
Brightwater & Wakefield

Urban Catchment Management Plan

SUITABLE IMAGE NEEDED for final

CONSULTATION DRAFT OCTOBER 2025

Tasman District Council

Contents

Welcome	4
Context for the CMP Purpose	5
District wide stormwater discharge consent	5
Urban Stormwater Strategy	6
Catchment Overview	8
Summary.....	8
Brightwater Urban Drainage Area (UDA).....	9
Wakefield Urban Drainage Area (UDA)	10
Catchment history	10
Rainfall patterns	11
Soil and geology	13
Land coverage	13
Existing land coverage	13
Tasman Resource Management Plan (TRMP) – Existing zoning	13
Future development	14
Plan change 76.....	17
Plan change 81 (Currently pending Ministerial Signoff).....	17
Groundwater.....	17
Rivers and streams	18
Pitfure, Mount Heslington Stream, Jeffries Creek	18
Wairoa and Wai-iti Rivers.....	18
Stormwater assets	20
Brightwater	20
Wakefield	21
Open Channels	22
Eden detention basin	23
Overland flow paths	23

Risk Management Plans	23
Stream health & aquatic habitat	24
Key issues.....	24
Aspirations and targets	26
Improvement actions.....	28
Water quality and contamination	29
Key issues.....	29
Aspirations and targets	30
Improvement actions.....	31
Flooding.....	32
Key issues.....	32
Flooding impacts on cultural values	32
Clarifying flood hazards – to be updated for final	34
Aspirations and Targets	35
Improvement actions.....	41
Brightwater flooding improvement options	41
Wakefield flooding improvement options	42
Development	44
Key issues.....	44
Aspirations and targets	44
Improvement actions.....	46
Integration.....	47
Key issues.....	47
Climate changes impacts on cultural values	47
Aspirations and targets	48
Improvement actions.....	49
Summary	50

Welcome

This is the Brightwater and Wakefield urban stormwater Catchment Management Plan (CMP). This plan has been created by Tasman District Council (TDC) for the community to set out how we will deliver positive stormwater outcomes for the environment and people within the Brightwater and Wakefield urban areas. Urban catchment management planning is an effective way of coordinating efforts to address multiple stormwater issues i.e., freshwater management, aquatic habitat management, flood management, and amenity values within the urban environment.

The Brightwater and Wakefield stormwater catchment management plan:

- combines our current knowledge of the catchment and stormwater networks;
- identifies issues and sets out a series of actions to help us achieve our vision and aspirations; and
- provides long term direction for the management of stormwater within the Brightwater and Wakefield area.
- Covers both the current Urban Drainage Areas (UDAs) and the Future Development areas that result from both the Future Development Strategy (FDS) and Plan Change 76 (PC76) for Wakefield will extend the UDA as shown in this figure:

Figure 1: Extent of this CMP - Brightwater and Wakefield existing UDA (light green shaded areas) and FDS and PC76 extension areas in Wakefield (dark green shaded areas)



