that appropriate outcomes (including offset and compensation) will be determined through that process. Where natural inland wetlands are retained, the DPS specifies that they must not be used for stormwater quality treatment but may be able to receive treated stormwater (including water that comes from areas where treatment is not required due to LID).

Accordingly, the following assessment is focussed on the potential effects associated with the long-term discharge of stormwater from the finished development, including water quality and hydrological effects – the former relating to both the streams within the development and the Wairoa River. As for other assessments, the technical assessments discussed below are based on Landform Option 5.

6.4.1 Surface Water Quality

6.4.1.1 On-Site Streams

To help understand the potential effects of the stormwater discharges on the modified streams within the site, TCC commissioned Morphum Environmental (Morphum) to undertake modelling and prepare a report that details the potential changes in water quality resulting from developing the site (see Appendix H), utilising the Freshwater Management Tool (FWMT) that is being developed for Tauranga City Council. The tool and how it works is described in the Morphum report (and associated documents²⁰).

In summary the FWMT is a regional hydrological and contaminant load model and continuous modelling system. It can assess and analyse the potential changes in contaminant yield and stream water quality grades in relation to different land use types (in this case following the development process), including pre-development, unmitigated post-development, and mitigated post-development.

The FWMT modelled four scenarios:

²⁰ The FWMT model calibration report for Tauranga City was provided to BoP RC for their review and can be made available if required.



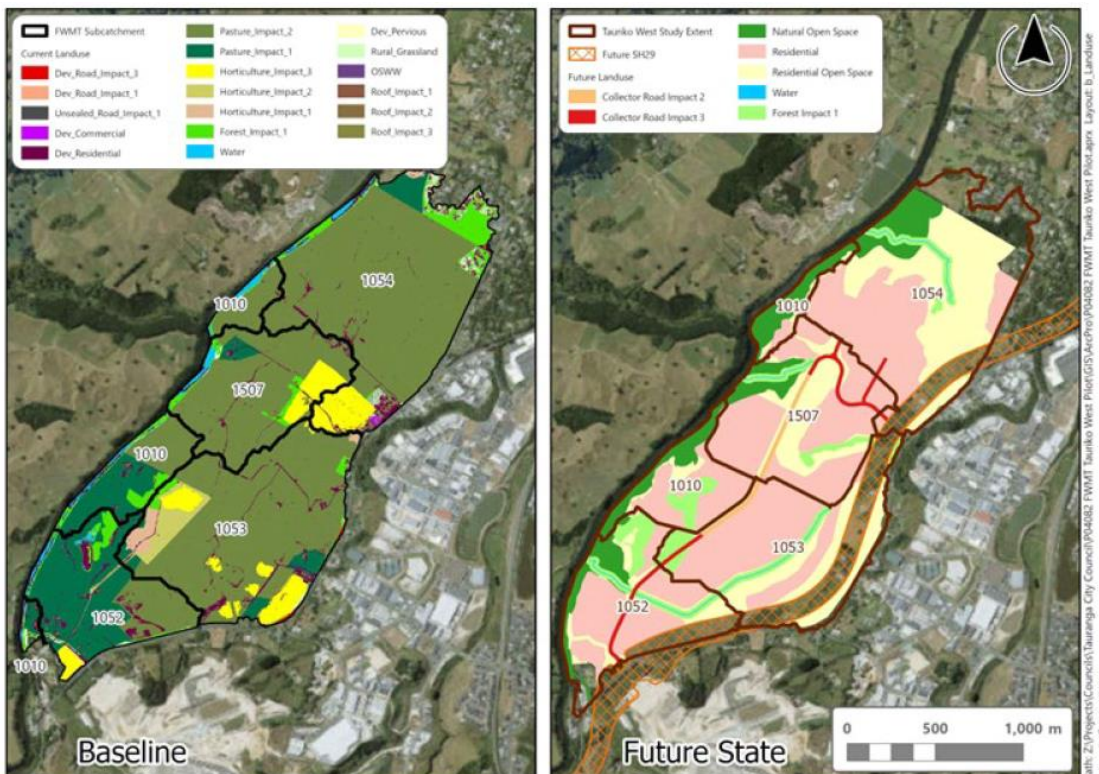
- Scenario 1: The current (baseline) state under the existing land use;
- Scenario 2: The future developed state without stormwater mitigation;
- Scenario 3: The proposal – the future developed state with stormwater mitigation and ‘treatment train’ approach as per the SMP applied; and
- Scenario 4: A full mitigation state – utilising the optimisation tools in the FWMT to maximise contaminant removal.

The focus of the discussion below is on the comparisons between the first three options. While the fourth option provides an indication of what maximum contaminant reductions could be achieved, there are ‘diminishing returns’ from that scenario. That is, small incremental increases in contaminant removal from the development, with minimal additional environmental/water quality benefit, come at substantially larger incremental costs and hence get to a point that they are not cost effective.

The results are presented in the report and below in a series of tables, based on five sub-catchments within the development. For reference, these sub-catchments are shown in Figure 8.

Figure 8: FWMT Catchments

Source: FMWT Report (Appendix H)



The FWMT report presents contaminant loads as totals (groundwater and surface water) and surface water alone. For the purposes of this report, only the latter is presented as this is the component that relates to surface water quality.

The results of the modelling are shown in Table 2. This table provides the change in flow and contaminant load (in surface water) across the four modelled scenarios at both a sub-catchment scale and overall – compared to the baseline (current) state.



To reiterate, Scenario 3 is the proposed option – being Landform Option 5 with the SMP LID management and treatment regime applied.

Table 2: Surface contaminant yield changes compared to baseline

Source: FMWT Report (Appendix H)

Sub-catchment	Scenario	Scenario Details	Contaminant yield change per hectare ¹ compared to Baseline						
			Volume	Sediment	Nitrogen	Phosphorus	Zinc	Copper	E. coli
1010	2	Unmitigated Future State	85%	-49%	-49%	-94%	53%	11%	-73%
	3	Mitigated Future State – SMP	81%	-70%	-63%	-97%	-37%	-47%	-81%
	4	Mitigated Future State – FWMT	54%	-70%	-70%	-97%	-54%	-56%	-81%
1052	2	Unmitigated Future State	494%	-52%	-50%	-87%	558%	192%	-69%
	3	Mitigated Future State – SMP	465%	-74%	-63%	-89%	216%	37%	-76%
	4	Mitigated Future State – FWMT	336%	-78%	-74%	-90%	75%	-14%	-77%
1053	2	Unmitigated Future State	213%	-45%	-79%	-81%	439%	61%	-62%
	3	Mitigated Future State – SMP	197%	-75%	-82%	-83%	20%	-55%	-71%
	4	Mitigated Future State – FWMT	153%	-75%	-82%	-83%	1%	-59%	-72%
1054	2	Unmitigated Future State	129%	-47%	-78%	-91%	260%	19%	-71%
	3	Mitigated Future State – SMP	119%	-69%	-82%	-92%	-22%	-62%	-78%
	4	Mitigated Future State – FWMT	87%	-70%	-83%	-92%	-35%	-65%	-78%
1507	2	Unmitigated Future State	710%	-55%	-72%	-96%	1278%	282%	-81%
	3	Mitigated Future State – SMP	665%	-96%	-88%	-99%	76%	-53%	-92%
	4	Mitigated Future State – FWMT	537%	-96%	-91%	-99%	22%	-64%	-93%
All	2	Unmitigated Future State	217%	-50%	-79%	-89%	336%	69%	-71%
	3	Mitigated Future State – SMP	202%	-75%	-83%	-91%	13%	-50%	-79%
	4	Mitigated Future State – FWMT	153%	-76%	-84%	-91%	-19%	-59%	-80%

¹ Yields are compared per hectare as the catchment sizes have changed because of the changes to the landform required for the proposed development

Yield decreases ■ Yield increases ■

The results shown in the table indicate that the development of the Tauriko West area results in the following changes:

- Stormwater flows/runoff increases, approximately doubling, as a result of the introduction of impervious areas;
- Contaminants that are prevalent in rural/horticultural land uses (sediment, nitrogen, phosphorus and E. coli) decrease substantially under all future scenario options. Reductions of sediment: 75%; nitrogen: 83%; phosphorus: 91% and E. coli: 79% occur under the proposed scenario 3.
- Metals copper and zinc, which are associated with urban environments, increase significantly in the post-development Scenario 2. However, mitigation is highly effective in reducing metal loads as demonstrated by the substantial differences between Scenarios 2 (no SMP measures) and 3 (full implementation of the SMP).

The modelling process has then assessed the likely water quality grades under the NPS-FM NOF. The summary results of that assessment are provided in Table 3.



Table 3: FWMT – predicted stream grades by scenario

Source: FMWT Report (Appendix H)

Sub-catchment	Scenario	Scenario Details	Contaminant overall stream grades						
			TON	NH4N	Cu	Zn	E. coli	DIN	DRP
1052	1	Baseline State	C	B	A	B	E	D	D
	2	Unmitigated	A	B	D	D	E	C	C
	3	SMP	A	B	B	C	E	C	A
	4	FWMT	A	B	A	B	E	C	A
1053	1	Baseline State	C	B	A	B	E	D	D
	2	Unmitigated	A	B	D	D	E	D	C
	3	SMP	A	B	A	B	E	C	A
	4	FWMT	A	B	A	B	E	C	A
1054	1	Baseline State	B	B	A	B	E	D	D
	2	Unmitigated	A	B	C	D	E	C	B
	3	SMP	A	B	A	B	E	C	A
	4	FWMT	A	B	A	B	E	C	A
1507	1	Baseline State	B	B	A	B	E	D	D
	2	Unmitigated	B	B	D	D	E	D	A
	3	SMP	B	B	A	B	E	D	A
	4	FWMT	B	B	A	B	E	D	A

Grade improves ■ Grade degrades ■

Where:

- TON = Total Oxidised Nitrogen
- NH4N = Ammoniacal Nitrogen
- Cu = Copper Soluble
- Zn = Zinc Soluble
- E. coli = E. coli
- DIN = Dissolved Inorganic Nitrogen
- DRP = Phosphorus Soluble

The overall grading results indicate that the stream grades remain the same or improve (sometimes by more than one grade) for most attributes in most sub-catchments for Scenario 3 compared to the baseline. The only exception to this is for copper and zinc in one sub-catchment (1052), where a decrease by one grade step is predicted. It is likely that this is primarily influenced by the location of a significant stretch of the main road through the development (called the Spine Road) within this sub-catchment. It is also noted that the decline only relates to the assessed '95%ile' grade for these metals, the median grade for copper and zinc²¹ remain at 'A' and 'B' respectively.

²¹ See Table 15 of Appendix H



Additionally, while the modelling predicts a significant reduction in *E. coli* yield, this reduction is not sufficient to result in an improved grade. This is likely due to the significant and varied sources of *E. coli* in both rural and urban environments and the conservative attribute states provided in the NPS-FM.

Overall, the results indicate that the proposed stormwater management regime will be highly effective in reducing contaminant yields and concentrations – both those that are currently present and those that are introduced as a result of development. Water quality in the streams' internal to the site will be high, particularly for an urban environment, with a significant reduction in many of the existing contaminants and minimal increases in new introduced contaminants. This improvement in water quality will assist in retaining (and providing conditions for enhancing) in-stream ecology.

As demonstrated by Scenario 4 (maximum contaminant reduction) further reduction in contaminant loads and concentrations could be achieved. However marginal increases in contaminant reduction come at significantly increasing cost and given the small gains, are not considered necessary in this instance.