Context for the CMP

Purpose

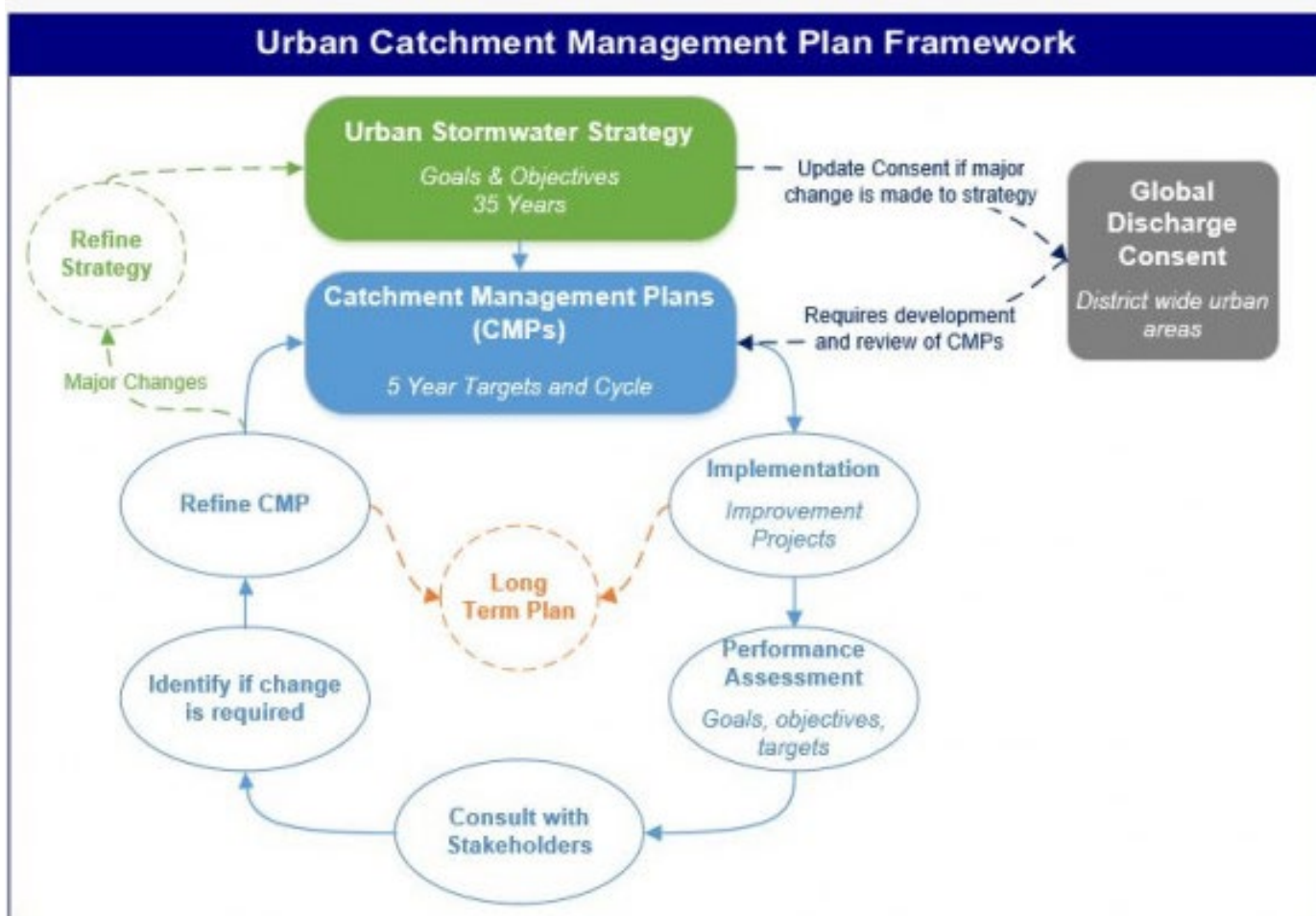
This CMP aims to identify the main problems we are dealing with, set out targets for how we can improve things in the mid and long-term, and list the steps we will take to reach these goals.

The broader context for the CMP includes issues such as historical stream changes, urban growth and pollution and climate change.

District wide stormwater discharge consent

TDC's global stormwater discharge resource consents were granted in May 2021. This CMP is required under our global stormwater discharge consent and fits into our wider urban catchment management plan framework shown below. There are 15 urban drainage areas, and we aim to produce CMPs for all the areas by 2028.

Figure 2: Urban Catchment Management Framework



Urban Stormwater Strategy

Our Urban Stormwater Strategy which was adopted in 2019 outlines our vision for stormwater management in the region.

Our Vision:

Protect and enhance the mauri of wai/life force of water and to provide for:

- Te Hauora o Te Wai – the health of the water
- Te Hauora o Te Taiao – the health of the environment
- Te Hauora o Ngā Tangata – the health of the people