A question was raised during engagement²² as to the risks and issues associated with hydrocarbons. Given that this area is a residential development, this is most likely to be residual hydrocarbons associated with motor vehicle use. The potential issue of hydrocarbons in urban areas has been assessed in Auckland²³ - seeking to answer how does Auckland's stormwater compare to elsewhere? This report concluded:

The available data indicate that low concentrations of monocyclic aromatic hydrocarbons (MAHs) may be present in stormwater if local sources, such as motor vehicles and vehicle fuel (which are considered to be the primary source of MAHs) contribute. MAHs may also be present following fuel spillages, but their physical properties mean these compounds are readily lost from surface water and sediment through volatilisation.

Data for New Zealand indicate that the concentrations of MAHs in stormwater (prior to entering receiving environments) are typically below the maximum concentrations given in freshwater quality guidelines to protect aquatic biota. As such, MAHs in typical stormwater runoff are not considered a high risk to freshwater environments, nor are they considered a high risk to estuarine and coastal environments (i.e. they are not the key contaminants of concern driving mitigation option design) and therefore should not require additional targeted mitigation methods. However, generic stormwater treatment devices (for instance, constructed wetlands) are designed to remove a broad range of pollutants, including MAHs. Specific controls are however, crucial at sites where there is potential for major hydrocarbon losses that could result in acute environmental effects (such as car parks and petrol stations).

The above related to the existing Auckland urban environment; in a new residential development such as Tauriko West, with treatment applied to high use roads and larger carparking areas, it would be expected that MAH concentrations would be at the lower end of the range and hence potential risks and effects would be even smaller.

²² Various hui 2023, Stormwater Presentations

²³ Kennedy, P., Allen, G and Wilson, N (2016). The management of hydrocarbons in stormwater runoff: a literature review. Prepared by Golder Associates (NZ) Limited for Auckland Council. Auckland Council technical report, TR 2016/010



Overall, it is concluded that effects on the water quality in the streams within the development are largely beneficial, as a result of reducing existing contaminants, and potential negative effects of introduced contaminants on the streams will be negligible to less than minor.

6.4.2 Wairoa River and downstream environments

The modelling results described above relate to the streams within the Tauriko West development. To assess the potential for effects on the downstream environment, the changes in contaminant load/concentration were then superimposed in the Wairoa River, to assess the potential change in water quality in the river. This assessment undertaken by SLR Consulting is provided in Appendix I.

One of the issues in undertaking this assessment is the relative size of the Wairoa Catchment (2,132 km² or 213,200 ha) compared to Tauriko West (330 ha – or 1.5% of the catchment area). Given the very small proportion of the wider catchment, Tauriko West's contribution to the overall water quality within the Wairoa River is minimal, and any changes in water quality (both positive and negative) in the Wairoa River are even smaller.

However, to demonstrate the potential change in water quality, the assessment analysed the change in the concentration of key contaminants across the five-year rainfall time series of predicted data – and looked at the magnitude of change (relative to the baseline discharge) rather than the water quality in the river itself. In this context, change was the difference between the baseline scenario (rural/horticultural) and Scenario 3 (developed state – SMP) of the scenarios modelled through the FWMT.

The assessment identified that concentrations of some contaminants discharging to the river increased while the majority decreased. Total nitrogen was predicted to increase in smaller events (up to the 80th percentile rainfall event in the timeseries). This result was unexpected given the substantial reduction in total nitrogen yield predicted by the model (-83% yield) and is likely due to a change in runoff characteristics, different sources and runoff pathways. Zinc concentrations are also predicted to increase, which is not surprising given that zinc from roads, roofs and other sources is ubiquitous in an urban environment – however, the magnitude of this increase is very small.

To give a holistic picture of the results, the report presented the timeseries results graphically and these are provided below in Figure 9.

The results show that, with the exception of zinc, contaminant concentrations of sediment, nitrogen, phosphorus, E. coli, and copper consistently decrease across the five-year time series of data – hence contributing to improved water quality in the Wairoa River, albeit minor given the small contribution of Tauriko West to the overall catchment flows and contaminant loads.

Only zinc indicates any increase across the rainfall events in the time series. However, the magnitude of this increase is very small – generally less than 0.0001 mg/L – which is lower than the analytical detection limit for zinc and hence will be undetectable within the Wairoa River.

It is therefore concluded that potential negative water quality effects on the water quality of the Wairoa River are negligible. The potential benefits of reduced contaminants are larger but, given the minor contribution of the Tauriko West area to catchment and river flows, they are also likely to be small overall.



Figure 9: Predicted changes in contaminant loads to the Wairoa River

Source: SLR 2024, Appendix I – a negative means an improvement in water quality from current to future developed state.

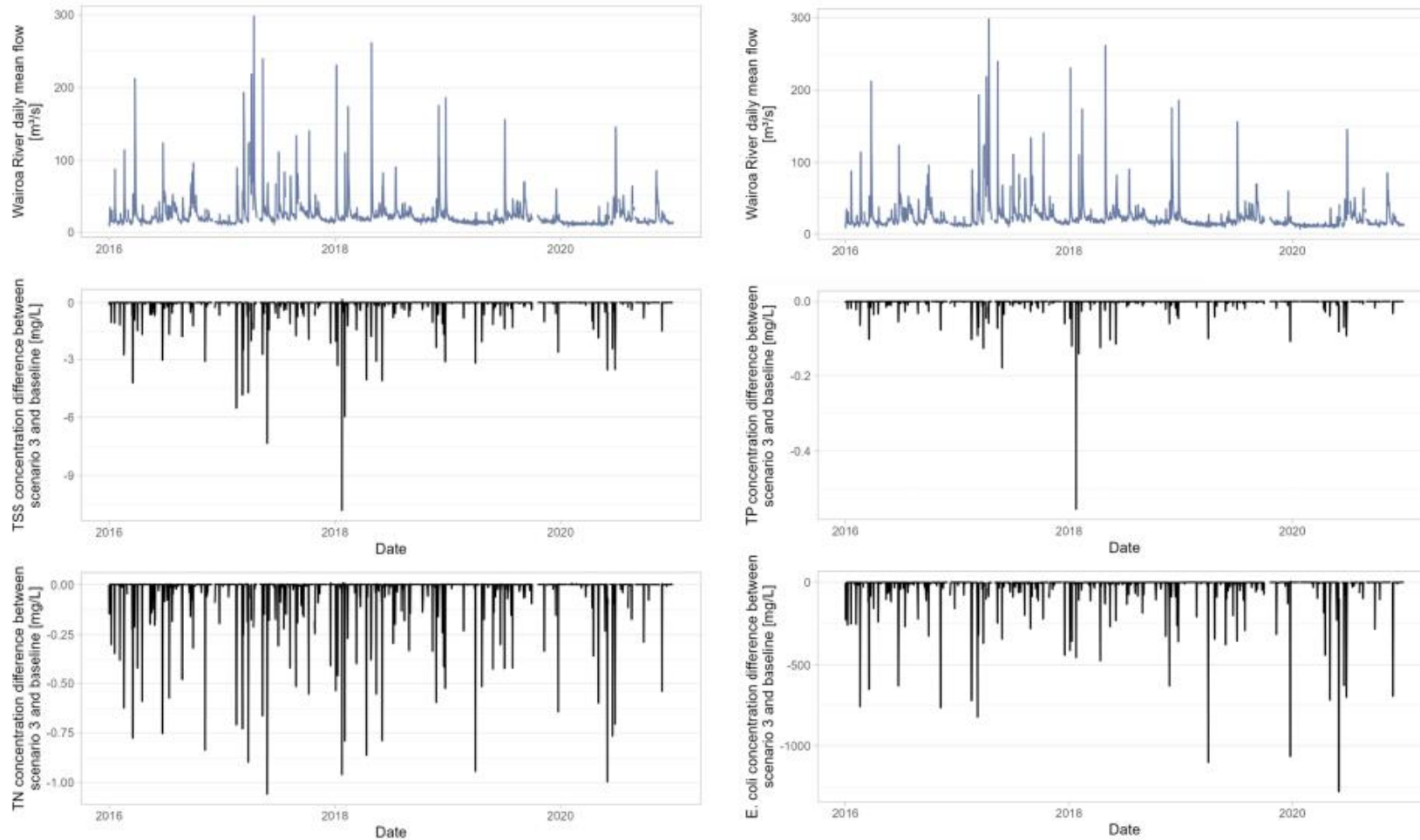
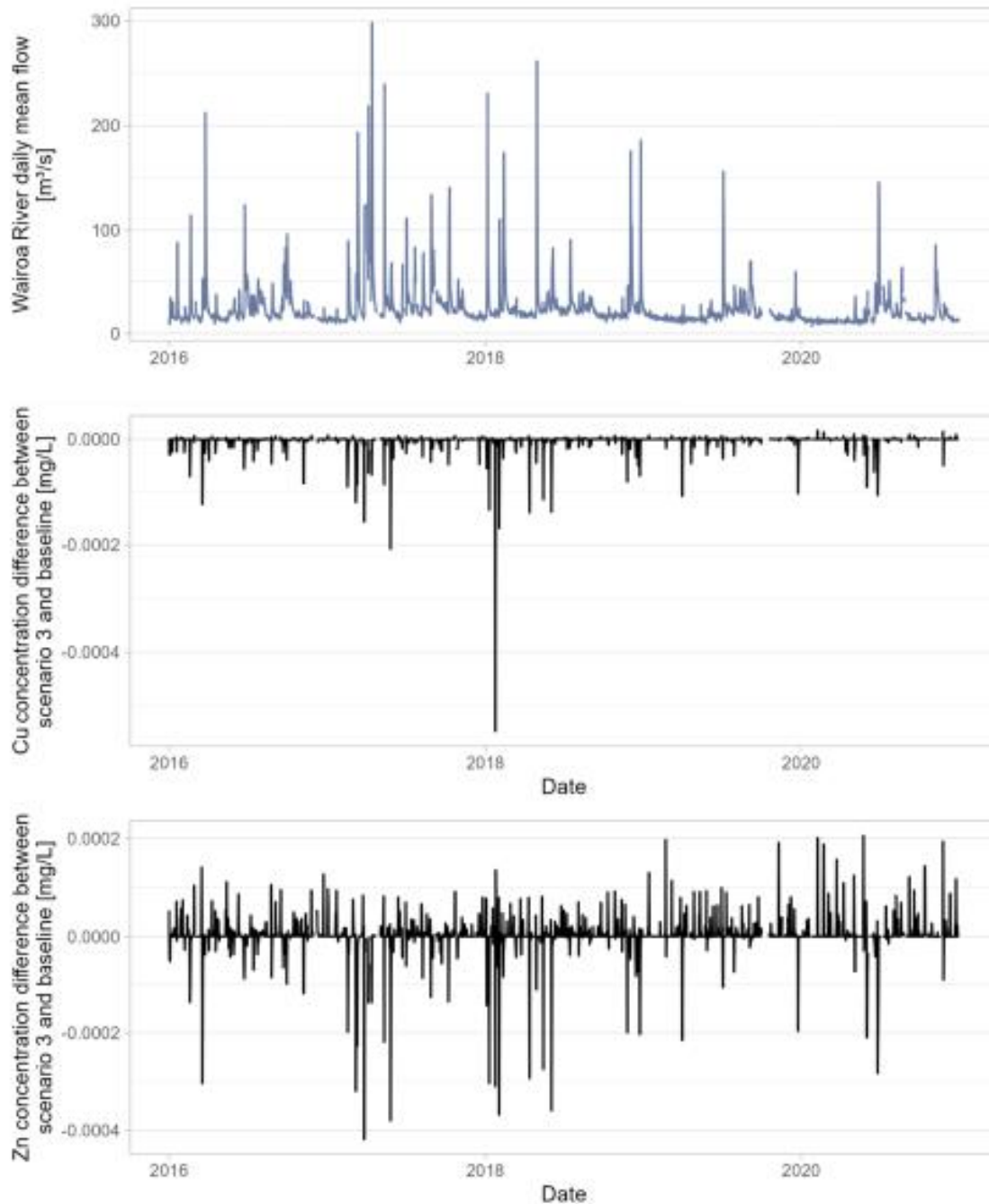


Figure 9: Predicted changes in contaminant loads to the Wairoa River (continued)



While the benefits to the Wairoa River are likely to be small, the assessment demonstrates the effectiveness of the proposed management of stormwater through the LID and SMP toolbox in reducing and minimising contaminants that could result from the proposed changes in land use.