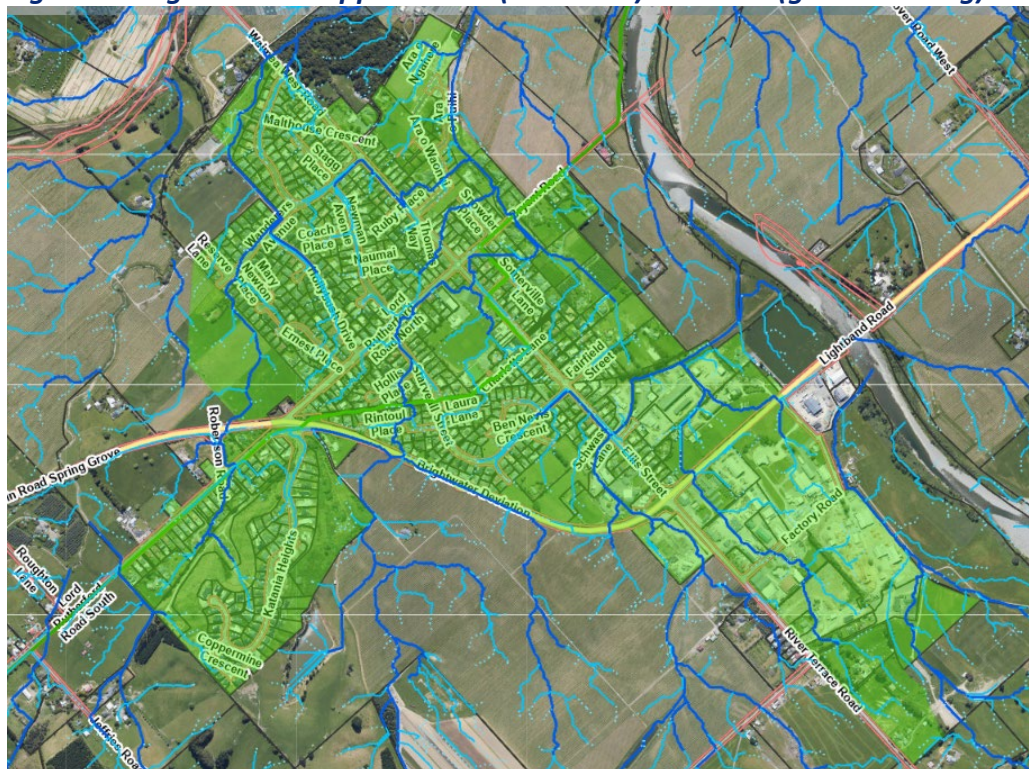
Our Aspirations:

- Our urban streams, aquatic habitats and coastal marine environment are healthy and accessible.
- Stormwater discharges do not degrade water quality and the ecosystem health of our streams and estuaries.
- Stormwater flooding does not create a hazard to our community or cause damage to properties.
- We enable water sensitive growth for future generations.
- We manage stormwater in a holistic, efficient, and cost-effective manner.

Local Government (Water Services) Act 2025

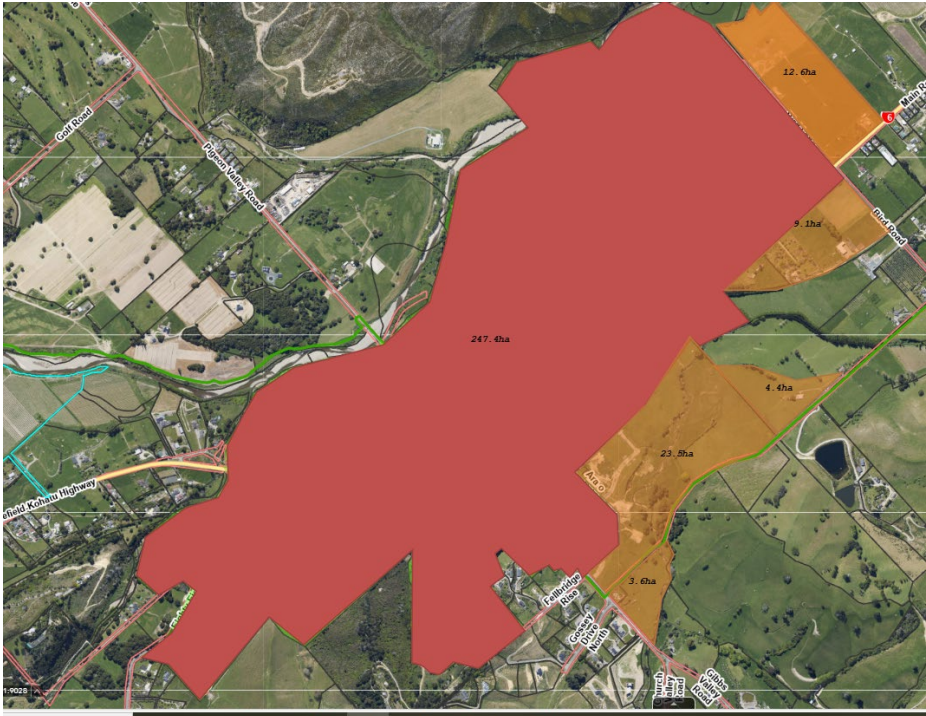
The Water Services Act has introduced two key requirements for TDCs to produce an urban stormwater *Risk Management Plan* and manage overland flowpaths (OLFP) of greater than 0.4Ha catchments. These are shown as solid blue lines in the following images:

Figure 3: Brightwater mapped OLFPs (blue lines) and UDA (green shading)



Catchment Overview

Summary

	Summary
Urban Drainage Area	<p>The Brightwater UDA is approximately 171ha and is positioned between the Wai-iti and Wairoa Rivers, three kilometers upstream of their confluence. The current FDS process is not expected to enlarge the UDA. The Wakefield UDA is approximately 247ha and is positioned between the Wai-iti River and Pitfure Stream. Between PC76 and the FDS process the UDA is expected to expand 53ha to cover a total area of 300ha.</p> 
Catchment History	<p>The fertile soils and rivers provided resources making Brightwater & Wakefield critical trading routes for Māori and European settlers. Nga iwi claims to the area have been recognized for: Ngāti Apa, Ngāti Koata, Ngāti Kuia, Ngāti Rarua, Ngāti Tama, Rangitāne, and Te Ātiawa. European settlement began in the area in the 1840's and the villages as we know them today emerged from the 1850s and continue to grow.</p>
Rainfall and Flooding	<p>TDC has three rainfall gauges in the vicinity which have been collecting data since 1982. Large rainfall or associated flooding events have been recorded by TDC for July & December 1983, January 1986, February 1994, March 1999, May 2011, May 2019, April 2022, August 2022. Further historical events are recorded by previous newspapers in: January 1895, March 1904 (water up to counters in stores) March 1907 (washed out railway), August 1916 March 1918 (washed away protection wall), April 1929</p>

	<p>December 1931, February 1933 (Brightwater residents evacuated) June 1934, August 1936, February 1937, November 1939 (flooding in houses), July 1942, January 1940, July 1944, April 1957 (Flooding in houses), April 1968. Source Papers Past Newspapers Home "https://paperspast.natlib.govt.nz/newspapers"</p> <p>Most recently, on 27th June 2025 the Wai-iti River catchment experienced rainfall that resulted in an approximately 1 in 40 year ARI flow at Belgrove which broke out of the bank in places not experienced in living memory of some long-term residents. This was followed by another event on 11 July 25 that resulted in approximately 1 in 80 year ARI flow at Belgrove.</p>
Soil & Geology	<p>Differences in soil texture and subsurface conditions influence permeability, in that the Brightwater UDA has coarse, stony soils with high infiltration potential but locally experiences surface ponding during winter or extended wet periods due to clay-bound subsoil and elevated groundwater, while the Wakefield UDA has finer alluvial and Moutere gravels with moderate permeability and fewer drainage limitations.</p>
Land coverage	<p>The land coverage in Brightwater and Wakefield is built-up impervious areas juxtaposed with grassland and pasture. The extension of residential areas is planned in the future which will increase the amount of impervious area in the catchment. This will need to be managed through water sensitive design approaches including soakage and detention.</p>
Groundwater	<p>Ground levels in this area are high and due to this, groundwater has been observed to rise out from the ground surface during winter months. Additionally, during wet months water can often pond for longer periods as it is unable to soak into the ground.</p>
Rivers & Streams	<p>The Wairoa and the Wai-iti River are the receiving environment from stormwater discharges from the UDAs. Additionally, there are watercourses such as the Pitfure and Mount Heslington which cross through the UDAs. These watercourse habitats must be protected and restored while overflows from these need to be managed to protect the safety of the community.</p>
Stormwater Assets	<p>TDC manages a combined pipe and channel stormwater network of approximately 14km long in Brightwater and 13km in Wakefield. The age, condition and capacity of the pipes vary, with infrastructure in newer developments performing better compared to older parts of the network. TDC maintains numerous open channels that are cleared twice yearly if required.</p>

Brightwater Urban Drainage Area (UDA)

The Brightwater Urban Drainage Area (UDA) is approximately 170 ha and is positioned between the Wai-iti and Wairoa Rivers, three kilometers upstream of their confluence. It is on a flat floodplain with old shallow rivers and stream channels crossing it.