6.5 Water Quantity

6.5.1 Erosion and Scour

As indicated in Section 4.0, the current streams on the site are already highly modified, straightened and incised and devoid of riparian vegetation. As a result of the implementation of Landform Option 5 (or similar) it is likely that some watercourses will be subject to further re-alignment as part of the reformation of the area to enable residential dwellings to be constructed above flood levels (including climate change) and to enable efficient development.

As indicated by the FWMT modelling, these modified streams will receive more stormwater runoff (approximately a doubling in stormwater volume overall) as a result of the development and the installation of impervious surfaces in the form of roads, buildings, driveways and other areas. This increase in flow – both total volume and peak flows – gives rise to the potential for accelerated erosion and scour, particularly associated with outfalls and stream banks in streams within the site.

In contrast, discharges to the Wairoa River are small in comparison to the total river flow and are distributed along the length of the river adjacent to the development. Due to this, erosion effects are likely to be only associated with outfall structures where constructed (noting the DPS directs the utilisation of existing stream connections where possible).

It is expected that the risk of erosion is minimal but, as is the case for all urban stormwater networks, it will be managed and mitigated (where necessary) over time. The reasons for this conclusion are:

- Any re-alignment/modification/enhancement of urban watercourses, as primary flow paths, will be designed and undertaken to have capacity (for 10% AEP flow, as detailed in the SMP) to convey flows from the fully developed catchment that contributes stormwater to them – ensuring the conveyance capacity of the streams is appropriate will contribute significantly to reducing future erosion risk.
- Design of outfalls to protect against erosion and scour – this is standard engineering practice and will be the case for outfalls within the development and (where necessary) to the Wairoa River.
- The application of low impact design to mitigate flows including the use of swales and blue/green corridors and linking these with the modified streams – thus providing a 'soft' entrance of stormwater to the waterways where possible.
- The use of extended detention for all post development discharges to internal waterways, as specified in the DPS and outlined in the SMP. This will ensure that peak flows are reduced and discharged over time, thus further lowering erosion potential.
- Finally, a condition of consent is proposed that requires TCC as consent holder to inspect the outfall structures and remedy or mitigate erosion if it is identified. Again, this is standard practice in the management of urban stormwater networks.

Overall, the risk of erosion and scour will be present but is able to be appropriately managed through effective design of stream channels, erosion outfall structures and the required monitoring of them as outlined in the proposed conditions of consent. Given this, the effects of erosion and scour are considered to be appropriately avoided and if needed, able to be remedied or mitigated.



6.5.2 Flooding

The consideration of flood risk relates to both future properties and buildings on the site, and the potential to increase flooding on other properties.

6.5.2.1 Flood Risk Assessment

WSP has undertaken a flood risk assessment (FRA) for the Tauriko West area in accordance with the methodology specified in *Appendix L* of the BOP RPS. This assessment is provided as Appendix J of this report.

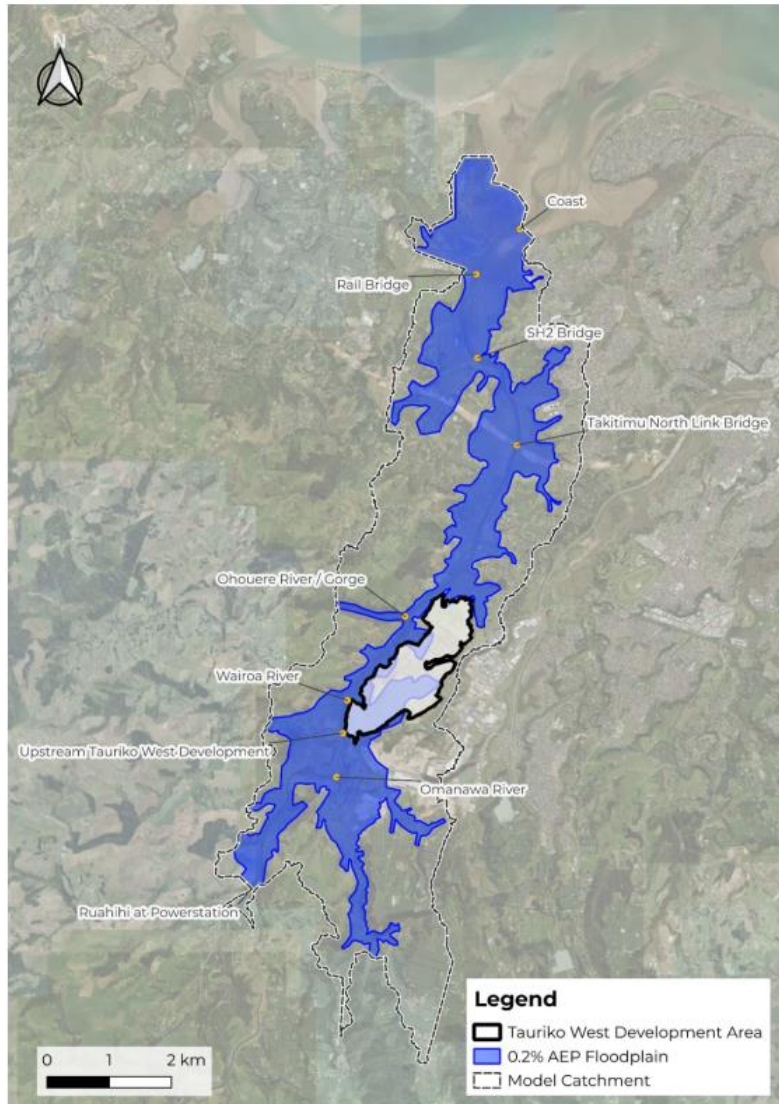
As for other assessments, the FRA has been based on Landform Option 5, and both the base scenario and development scenario included all consented development and the Tauriko Business Estate (TBE) Stage 4 landform (to account for potential cumulative effects). Two Hazard Assessment Areas have been defined for the FRA in order to distinguish between existing development areas and the proposed Tauriko West development area.

Hazard Assessment Area 1 is the floodplain for a 0.2% AEP flood event (a 500 year ARI flood event) within the Wairoa River catchment, excluding the proposed Tauriko West development area and takes into account the effects of climate change (RCP 8.5+). Hazard Assessment Area 2 is the proposed Tauriko West development area as shown by the Tauriko West Development Area extent shown in Figure 10, below.



Figure 10: Extent of Hazard Assessment Areas

Source: *Tauriko West Flood Risk Assessment (Appendix J)*



The 1% annual exceedance probability (AEP) event (incorporating current development and climate change) was used as the starting point for this analysis of flood hazards. To determine the difference in hazard profile, both the base scenario and the development scenarios were assessed.

6.5.2.1.1 Off Site Flood Risk

The Hazard Assessment Area 1 contains existing buildings, as such building floor heights were obtained from various sources or assumed (at 150 mm²⁴). The FRA assumes a building to be functionally compromised when the flood level is 5 mm above the floor level.

²⁴ the required minimum freeboard described in the Building Code.



The FRA indicates that there are 152 buildings within the hazard assessment area, of which 42 are functionally compromised in both the base scenario and the development scenario; that is, there is no increase in the number of buildings that would be functionally compromised and no additional habitable floors are affected.

Under the proposed development scenario, 23 of the functionally compromised buildings are subject to an increase in flood depth in the development scenario. The FRA concludes that there is no change in the risk level between the base and development scenarios for the 1% AEP event (and the 10% and 0.2% AEP events), with the Scenario Risk Level being 'medium' and the Hazard Risk Level being 'high'. This is shown in Table 4, below.

Table 4: Overview of risk levels for Hazard Assessment Area 1

Source: FRA (Appendix J)

Scenario	Primary Assessment		Secondary Assessment			
	1% AEP		10% AEP		0.2% AEP	
	Baseline	Development	Baseline	Development	Baseline	Development
Buildings	Medium	Medium	Medium	Medium	Medium	Medium
Lifeline Utilities	Low	Low	Low	Low	Low	Low
Health and Safety	Medium	Medium	Medium	Medium	Medium	Medium
Scenario Risk Level	Medium	Medium	Medium	Medium	Medium	Medium
AIFR Assessment	High	High	High	High	High	High
Hazard Risk Level	High	High	High	High	High	High

6.5.2.1.2 On-site Flood Risk

All existing buildings within the Hazard Assessment Area (2) will be removed and therefore there is no baseline scenario to use in the analysis.

The FRA concludes that the hazard risk level of the development scenario (for the 1% and 10% AEP events) is 'low' but is 'high' for the 0.2% AEP event. However, it is noted that the 0.2% AEP event modelled is an extremely conservative scenario that comprises the 0.2% AEP rainfall event, 1% AEP tidal condition, as well as the 1.6m+ sea level rise and RCP8.5+ (2130) climate change scenario.

Table 5 (below) provides an overview of the risk levels.



Table 5: Overview of risk levels for Hazard Assessment Area 2

Source: FRA (Appendix J)

Scenario	Primary Assessment		Secondary Assessment			
	1% AEP		10% AEP		0.2% AEP	
	Baseline	Development	Baseline	Development	Baseline	Development
Buildings	-	Low	-	Low	-	Medium
Lifeline Utilities	-	Low	-	Low	-	Low
Health and Safety	-	Low	-	Low	-	High
Scenario Risk Level	-	Low	-	Low		High

On-site flood risks are addressed through the City Plan (as introduced through PC27), DPS and TCC’s IDC.

The City Plan:

- Requires the minimum freeboard level of habitable rooms to be above the flood level; and
- Defines ‘Flood Level’ as the top water level in the 1% AEP rainfall event concurrent with a 5% AEP storm-tide event, taking into account the effects of climate change on rainfall and sea level based on the RCP 8.5 median scenario as of the year 2130.

The DPS requires that:

- All building platforms must be located at a height that meets or exceeds the requirements of the IDC; and
- Flood heights shall be calculated on the basis of the 100-year 2130 Wairoa River flood event combined with a 20-year tidal event. Climate change assumptions are to be based in line with MFE Coastal Hazards and Climate Change Report, which requires the consideration of the RCP 8.5H+ (1.59m SLR & 3.68° temperature projection) sea level rise scenario for greenfield developments.

It is noted that Variation 1 to PC33 proposes a new rule with the same requirement, as well as requiring compliance with the relevant approved stormwater consent, as detailed below:

12B.3.1.21 Specific Urban Growth Area Requirements – Stormwater Management within the Tauriko West Urban Growth Area

- Subdivision or any permanent land use shall demonstrate that the minimum building platform level is 500mm above the flood level for a 1% AEP rainfall event concurrent*



with a 5% AEP storm-tide event, taking into account the effects of climate change on rainfall and sea level based on the RCP 8.5+ median scenario as of the year 2130.

- b. *An application for subdivision and/or any permanent land use in the Tauriko West Urban Growth Area must provide a stormwater management assessment prepared by a suitably qualified stormwater engineer that demonstrates that the proposal is compliant with the relevant approved stormwater consent.*
- c. ...