Four wider catchments feed into the Brightwater UDA including:

- Mount Heslington catchment (395 ha)
- Rutherford catchment (13 ha)
- Jeffries catchment (141ha)
- Pitfure catchment (2,500 ha)

There are approximately 600 properties within the Brightwater UDA including a commercial area and a primary school.

Wakefield Urban Drainage Area (UDA)

The Wakefield UDA is approximately 250 ha and lies between two waterways; the Wai-iti River and the Pitfure Stream (a tributary of the Wai-iti River). To the west of the State Highway the land is flat, and to the east it is undulating. The catchments that feed directly into the UDA are small sub-catchments of the larger catchments listed below including:

- Wai-iti River (166 km²)
- Eight-Eight Valley Stream (35km), discharges into the Wai-iti
- Pigeon Creek (38 kms), discharges into the Wai-iti
- Pitfure Stream (32 km²)

The Wakefield UDA covers approximately 500 residential and commercial properties.

Catchment history

Brightwater is located within the Waimea (Waimeha) Plains and was once a critical trading route for Māori between Whakatū Nelson and Te Tai Poutini, the West Coast. It's fertile soils and abundant rivers provided valuable resources throughout the year.

“With its abundance of natural resources, the Waimeha was an important food-gathering and harvesting site for local Iwi whānau. They cultivated large kūmara gardens (over 400 hectares), birds provided meat and feathers, pakohe (argillite or metamorphosed indurated mudstone) was quarried from the Wairoa River for tools or traded with Iwi across Te Tau Ihu and Harakeke (flax) was plentiful.

The Wairoa River was a significant eel (tuna) harvesting site. Tuna, inanga (whitebait) and other freshwater fish were plentiful with seasonal migrations providing food at different times of the year”¹

In the 1850s, Brightwater and Wakefield villages emerged to support the nearby farms. Over time, development has continued in both catchments, with overland flow paths being filled or diverted, and construction taking place near the river, constraining its ability to move and

¹ <https://www.theprow.org.nz/society/brightwater-tuna/>

flood. These changes are evident when comparing historical aerial photographs from 1948 with current ones taken in 2018.

Figure 5: Brightwater 1948 vs 2018



Figure 6: Wakefield 1949 vs 2018



Rainfall patterns

TDC has two rainfall gauges in the vicinity. The recorded extreme based on data collected on-site are summaries in the table below and can be found on the TDC [website](#).

Table 1. Measured rainfall (TDC)

Gauge Name		Wai-iti at Birds	Wairoa at Haycock Rd ²
Period of Analysis		31 August 1982 – 14 July 2025	28 June 2018 to 14 July 2025.
Recorded Data	1hr duration	45.5 mm (13/03/1999)	35.5 mm (12/05/2019)
	6 hr duration	95.5 mm (21/02/1994)	62.9 mm (19/08/2022)
	24 hr duration	148 mm (09/07/1983)	109.5 mm (19/08/2022)

The 2024-5 monthly rainfall compared to the average, and 2023-4 values and average values can be seen below.