The DPS also provides significant requirements and guidance in respect of overland flow, including:

- Overland flow paths need to be provided for and should be designed to cater for 100-year ARI flows, including provisions for climate change, taking a view out to over 100 years (i.e. 2130).
- Where a larger capacity pipe is to be used for the primary system, e.g. down the bank of an escarpment, the design for the overland flow paths shall assume 100% blockage of that part of the primary system.
- Minor overland flow paths can be located in the road with maximum flood depths and velocities in line with IDC and Austroads.
- Larger flows are expected to be located within designated off-road overland flow paths, which are directed into the Wairoa River (via a stream or directly to the river).
- Off-carriageway overland flow paths located within the road reserve corridor are subject to the Austroads design standards and should ensure that cycle and footpaths are meeting depths and velocity standards.
- Natural stream channels should be utilised for stormwater and flood flows as far as possible.

Given that this is a greenfield development, with the opportunity to investigate options to reduce and manage flood risk and flows through both design and infrastructure, and any development will be subject to the requirements of the City Plan, it is considered that flood risk can be designed on the site to be minimal and in-line with current best practice, taking into account climate change.

6.5.2.2 Flood Levels

While the FRA indicates that there is no increase in flood *risk*, flood *levels* are predicted to increase in some off-site areas in the future development scenario as described in section 6.5.2.1.1 (above).

This predicted increase is primarily a result of the proposed landform change, which will likely result in a significant portion of the floodplain within the development area being infilled and subsequent displacement of floodwater to other areas.

To confirm the contribution of the post development stormwater discharge to increased flood level, WSP has modelled the changes in flood levels associated with the changes in landform alone and the total change associated with landform change and urban development and stormwater discharge. This assessment is provided in Appendix K.



The results of this modelling indicate that the increase in stormwater discharge resulting from the future development (primarily associated with increased impervious surfaces) contributes between 7 and 15 % of the increase in flood level on other properties. That is, the significant majority of the increase results from the changes to the landform (as assessed for Landform Option 5). In the worst case, where there is a total increase in flood height of 0.221m (22.1cm), the stormwater discharge contributes approximately 0.03m (3cm) of this increase.

In addition to the FRA, WSP have prepared a supplementary memo (Tauriko West Flood Risk Assessment - Supplementary Information, see Appendix L) which responds to questions from the BOP RC regarding flood levels on three properties outside of the development area that had the greatest modelled percentage increase in flood level.

The modelling of both the base scenario and development scenario for these properties also included all consented development and the TBE Stage 4 landform (to account for potential cumulative effects). The modelling shows:

- All three buildings (30A and 50 Belk Road, and 60 Taniwha Place) are functionally compromised in the baseline and development scenarios and there is no change in the assessed flood hazard classification.
- At 30A Belk Road, there is an increase in water depth (18.6 cm), but no material change in velocity. The building is a secondary dwelling and while there is no evacuation route via Belk Road (under both baseline and future development scenarios), there is an evacuation route to another dwelling on the property where safe refuge can be provided. Additionally, this dwelling is located in the proposed SH29 upgrade route and will need to be removed in the future.
- At 50 Belk Road, there is an increase in water depth (18.6 cm), but no material change in velocity. The building is a minor dwelling (studio) and while there is no evacuation route via Belk Road (under both baseline and future development scenarios), there is an evacuation route to the main dwelling on the property where safe refuge can be provided.
- At 60 Taniwha Place, there is an increase in water depth (6.4 cm) and velocity. The building is a commercial building used for the operation of the Waimarino Water and Adventure Park. It is understood that the ground floor of this building is used primarily for the storage of water sports equipment. The flood hazard classification is H1 (generally safe for people, vehicles and buildings) and therefore there are safe evacuation routes to higher ground on the property and/or by vehicle via Taniwha Place to SH2.

As such, more detailed consideration of the properties with the greatest predicted increase in flood depth, resulting from both the landform change and the stormwater discharge, confirms the conclusions of the FRA that there is no change in flood risk because of the development.

6.5.2.3 Flooding Conclusion

As this application seeks a long-term consent for stormwater discharge from the finished development, the increased flood levels associated with both landform change, and urban development have been assessed as part of the application.

The stormwater discharge is predicted to contribute to increase flood levels under future 100-year rainfall and (RCP 8.5+) climate change conditions (generally on properties that would naturally be subject to flooding in extreme flood events). Cumulatively, the increased flood levels associated with changes to the landform and the stormwater discharge do not



increase the number of buildings that would be functionally compromised (subject to habitable floor flooding) in an extreme flood event nor create any new habitable floor flooding.

The FRA undertaken for the area concludes that there is no change in the risk level between the base and development scenarios. This is confirmed by more detailed assessment of the buildings that are subject to the greatest increase in flood depth.

6.5.3 Effects on Wetlands

A component of the LID approach proposed for Tauriko West is the integration of the built environment with the natural one – integrating stormwater from the development into the natural environment as far as possible. This is achieved through a sequential, treatment train approach that includes passing stormwater through a variety of measures, including on site collection and treatment, conveyance through blue green corridors and natural systems such as rivers and natural wetlands. This treatment train approach is outlined in Section 5.4 of the SMP, and the DPS requires all stormwater discharged to natural wetlands to either be subject to a LID approach or treated.

While the integration of the built and natural environment is a common feature of LID and similar approaches (such as water sensitive design), consideration also needs to be given to the potential for adverse effects on natural systems – in this case rivers (addressed above) and natural wetlands. Unless otherwise managed, stormwater discharges may adversely affect wetland health and other values – but at the same, the sympathetic integration of stormwater management with the natural environment is a desirable outcome. The need to consider effects on natural wetlands has been further highlighted by the NPS-FM and the NES-F, which both contain specific provisions in respect of natural inland wetlands and the discharge of water (and other activities) where it occurs.

SLR were commissioned to assess the potential effects of the long-term stormwater discharge on natural wetlands at the site, and to demonstrate that the adverse effects of development can be managed using available approaches and techniques such that the wetlands can be sustained in the long term and become integral and valued features of the future developed area. This assessment is provided in Appendix M. It is important to note that this assessment is based on a post-development situation whereby the earthworks required for landform modification have been undertaken by the developers, and as approved by BOP RC. Any impacts on existing wetlands during the site preparations and large-scale earthworks, and application of the effects management hierarchy where necessary, will be addressed through that consenting process with any required offsetting/compensation being addressed at that point by the developers. The SLR assessment follows on from this and considers what is required to sustain wetland health in the long term.

The assessment concludes that managing the hydrological regime is likely to be the most important component in maintaining wetland values and ensuring its successful long-term functioning. To a large degree, this requires consideration at the earthwork/land modification and stormwater network design stages so that the hydrological contributions to the wetlands, and the requirements for stormwater management, are understood and incorporated into the design of the stormwater network and associated devices.

Consistent with the ecological assessment, the wetland assessment identifies the significant opportunities for enhancement of wetlands including planting of native wetland species to encourage wetland restoration and improve wetland values, restoring natural channels and removing willow, broom and gorse species. Again, this restoration/enhancement is likely to primarily occur during the land development phase.



Accordingly, the focus of the post-development management of stormwater is predominantly associated with the monitoring of key wetland parameters and health indicators to ensure that the health and functioning of the wetland is being maintained and, where necessary, intervention measures to improve on-going management. As outlined in the assessment, a range of post-development measures are available to achieve this.

The report recommends the preparation of a wetland management and monitoring plan that is designed to assess the health of the wetland and identify any necessary changes or additional mitigation (as necessary). Subject to this management plan and the implementation of commonly used remedial/corrective actions (if necessary), the assessment concluded that the post-development stormwater discharges can be managed to sustain the wetlands that are retained/enhanced and support their on-going healthy functioning. A condition requiring the preparation of a wetland monitoring and management plan has been included in the proposed conditions of consent.

Accordingly, it is concluded that the long-term discharge of stormwater to natural wetlands can be managed to sustain the wetlands and support their on-going healthy functioning, and hence the effects of the long-term stormwater discharge on natural wetlands will be appropriately avoided, remedied or mitigated.

6.5.4 Groundwater/Springs

Effects on the groundwater regime, and the connection of springs and seeps with future altered streams, is primarily a matter for consideration through resource consents for earthworks and stream modification. However, it has relevance in relation to the overarching approach to LID and the issue of retaining hydrological connectivity through the site.

PDP were commissioned to undertake an initial assessment of the likely impacts of landform change of the groundwater regime, and then specifically to consider the potential effects of Landform Option 5. This latter assessment is attached as Appendix N.

The PDP assessment simulated the groundwater discharge distribution change from the pre-development landform compared to that of Landform Option 5. The assessment indicates that the inclusion of an incised channel in the southern/central catchment (recreated stream) improves the likelihood of maintaining groundwater seepage and flow in the central channel in dry conditions – essentially capturing seepage that may otherwise occur on the valley floor. This is due to the recreated stream having good connectivity to groundwater along its length, providing connectivity all year round. Landform changes in other parts of the area are indicated to have limited influence on the overall groundwater discharge distribution.

This provides confidence that the springs and seeps that currently provide baseflow to streams in the south/central valley can be managed to retain this function and continue to support stream baseflow during dry periods.

6.6 Other Effects

6.6.1 Natural Features and Landscape

Specific to the discharge of stormwater to land and water, effects on natural features and landscapes are limited. The proposed development includes the Wairoa River corridor which provides a buffer from the development to the Wairoa River and increases natural features and landscape values. There are no natural features and landscapes that have been identified as having high or significant values.



Stormwater will all eventually reach the Wairoa River via blue-green corridors which will connect into the Wairoa River corridor. Provided these discharges are treated appropriately they should have minimal impact on natural features and landscapes and the blue-green corridors will help enhance landscape values and connections around the development and to the Wairoa River.

Furthermore, there is significant opportunity to enhance community, the landscape and natural features, including ecological restoration. Examples of this are shown in Figure 11 and Figure 12.

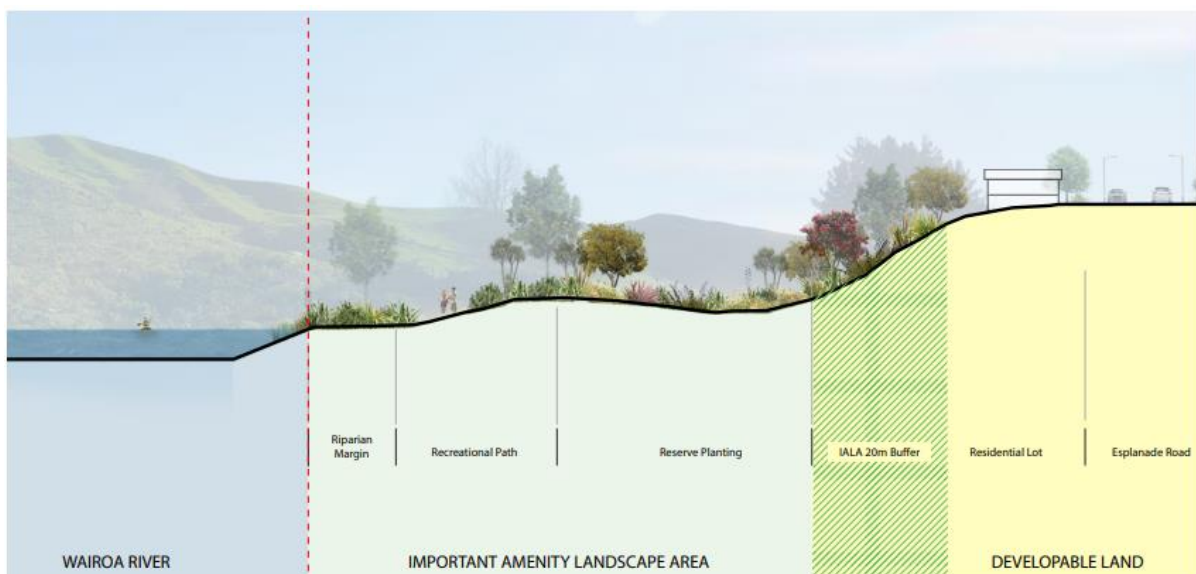
Figure 11: Illustrative cross section of concept of river reserve treatment

Source: Tauriko West Framework Plan Design Report (Appendix D)



Figure 12: River Reserve Concept

Source: Tauriko West Framework Plan Design Report (Appendix D)



Adverse effects of the stormwater discharge on natural features and landscapes are minimal. Overall, the development and enhancement of the Wairoa Stream margin and reserve is anticipated to be beneficial.

6.7 Amenity and Recreation

Amenity²⁵ and recreation effects can result from water quality and quantity effects on waterways receiving stormwater discharges and visual effects such as discolouration, scum and foam²⁶. These factors have the ability to affect or influence how people view and use these waterways and adjacent land. Recreational effects can also include the potential for waterways to become unusable during high rainfall due to large volumes of stormwater being discharged or contaminant levels within the discharge.

Positive amenity and recreation effects occur from the improved localised water quality and from the enhancement and naturalisation of the river corridor. Key mitigation of any potential amenity and recreational adverse effects will revolve around designing, implementing and maintaining stormwater infrastructure and discharges in accordance with the SMP and more importantly the LID approach. For example, the SMP specifies that riparian planting is to be included along the margins and at the headwaters of watercourses.

The SMP has been designed and adjusted taking into account community well-being and connectivity to the natural environment and recommendations as set out in the Tauriko West Framework Plan Design Report. By integrating LID, extended detention locations, recreated urban watercourses and blue-green corridors, the development and stormwater system will provide multi-functional corridors, including enhanced amenity value for the community to experience the natural environment and connect with water. This importantly includes enhanced amenity, naturalisation and access to and along the Wairoa River. Currently this access is limited to those who own land adjacent to the river.

Given the LID approach taken in the SMP combined with implementing considerations around multi-use areas, it is expected that any adverse effects on amenity and/or recreation will be generally positive.

6.8 Conclusion

Stormwater management is an integral part of urban development – it is necessary to provide drainage systems to convey stormwater away from houses, roads and other areas. Based on the preceding assessments the development, and associated stormwater discharge for which consent is sought, will have positive effects on the environment – including both communities and the natural environment. The stormwater discharge consent is part of a package of requirements that will enable urban development, which in turn will result in a significant number of much-needed houses to help meet Tauranga’s increasing demand for residential housing and its obligations under the NPS-UD. In addition, delivering this in a way that is consistent with the technical documents and plans discussed above

²⁵ Amenity values mean those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes

²⁶ Stormwater infrastructure effects are not included in this assessment, if any structures require consent, each developer will be required to obtain this as part of designing and constructing their parts of the overall stormwater system.



provides opportunities to achieve enhanced ecological outcomes that are unlikely to be realised under the status quo.

While the conveyance and discharge of stormwater can give rise to adverse effects, modern stormwater management has focussed on techniques such as LID to integrate the built and natural environment in a more sensitive and 'softer' way than traditional hard engineering approaches and networks.

Such an LID approach is a core element of the stormwater management regime for the proposed future development. A toolbox of measures, and companion sizing and other technical aspects, is provided in the SMP and will be adopted to minimise and mitigate potential water quality and quantity effects and associated effects on aquatic ecology.

On the basis of Landform Option 5 and the implementation of the SMP measures, key conclusions of the assessment of potential effects associated with the stormwater discharge indicate:

- The development (and the change in land use) will substantially reduce loads of contaminants such as microbial pathogens (*E. coli*), nutrients (phosphorus and nitrogen) and sediment from the Tauriko West area. These are key contaminants in the Wairoa River and the wider Tauranga Moana, and are specifically managed under the NPS-FM.
- Loads of zinc will increase marginally above current levels as will zinc concentrations in some rain events, but the level of increase is very small – below the level of analytical detection and will be imperceptible in the Wairoa River and beyond.
- Erosion and scour are unlikely to be an issue for realigned streams due to the ability to design these to cater for the future stormwater flows and the adoption of extended detention. However, as for all stormwater networks, these effects will be regularly assessed and addressed should they occur.
- The discharge of stormwater from the future development has the potential to contribute to increased flood levels on some properties in extreme (100 year) flood events under a conservative climate change scenario. The FRA indicates that the full implementation of the structure plan option (Landform Option 5, as modelled with all consented development and the consented earthworks for TBE Stage 4) results in no change in risk level for any of the assessed risk categories and that the number of functionally compromised buildings will not change.
- The discharge of stormwater to wetlands from the post-development land use can be monitored and managed to ensure that wetland values can be sustained in the long term – noting that the majority of change (including opportunities for enhancement of existing wetlands) will occur during the land development phase.
- Groundwater seeps and springs can be managed to link these to a realigned waterways system to retain baseflow to the central stream. Other changes in ground discharges are considered negligible.
- There is significant opportunity to achieve positive landscape, amenity and natural environment/ecological outcomes through the development and the stormwater discharge will not detract from these.

The success of the measures to be utilised (as outlined in the SMP) will be monitored as per the conditions put forward in Appendix O and an adaptive management approach can be taken through the SMP and tools it provides to manage adverse effects.



Overall, the effects of the stormwater discharge that will result from the urban development of this greenfield area will be managed through requiring that management tools and devices are in accordance with the Stormwater Design Philosophy Statement that relates to the area and the SMP.

The management tools that will be utilised involve utilising and enhancing natural streams and waterways where possible and focusing natural treatment systems alongside key spine roads and parking areas. The discharge has the potential to increase flooding in extreme events however the flood assessment attached concludes this does not change the flood risk classification for any building. Overall, the stormwater discharge from this area has the opportunity to be designed comprehensively and in accordance with best practice stormwater philosophy and design tools and will result in an improved quality of water discharged from the catchment to the Wairoa River.

7.0 Statutory assessment

Section 104(1) of the Act requires that, when considering a resource consent application, the consent authority must have regard to the matters set out in subsections (1)(a), (ab), (b) and (c). These matters are addressed below, and all are subject to Part 2.

7.1 Section 104(1)(a) (Actual and potential effects)

Section 104(1)(a) requires the consent authority to have regard to “any actual and potential effects on the environment of allowing the activity”. The assessment of actual and potential effects is detailed above, with a summary and conclusion provided in Section 6.8.

7.2 Section 104(1)(ab) (Offsetting or compensation)

Section 104(1)(ab) requires that the consent authority consider “any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity”.

In this case, no specific environmental compensation measures are proposed to ensure positive effects on the environment. The stormwater management regime, as detailed in the SMP, has been developed to reflect best practice stormwater management that meets the requirements of the relevant statutory documents and guidelines. This approach minimises effects on the environment and is anticipated to largely result in net positive benefits.

It is also noted that the stormwater discharge is integral to the implementation of the Urban Growth strategy for the district and the provision of 3,600 – 4,000 dwellings which will provide a significant boost to housing supplies within Tauranga City and the Bay of Plenty Region – which is a substantial positive benefit.

7.3 Section 104(1)(b) (Statutory documents)

Section 104(1)(b) requires the consent authority to have regard to any relevant provisions of the following:

- a national environmental standard;
- other regulations;
- a national policy statement;
- a New Zealand coastal policy statement;



- a regional policy statement or proposed regional policy statement; and
- a plan or proposed plan.

An assessment of the relevant statutory documents that corresponds with the scale and significance of the effects that the proposed activity may have on the environment is provided in the sections below.

7.3.1 Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F)

The National Environmental Standard for Freshwater (NES-F) regulates activities that pose risks to the health of freshwater and freshwater ecosystems. The regulations (relevant to this application) control activities which may affect natural inland wetlands.

Resource consent is required under Regulation 45C(5) of the NES-F, as a Restricted Discretionary Activity, for the discharge of water into water within, or within a 100 m setback from a natural inland wetland, for the purpose of urban development, where the discharge will change, or is likely to change, the water level range or hydrological function of the wetland.

Regulation 45C(6) states that a consent required under this section must not be granted if the activity does not meet certain criteria. However, subsection (8) of this regulation goes on to state that these limitations do not apply if —

- (a) the urban development is in the Bay of Plenty region; and*
- (b) the activity is necessary for the purpose of urban development in areas specifically identified as planned urban growth areas in the SmartGrowth Programme.*

Subsection (9) defines SmartGrowth Programme as follows:

(9) In this regulation, SmartGrowth Programme means the SmartGrowth Urban Form and Transport Initiative Connected Centres Programme incorporated by reference in clause 1.8 of the National Policy Statement for Freshwater Management.

This clause in the NES- FW recognises the national importance of the SmartGrowth Programme of which Tauriko West is a priority component (and which this stormwater discharge consent will assist in enabling).

Regulation 45C(11) sets out the matters to which discretion is restricted to as follows:

- the extent to which the nature, scale, timing, intensity, and location of the activity may have adverse effects on:
 - the existing and potential values of the natural inland wetland, its catchment, and
 - the coastal environment;
 - the extent of the natural inland wetland;
 - the seasonal and annual hydrological regime of the natural inland wetland; and
 - the passage of fish in the natural inland wetland or another water body.
 - whether there are practicable alternatives to undertaking the activity that would avoid those adverse effects.



- the extent to which those adverse effects will be managed to avoid the loss of the extent of the natural inland wetland and its values.
- other measures to minimise or remedy those adverse effects.
- how any of those adverse effects that are more than minor may be offset or compensated for if they cannot be avoided, minimised, or remedied.
- the extent to which the effects of the activity will be managed through applying the effects management hierarchy.
- the risk of flooding upstream or downstream of the natural inland wetland, and the measures to avoid, minimise, or remedy that risk.
- the social, economic, environmental, and cultural benefits (if any) that are likely to result from the proposed activity (including the extent to which the activity may protect, maintain, or enhance ecosystems).
- The extent to which:
 - the urban development will be of significant national, regional, or district benefit;
 - the activity contributes to a well-functioning urban environment;
 - there is another practicable alternative location in the area of development for the activity, and the extent to which other practicable alternative locations within the area of development would have equal or greater adverse effects on a natural inland wetland;
 - an alternative configuration or design is practicable that would avoid, minimise, or remedy adverse effects on the natural inland wetland extent and values; and
 - the effects of the activity will be managed through applying the effects management hierarchy.

The matters relevant to the stormwater discharge are addressed in the effects assessment in section 6.0 of this report.

7.3.2 National Policy Statement for Freshwater Management (NPS-FM)

The objectives and policies of the National Policy Statement for Freshwater Management (NPS-FM) provide direction to local authorities as to how freshwater must be managed nationwide. The NPS-FM also establishes a framework which must be implemented by local authorities in regional policy statements, regional and district plans.

A fundamental concept of the NPS-FM (reinforced in Policy 1) is that freshwater is managed in a way that 'gives effect' to Te Mana o te Wai, and that the health and wellbeing of water bodies is prioritised ahead of the health needs of people, with the ability of communities to provide for their social, economic and cultural well-being being the last priority.

Other policies of relevance to the proposed activities are:

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



- Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.
- Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.
- Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.
- Policy 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.
- Policy 15: Communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement.

A full assessment of the NPS-FM is undertaken in Appendix P.

In summary, the proposed stormwater discharge and management regime enables communities provide for their social, economic, and cultural well-being in a way that is consistent with the policies and directions of the NPS-FM. The discharge will improve existing water quality and other adverse effects will be managed and mitigated in accordance with best stormwater management practice.

In particular the stormwater discharge:

- Will not result in the loss of wetlands and the proposed monitoring and management plan will ensure the ongoing function and health of wetlands that receive stormwater following development (Policy 6).
- Will not result in the loss of river extent but instead will reduce the loads of key contaminants discharging to the Wairoa River with resultant (albeit small) benefits (Policy 7). Again, this will be informed and ensured by a monitoring programme and the development, in conjunction with iwi and hapū, of a cultural health index for this stretch of the Wairoa River. Should it be necessary to modify/re-align the already modified streams/rivers on the site as part of the earthworks, then this will be subject to separate resource consent applications.
- Will be managed to mitigate stormwater flow effects on in-stream habitats – recognising that these may be modified through the landform and development process subject to any necessary resource consents – including through the implementation of LID and stormwater detention (Policy 9).

Overall, potential effects on rivers and wetlands will be managed through LID and a 'treatment train' approach, consistent with best practice to ensure the long-term health, functioning and amenity of freshwater systems are maintained or enhanced.

7.3.3 National Policy Statement for Urban Development 2020 (NPS-UD)

The NPS-UD requires councils to plan well for growth and ensure a well-functioning urban environment for all people, communities and future generations. This includes:



- ensuring urban development occurs in a way that takes into account the principles of the Treaty of Waitangi (te Tiriti o Waitangi);
- ensuring that plans make room for growth both 'up' and 'out', and that rules are not unnecessarily constraining growth;
- developing, monitoring and maintaining an evidence base about demand, supply and prices for housing and land to inform planning decisions; and
- aligning and coordinating planning across urban areas²⁷.

Tauranga is a Tier 1 urban environment and TCC has obligations to provide sufficient development capacity to meet demand for housing and business land over the short, medium and long term. Tauriko West is a priority development area, as recognised in the RPS and the SmartGrowth Programme as a planned urban growth area – which in turn is recognised and provided for in both the NPS-FM and the NES-F.

Significant work has been undertaken to identify a landform and development layout that meets TCC's growth needs while at the same time contributes to the outcomes sought through the NPS-FM. The stormwater management approach is consistent with best practice and is integrated with TCC's Infrastructure Development Code (IDC) to ensure appropriate, fit for purpose stormwater infrastructure.

7.3.4 New Zealand Coastal Policy Statement 2010 (NZCPS)

The NZCPS states policies to achieve the purpose of the Act in relation to the coastal environment of New Zealand. While this activity is not located within the coastal marine area (CMA) or coastal environment, the NZCPS contains two policies (22(4) and 23(4)) relevant to this proposal.

Policy 22(4) directs to reduce sediment loadings in runoff and in stormwater systems through controls on land use activities.

Policy 23(4) directs to have particular regard to managing discharges of stormwater, taking steps to avoid adverse effects of stormwater discharge to water in the coastal environment, on a catchment-by-catchment basis, by:

- a) avoiding where practicable and otherwise remedying cross contamination of sewage and stormwater systems;
- b) reducing contaminant and sediment loadings in stormwater at source, through contaminant treatment and by controls on land use activities;
- c) promoting integrated management of catchments and stormwater networks; and
- d) promoting design options that reduce flows to stormwater reticulation systems at source.

This proposal achieves the outcomes sought through these policies. The toolbox of methods outlined in the SMP and through LID seeks to minimise the discharge of sediment and other contaminants from the stormwater network. This is demonstrated in the water quality modelling, which shows a significant reduction in sediment, microbial and nutrient loads from

²⁷ <https://environment.govt.nz/acts-and-regulations/national-policy-statements/national-policy-statement-urban-development/>



the development area – all of which are priority contaminants for the Wairoa River and downstream Tauranga Harbour.

Additionally, the SMP incorporates a LID approach which minimises the generation and discharge of ‘urban’ contaminants such as copper and zinc, and reduces stormwater volumes as far as practicable. The approach taken by TCC also promotes integrated stormwater management across the development area.

The proposed discharge and stormwater management approach is consistent with the outcomes sought by the NZCPS.

7.3.5 Bay of Plenty Regional Policy Statement (RPS)

The Bay of Plenty Regional Policy Statement (RPS) has been prepared in accordance with Section 5 of the RMA and was made operative in 2014. The RPS sets out objectives and policies for the Bay of Plenty Region which give effect to national directives such as National Policy Statements and Environmental Standards. The RPS has not however been updated (as yet) to reflect the intentions of the NPS-FW and other national directions. The RPS is a statutory consideration for all resource consent applications. The themes of objectives and policies that are of relevance to this application include:

- Social, economic, cultural and environmental benefits
- Mauri and values of freshwater bodies
- Cumulative effects
- Integrated management
- Relationship of tangata whenua with the environment, including kaitiakitanga
- Natural character
- Public access
- Water quality
- Natural Hazards

A detailed analysis of the RPS is undertaken in Appendix Q. In summary, the stormwater infrastructure will be ‘regionally significant infrastructure’ and will enable the development and provision of 3,600 to 4,000 houses within the Tauranga area. The SMP provides a methodology and toolbox for stormwater to be managed consistently across the development area, utilising a LID approach. This approach is designed to minimise adverse effects from the stormwater discharge on the environment. While the discharge will result in an increase in flood level (on already flood prone properties) there is no increase in flood risk. Additionally, the new houses that are part of the development area will be able to be constructed to mitigate flooding effects. Extensive engagement has been undertaken with tangata whenua, and this consultation record has been summarised as part of this application. The application recognises issues raised by tangata whenua and seeks to address these, where they relate to the stormwater discharge.

7.3.6 Bay of Plenty Regional Natural Resources Plan (RNRP)

The purpose of the Regional Natural Resources Plan (RNRP) is to promote the sustainable and integrated management of land and water resources within the Bay of Plenty. The themes of objectives and policies that are of relevance to this application include:

- Kaitiakitanga



- Integrated Management
- Discharges to Water and Land

A detailed analysis of the RNRP is undertaken in Appendix R. In summary, extensive consultation has occurred with tangata whenua, as a result of this a CHI condition is proposed to ensure that the cultural health and wellbeing of the Wairoa River is maintained and enhanced where possible. The stormwater management approach (as set out in the SMP) seeks to minimise stormwater runoff rates and contaminant loads through the adoption of low impact design principles across the urban development area. A wetland plan is proposed to be developed and implemented once stormwater infrastructure has been vested to TCC and mitigation/offsetting works required by the developers (on wetlands) have been completed, this will ensure that the values of wetlands within the site that receive stormwater are monitored and maintained.

7.3.7 Conclusion

The assessments demonstrate that the proposal is consistent with the relevant provisions of the relevant statutory documents. While inevitably the change in land use from rural to urban is significant, the resulting stormwater discharge is proposed to be managed in a way that is consistent with best practice, reduces adverse effects on water quality associated with existing rural runoff and enables opportunities for enhancements.

These outcomes can be ensured through conditions as recommended in the proposed conditions attached in Appendix O.

7.4 Section 104(1)(c) (Other matters)

In addition to the matters of regard covered under subsections (1)(a), (ab) and (b), subsection (1)(c) states that consideration must be given to "any other matters that the consent authority considers relevant and reasonably necessary to determine the application."

7.4.1 Iwi and Hapū Management Plans

There are four iwi and hapū management plans relevant to this application (based on the iwi and hapū that have an interest in the area of the application). These are listed as follows:

- Tauranga Moana Iwi Management Plan 2016-2026 - A joint Environmental Plan for Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga
- Pirirakau Hapū Management Plan 2017
- Ngāti Kahu Hapū Environmental Management Plan 2011
- Ngāti Hangarau Hapū Management Plan

It is noted that Appendix 4 of the s32 report for Variation 1 to Plan Change 33 also makes a detailed assessment of these iwi and hapū management plans and others that were considered relevant in the plan change process.

7.4.1.1 Tauranga Moana Iwi Management Plan 2016-2026 - A joint Environmental Plan for Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga

The Tauranga Moana Iwi Management Plan is a joint planning document prepared by, and on behalf of, Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga. The purpose of this Plan is



to articulate the collective vision and aspirations of Ngāti Ranginui, Ngāi Te Rangī and Ngāti Pūkenga, in relation to Tauranga Moana.

Key policies of this plan that are relevant to this proposal are summarised below:

- Freshwater
 - A holistic and integrated approach is taken to restoring the health and wellbeing of all freshwater within Tauranga Moana.
 - Avoid further degradation of water quality within Tauranga Moana.
 - Ensure the restoration and enhancement of wetlands within Tauranga Moana.
 - Ensure an holistic and integrated management approach to restoring the health and wellbeing of coastal water within Tauranga Moana (including Te Awanui / Tauranga Harbour).
 - Avoid further degradation of water quality within Tauranga Moana.
 - Reduce the impacts of sediment on Te Awanui (Tauranga Harbour).
 - A holistic and integrated approach is taken to the sustainable use and management of land within Tauranga Moana.
 - Manage the effects of urban land use and development on the health and wellbeing of Tauranga Moana.

7.4.1.2 Pirirakau Hapū Management Plan 2017

The Pirirakau Hapū Management Plan 2017 is an expression of kaitiakitanga and rangatiratanga over the Pirirakau rohe. This management plan sets out the aspirations and views of the hapū and environmental issues (amongst others).

Key to this proposal is the management plan which sets out the following environmental goals (summarised):

- Water sources must be cared for in such a way that the source is sustained and remains a healthy safe resource.
- Contaminants, sedimentation, pest species and many other factors combine to attack the resources fundamental form and degradation of mauri.
- As water is a taonga we must preserve the resource and protect its threshold.

The plan also sets out the following (relevant) policy requirements and outcomes:

- Greater recognition be given of tāngata whenua as kaitiaki being a legitimate indigenous right to raise awareness with a regional, industry and community wide target.
- Wherever possible we wish to retain natural environments where our taonga exists and ensure there are processes in place for protection as a matter of national significance. We expect that within the current consent framework an assessment of environmental effects will extend to identify indigenous species and conditions can be developed through hapū appropriate consultation.
- We seek and ongoing commitment of agencies controlling water discharges and contaminants from the various activities related to agriculture, horticulture, stormwater run-off and sedimentation. Our desired outcomes are that control mechanisms address and reverse the state of our water environs.



- The Wairoa River is a significant awa within the Pirirakau rohe with shared interests of Ngāti Kahu, Ngāti Pango, Ngāti Rangī and Ngāti Ranginui iwi.

7.4.1.3 Ngāti Kahu Hapū Environmental Management Plan 2011

This management plan is a statement of Ngāti Kahu values in regard to natural resource and environmental management in the Ngāti Kahu rohe. The Plan is a means for Tangata Whenua to carry out their role as kaitiaki and rangatira over their ancestral lands and taonga.

This management plan sets out policies relating to (as relevant to this proposal):

- Kaitiakitanga
 - The principle of respect and protection for the mauri of Te Taiao as the ultimate Taonga from the atua takes precedence at all times.
 - Any desecration or manipulation of Te Taiao must involve Utu (reciprocity). This principle demands that Utu (reciprocity) exceed the desecration or manipulation (adverse effects) in order to maintain or restore the mauri of Te Taiao.
 - If desecration or manipulation of Te Taiao is needed, the benefits must be for the direct benefit of the whole Ngāti Kahu Tangata Whenua community, not just one or two individuals or one or two communities.
- Papatuanuku
 - Ngāti Kahu people are able to effectively exercise their role as Kaitiaki over waahi tapu, waahi hirahira, waahi tupuna and significant sites in our rohe.
 - Ngāti Kahu require that Ngāti Kahu relationships with these sites are provided for in any planning and consenting decisions and conditions and that the cultural importance of such places is identified in relevant plans and policies of the various statutory agencies.
 - Ngāti Kahu seek that all parties (including private land-owners) avoid compromising the cultural, historic, and natural values of special sites as a result of inappropriate land use, subdivision and development.
- Wai
 - Authorities recognise and provide for Ngāti Kahu Kaitiakitanga with the water and mahinga kai.
 - Require that adverse effects associated with the discharge of sediments on aquatic and terrestrial ecosystems are avoided.
 - Require the development and implementation of monitoring regimes to ensure that any adverse effects (including existing or potential loss of tuna/eel) on the health of mahinga kai resources and/or their habitats are identified and addressed.
 - Require that consent holders accommodate opportunities for Ngāti Kahu appointees to participate in any monitoring.
 - Protect, and where needed enhance, the mauri or life supporting capacity of ngā puna me nga roto waimāori.



- Avoid the use of ngā puna me nga roto waimāori as a receiving environment for the discharge of contaminants (e.g. industrial, residential, recreational or agricultural sources).
- Ngāti Kahu require that cultural and social effects are considered as part of an Assessment of Environmental Effects on any water use activity which may impinge on the well-being of Ngāti Kahu.
- Te Awa Wairoa
 - Recognise the special relationship that Ngāti Kahu has with the Wairoa River.
 - Actively promote and resource the enhancement and protection of the mauri of the Wairoa River.
 - Review all consented activities, for their effects on the mauri of the river and where they do not comply, or do not comply with best practices, to take steps to ensure that they do.
 - Recognise the importance of the junction of river/sea meeting environment and ensure that consent conditions work to avoid or mitigate over 100% of impacts in order to effect resolution of past degrading activities.
- Tangaroa Raua Ko Hinemoana
 - Ngāti Kahu uphold the significance of the cultural and environmental connection between the coastal and inland environments.
 - Ngāti Kahu seek to be involved in the resource management decisions and conditions of consents (if any), as Treaty partners and NOT as any community group, which impact on coastal resources around Tauranga Moana including issues around zoning and development of policies and rules to ensure that the principles of the Treaty of Waitangi are upheld in any decisions.

7.4.1.4 Ngāti Hangarau Hapū Management Plan 2021

This Hapū Management Plan for Ngāti Hangarau is their expression of their role and responsibilities as kaitiaki and rangatira over their ancestral lands, waters and taonga.

Policies relevant to this proposal are summarised below:

- Taiao
 - Ngāti Hangarau Hapū supports efforts by landowners (particularly hapū and whānau land blocks) to lead by example; work within the natural limits of the environment and demonstrate kaitiakitanga.
 - Ngāti Hangarau Hapū opposes the discharge of contaminants to rivers, streams, wetlands and coastal waters.

7.4.1.5 Assessment of Iwi and Hapū Management Plans

This proposal will assist in achieving the outcomes sought by the policies of the Iwi and Hapū Management Plans. While the discharge subject to this application will be from a significantly modified catchment, the modification is for the provision of essential residential development in accordance with Tauranga's growth needs and priorities and specifically provided for in the national guidance documents on freshwater.



Any landform, watercourse or wetland changes that may occur as a result of this development are not a part of this discharge application. The technical assessments demonstrate that the discharge of stormwater from the catchment that is subject to this application will result in an improvement in water quality, particularly in respect of key contaminants for the Tauranga Moana such as *sediment*, *E. coli* and nutrients while managing and minimising the introduction of urban contaminants such as copper, zinc and hydrocarbons to very low levels.

Through the implementation of the SMP and LID, a holistic approach is taken to stormwater management across the development area. Blue-green corridors will be implemented to enhance ecological and landscape values across the development area and down to the Wairoa River. The wider proposal also results in increased access down to and along the Wairoa River.

Overall, this results in positive effects on the Wairoa River and in Te Awanui and the Tauranga Moana and is therefore considered supportive of the key outcomes sought to be achieved by the Iwi and Hapū Management Plans.

Effects on the cultural values within the Wairoa River are proposed to be monitored through the implementation of a CHI relating to the discharge of treated stormwater from Tauriko West. While it is acknowledged that the preference of iwi and hapū is for a management plan and associated monitoring framework for the whole Wairoa awa, this holistic approach is not within TCC's ability to deliver and instead TCC proposes the development of a CHI, in conjunction with relevant hapū and iwi, for the discharge of treated stormwater from Tauriko West's future urban area.

Implementing the CHI in combination with the other consent conditions, will allow for an adaptive management approach, where the consent holder can continue to work with iwi and hapū to ensure the cultural values of the Wairoa River are maintained, and where possible enhanced.

7.4.2 SmartGrowth Strategy

A key "Other matter" that must be considered is the SmartGrowth Strategy 2023 which is a plan to help manage the growth required in the Western Bay of Plenty and Tauranga City. SmartGrowth is a partnership between Tauranga City Council, the Bay of Plenty Regional Council, the Western Bay of Plenty District Council, Tāngata Whenua and central Government (in particular Waka Kotahi – the New Zealand Transport Agency).

The strategy focuses on:

- ensuring existing and future residents have access to a choice of homes and a range of employment opportunities, with good connections between them.
- ensuring communities have necessary infrastructure such as good roads, water and power supply and easy access to shops, libraries, community centres, playgrounds and schools.
- growth being planned in a coordinated way and future development being centred around identified priority development areas. With the aim to avoid developing 'out' through new greenfield land unless this is in a planned growth area, opting instead for developing 'up' through intensification, with townhouses or apartments.

Tauriko West has been identified as a priority greenfield development area to provide required housing to the Western Bay/Tauranga City area and is specifically recognised as a planned urban growth area in the SmartGrowth UFTI Connected Centres Programme.



8.0 Other relevant sections of the Act

8.1 Section 105 – Discharge Permits and Coastal Permits

Pursuant to section 105(1) of the Act, in addition to the matters in section 104(1) of the Act, a consent authority must have regard to:

- (a) *the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) *the applicant's reasons for the proposed choice; and*
- (c) *any possible alternative methods of discharge, including discharge into any other receiving environment.*

In the case of the proposed activity, it is considered that the discharge is acceptable due to:

- The nature of the discharge – the proposed discharge will utilise best practice stormwater management and LID through the implementation of the SMP. The purpose of this approach is to manage stormwater in a way that is sympathetic to, and integrates with, the natural environment, minimises adverse effects of the discharge on the receiving environment and provides opportunities for improved environmental outcomes.
- The nature of the receiving environment – including internal waterways and wetlands and the Wairoa River.
 - Internal waterways have been assessed and have been highly modified and straightened. They generally have low or moderate ecological values, although some threatened fish species are present. The proposal generally improves water quality and reduces contaminant loads and the DPS and SMP direct the linkage of springs/seeps with the surface streams (particularly the central watercourse) to retain base flows. While not part of this application, it is likely that the central stream will be modified and this provides the opportunity to create aquatic habitat and riparian features that are absent from the current land use. Minor increases in zinc are predicted to occur, as is inevitable with the development of an urban environment, but these are minimal.
 - Discharges to wetlands can be managed to ensure their long-term health and viability. Again, while not part of this application, the wider proposal for development provides opportunities to enhance key natural wetlands on the site and achieve improved ecological outcomes.
 - The Wairoa River has a large catchment area, which means that the discharge is unlikely to result in any significant change in water quality – either positive or negative. Nevertheless, however small, the proposal will reduce key contaminants (sediment, *E. coli*, nutrients) and provide an improvement in water quality. Only zinc concentrations are predicted to increase in some rainfall events, but the level of increase is below the level of analytical detection and hence will be imperceptible in the Wairoa River.
- Alternative development regimes have been assessed and Landform Option 5 has been prepared as a best option to balance development needs and environmental protection and enhancement opportunities. From ecological assessment, Boffa Miskell concludes that *'when considering ecosystem health and outcomes, as*



opposed to policy, the hybrid option (Option 5) becomes the preferred ecological option for both the stream and wetland environment'.

While section 105 requires consideration of any possible alternative methods of discharge, the SMP toolbox approach for stormwater management is flexible and allows for alternative methods of discharge to be considered and implemented as required. The proposed stormwater management regime is in line with best practice for stormwater management and will be carried out through the implementation of the SMP, with a focus on LID. Alternative stormwater management approaches could be adopted, but these are unlikely to deliver the same integrated and positive outcomes. It is not feasible to discharge to other environments given the topography of the site. For these reasons, no further consideration of alternatives is required.

- The proposed conditions seek to implement the SMP to ensure stormwater is appropriately managed to minimise adverse effects and include monitoring conditions to ensure the discharge and stormwater management regime is performing as anticipated.

8.2 Section 107 of the Act – Discharge Permit Restrictions

Section 107 states that unless there are exceptional circumstances, or the discharge is temporary, or it is associated with maintenance work, a consent authority cannot grant a discharge permit that would have following effects:

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

- (c) *the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:*
- (d) *any conspicuous change in the colour or visual clarity:*
- (e) *any emission of objectionable odour:*
- (f) *the rendering of fresh water unsuitable for consumption by farm animals:*
- (g) *any significant adverse effects on aquatic life.*

The discharge is not likely to give rise to the effects listed above. In contrast, it is likely to reduce existing contaminant loads from the current land use. While stormwater volumes will increase, these will be managed through LID and stormwater detention and other measures.

8.3 Section 108 – Draft conditions of consent

As identified in the preceding assessment, conditions of consent have been proposed to manage and mitigate the potential adverse effects of the proposed activity on the environment and ensure that the stormwater management regime is implemented as proposed. These are detailed in Appendix O. It is anticipated that the BOP RC will adopt these or similar conditions.

It is requested that the draft conditions be provided to SLR in advance of a decision being made on the application.

8.4 Section 123 – Duration of consent

The proposal relates to a regionally significant and permanent development, with the stormwater infrastructure and discharge being required to service the future residential



development. A long-term consent is required to provide certainty for the ongoing use of the development. Accordingly, a consent duration of 35 years is sought.

The potential effects of the development are well known and understood. The stormwater infrastructure and discharge will be managed by TCC, who are responsible consent holders and implement a number of other comprehensive stormwater consents around the city. This consent is no different and is within the powers of the applicant to implement, monitor and manage as part of its stormwater management obligations. This can be further assured through appropriate conditions of consent.

The recommended conditions include:

- A comprehensive set of conditions around the implementation and review of the SMP, including updates to be implemented.
- Monitoring and reporting on water quality outcomes, including adaptive management (with reference back the reviewing measures proposed in the SMP) to ensure modelled water quality outcomes are achieved.
- Cultural health index assessment as reviewed and supported by hapū.
- Review clauses which will allow the consent to be reviewed at a later date if unexpected environmental effects occur. This provides even greater certainty over the lifetime of the consent.

There is significant cost associated with the construction, management and maintenance of the stormwater infrastructure that warrant a longer consent duration. The consent conditions have been developed with this in mind and a comprehensive set of conditions has been proposed on this basis, with provision for regular reviews of the SMP and the resource consent itself. This is considered a more efficient and effective way to manage the implementation of the consent compared to a short consent duration that involves costly and time consuming re consenting – with all the uncertainty and technical complexity that can arise for such short-term consents.

As such a 35-year consent is warranted and is a pragmatic and effective way for the consent to be implemented and effects to be managed. There is no reason that a shorter consent term should be required.

8.5 Section 125 – Lapsing of consent

The Act prescribes a standard lapse period of five years, but this may be amended as determined to be appropriate by the consent authority. It is requested that the lapse period be 10 years for this resource consent. The reasons for this being:

- The discharge of stormwater from the site is reliant on the land being developed by other parties;
- Variation 1 to PC33: Tauriko West, has only recently been notified, therefore implementation of this consent may be delayed;
- Significant investment into the infrastructure will be required and therefore a longer lapse period is required to ensure the consents can be implemented and money spent not wasted.

As such the longer lapse period sought is simply to reflect that the construction of the development, which generates the stormwater discharge, is outside the direct control of TCC as applicant for the comprehensive stormwater consent. There do not appear to be any negative reasons associated with a longer lapse period.



9.0 Notification assessment

9.1 Public notification assessment

Section 95A of the Act requires the consent authority to follow specific steps to determine whether to publicly notify an application. Under section 95A(2)(a), an application must be publicly notified if it meets any of the criteria under section 95A(3).

To maintain an open and participatory process which allows interested persons, iwi and hapū and key stakeholders to be formally involved, the Applicant requests public notification (s95A(3)(a)). Therefore, public notification is mandatory under section 95A(2)(a).

10.0 Part 2 of the Act

There may be no need for decision-makers to consider Part 2 when making decisions on resource consents if the relevant plan provisions have clearly already given effect to Part 2.²⁸ In these circumstances, Part 2 considerations should not be used to override the plan provisions.

While the relevant plan provisions appear to give effect to Part 2, for the sake of completeness, and to remove any doubt, the following assessment against Part 2 has also been undertaken.

Section 5 identifies the purpose of the Act as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Section 6 of the Act sets out several matters of national importance, including:

- (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
- (b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*
- (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
- (d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
- (e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*
- (f) the protection of historic heritage from inappropriate subdivision, use, and development:*
- (g) the protection of protected customary rights:*

²⁸ *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.



(h) the management of significant risks from natural hazards.

Section 7 identifies a number of "other matters" to be given particular regard to in the consideration of any assessment for resource consent, including:

(a) kaitiakitanga:

(aa) the ethic of stewardship:

(b) the efficient use and development of natural and physical resources:

(ba) the efficiency of the end use of energy:

(c) the maintenance and enhancement of amenity values:

(d) intrinsic values of ecosystems:

(f) maintenance and enhancement of the quality of the environment:

(g) any finite characteristics of natural and physical resources:

(h) the protection of the habitat of trout and salmon:

(i) the effects of climate change:

(j) the benefits to be derived from the use and development of renewable energy.

Section 8 requires the consent authority to take into account the principles of the Treaty of Waitangi, and this has also informed our assessment under section 104.

It is considered that the application is consistent with the relevant provisions of Part 2. It provides for much needed growth and development, while minimising and mitigating adverse effects through best practice stormwater management and LID.

As indicated in several of the technical assessments, the broader proposal provides opportunities to enhance the natural environment including reducing key water quality contaminants; improving riparian margins, natural wetlands and highly modified watercourses; significantly enhancing access to and along the Wairoa River and protecting areas of cultural significance. These benefits sit alongside the significant social and community benefit associated with additional residential development and housing choice.

As detailed above, extensive engagement has been undertaken with iwi and hapū on the development as a whole and the stormwater discharge, together with an assessment of the outcomes sought through the relevant Iwi and Hapū Management Plans.

11.0 Conclusion

TCC seeks resource consent to discharge stormwater to land and water from the future Tauriko West development area. The development of the Tauriko West area is necessary for the purpose of urban development in areas specifically identified as planned urban growth areas in the SmartGrowth Programme to meet TCC's obligations under the NPS-UD and provide much needed residential development and housing choice in Tauranga.

Stormwater management is an integral part of urban development – it is necessary to provide systems to convey stormwater away from houses, roads and other areas. While the conveyance and discharge of stormwater can give rise to adverse effects, modern stormwater management has focussed on techniques such as LID to integrate the built and natural environment in a more sensitive and 'softer' way than traditional hard engineering systems.



Such an LID approach is a core element of the stormwater management regime for the proposed future development. This approach seeks to minimise potential adverse effects and integrate the built and natural environment through a sequenced range of techniques, methods and infrastructure devices. Accordingly, a toolbox of measures, and companion sizing and other technical aspects, is provided in the SMP and will be adopted to minimise and mitigate potential water quality and quantity effects and associated effects on aquatic ecology.

A range of technical assessments of potential effects, based on Landform Option 5 and the implementation of the SMP, have been provided. These indicate that the proposed activity is likely to have positive effects on the environment – including both communities and the natural environment. In particular, the development will result in a significant number of much-needed houses to help meet Tauranga’s increasing demand for residential housing and its obligations under the NPS-UD while providing opportunities to achieve enhanced ecological outcomes that are unlikely to be realised under the status quo land use regime.

Key conclusions of the assessments of potential effects associated with the stormwater discharge indicate:

- The development (and the change in land use) will substantially reduce loads of contaminants such as microbial pathogens (*E. coli*), nutrients and sediment from the Tauriko West area. These are key contaminants in the Wairoa River and, the wider Tauranga Moana, and specifically managed under the NPS-FM.
- Loads of zinc will increase marginally above current levels as will zinc concentrations in some rain events, but the level of increase is very small – below the level of analytical detection and will be imperceptible in the Wairoa River and beyond.
- Erosion and scour is unlikely to be an issue for realigned streams due to the ability to design these to cater for the future stormwater flows and the adoption of extended detention. However, as for all stormwater networks, these effects will be regularly assessed and addressed should they occur.
- The discharge of stormwater from the future development has the potential to contribute to increased flood levels on some properties in extreme (100 year) flood events under a conservative climate change scenario. The FRA indicates that the full implementation of the structure plan option (Landform Option 5, as modelled with all consented development and the consented earthworks for TBE Stage 4) results in no change in risk level for any of the assessed risk categories and that the number of functionally compromised buildings will not change, although the depth of the flood level is predicted to increase in some instances.
- The discharge of stormwater to wetlands from the post-development land use can be monitored and managed to ensure that wetland values can be sustained in the long term – noting that the majority of change (including opportunities for enhancement of existing wetlands) will occur during the land development phase.
- Groundwater seeps and springs can be managed to link these to a realigned waterways system to retain baseflow to the central stream. Other changes in ground discharges are considered negligible.
- There is significant opportunity to achieve positive landscape, amenity and natural environment/ecological outcomes through the development and the stormwater discharge will not detract from these.



The stormwater infrastructure and discharge will be managed by TCC, who are responsible consent holders and implement a number of other comprehensive stormwater consents around the city. This consent is no different and is within the powers of the applicant to implement, monitor and manage as part of its stormwater management obligations. This can be further assured through appropriate conditions of consent as recommended.

The proposal is consistent with the objectives and policies of the relevant statutory instruments. It is considered that the application is consistent with the relevant provisions of Part 2. It provides for much needed growth and development, while minimising and mitigating adverse effects through best practice stormwater management and LID. The stormwater Design Philosophy and the SMP incorporate best practice methods and include recreational, community and environmental benefits in how these design elements will be incorporated into the site.

A consent duration of 35 years is sought. This is consistent with the permanent nature of the land use change to an urban zoning and that the adverse effects associated with urban discharge are well understood and being managed in a comprehensive way by TCC as a responsible stormwater network authority. A comprehensive set of conditions has been proposed, incorporating provision for regular reviews of the SMP and the resource consent itself to ensure it remains current and in line with best practice. This is considered a more efficient and effective way to manage the implementation of the consent compared to a short consent duration that involves costly and time consuming re consenting.

Overall, all adverse effects of the future stormwater discharge will be appropriately avoided, remedied or mitigated. Any residual adverse effects on the environment (including any effects associated with a small increase in flood level on buildings that are already functionally compromised by flooding) are appropriate and acceptable. Accordingly, it is recommended that the consent be granted, subject to the conditions (or similar) that are proposed and attached as Appendix O.





Appendix A Application Forms



**Appendix B Stormwater Design
Philosophy Statement**



Appendix C Stormwater Management Plan



**Appendix D Tauriko West
Framework Plan
Design Report**



**Appendix E Tauriko West
Structure Plan
Ecology Assessment**



**Appendix F Tauriko West Urban
Growth – Landform
Options – Ecology
Assessment**



Appendix G Consultation Record



**Appendix H Freshwater
Management Tool
Report**



**Appendix I Wairoa River Water
Quality Assessment**



**Appendix J Flood Risk
Assessment**



**Appendix K Flood Level Change
Memorandum**



**Appendix L Tauriko West Flood
Risk Assessment -
Supplementary
Information**



Appendix M Stormwater Effects on Wetlands Assessment



**Appendix N Groundwater
Assessment - Tauriko
West - Landform
Option 5**



Appendix O Proposed Conditions



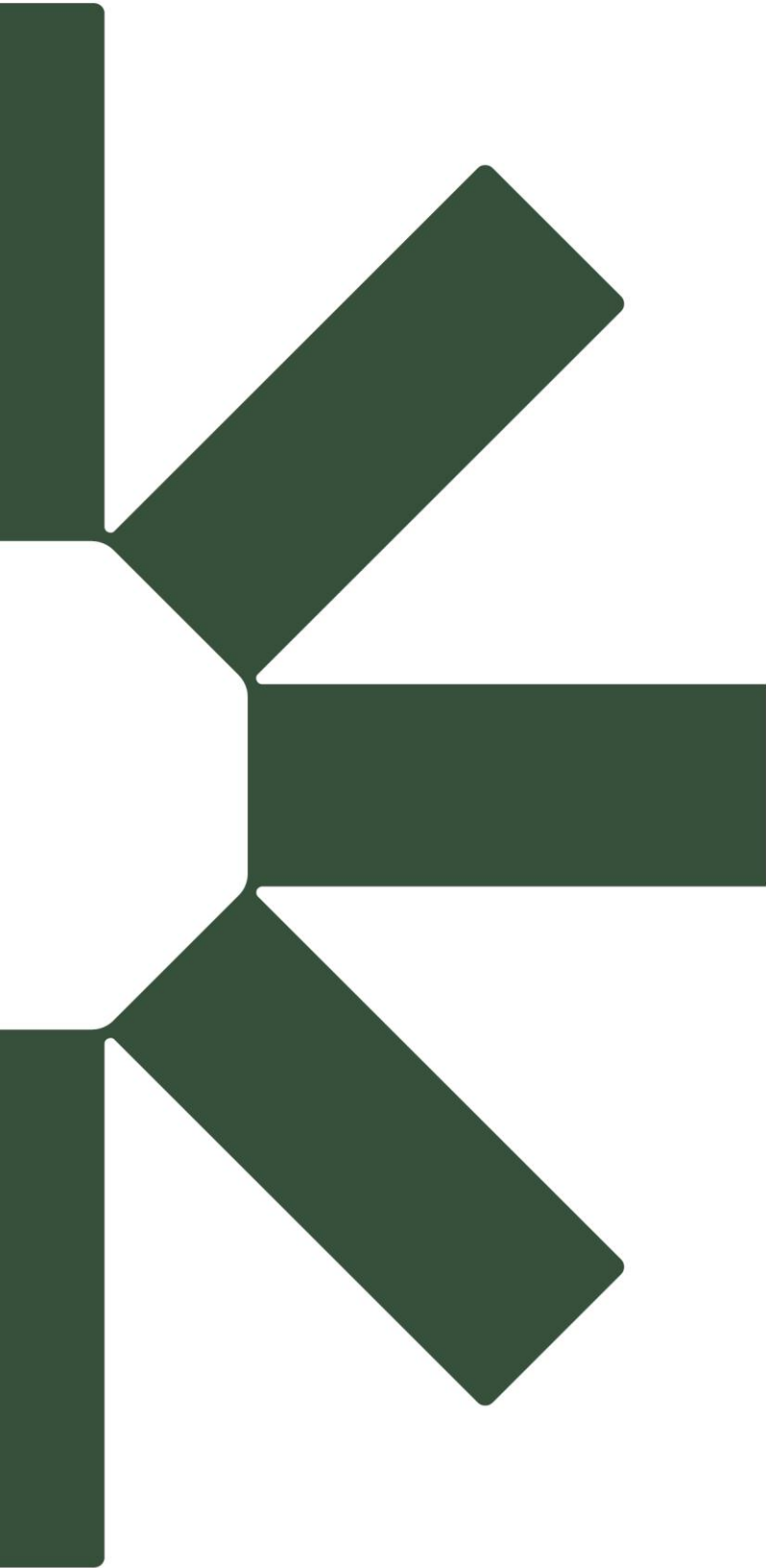
Appendix P NPS-FM Assessment



Appendix Q RPS Assessment



Appendix R RNRP Assessment



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