Figure 7: Wai-iti at Birds

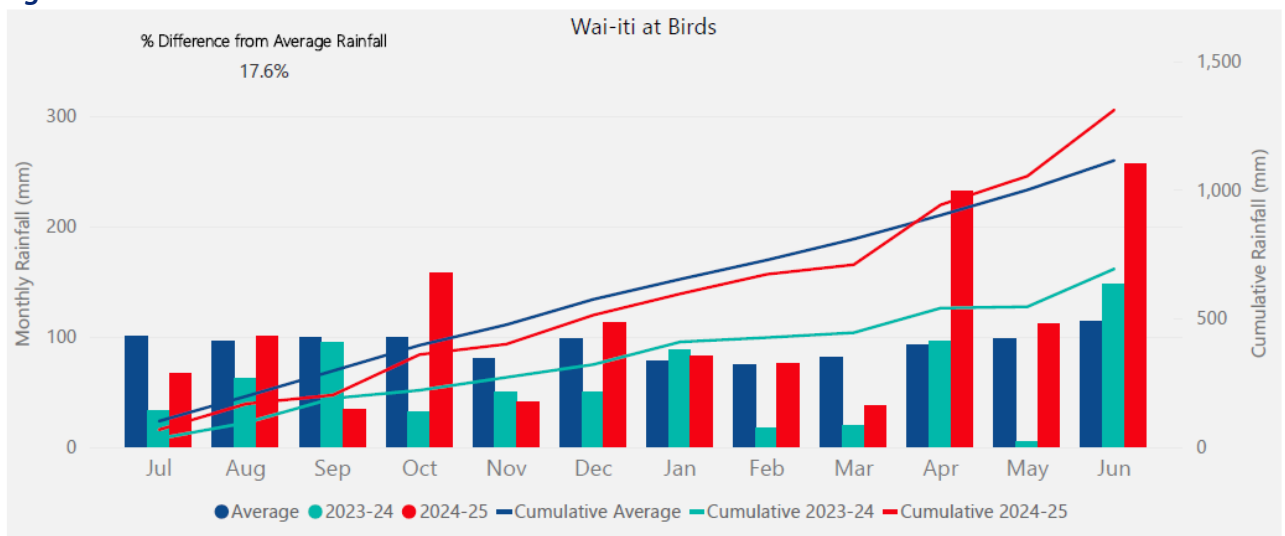
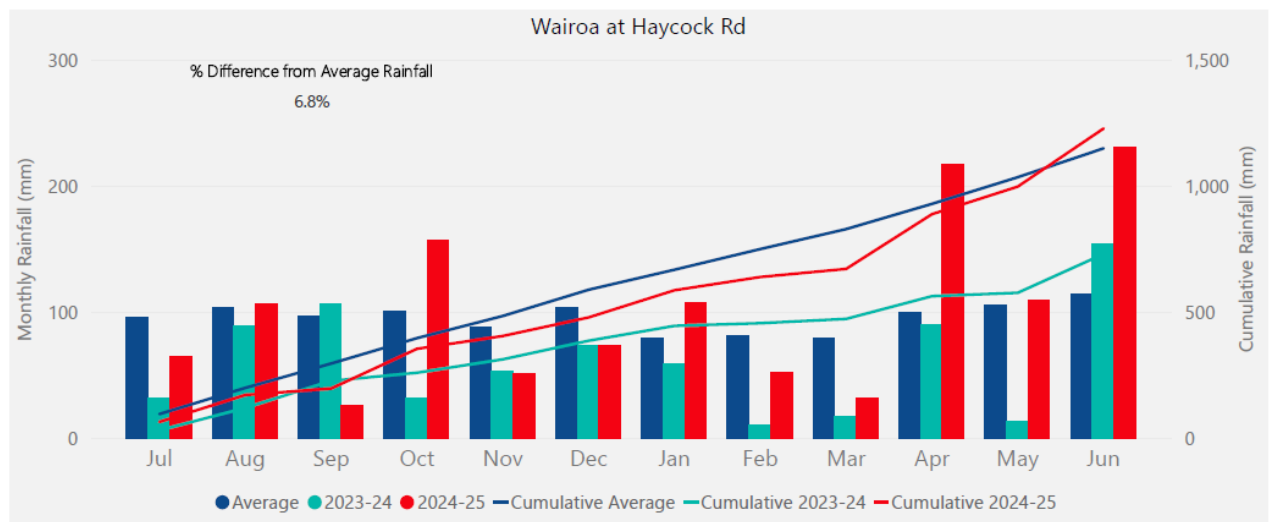


Figure 8: Wairoa at Haycock Rd



² Replaces the rain gauge *Wairoa at Irvines*

Soil and geology

Soil types contribute to how much rainfall can infiltrate into the ground. The catchments are largely gravel from river deposits. Transport and deposition of sediment and associated fan and terrace construction has clearly been more vigorous in the Wairoa River than in the Wai-iti River system. The Wairoa catchment is comprised largely of sandstone and siltstone, divided by a band of igneous rock (basalt/harzburgite) and mélange running south-west to north-east through the catchment. Soils are generally coarse and stony, giving higher permeability—reflected in the medium-high permeability of the Brightwater UDA—although dense clay-bound subsoil layers can locally reduce infiltration. The Wai-iti catchment is largely alluvial gravels from deposition by the Wai-iti River and Moutere gravels, resulting in finer, less stony soils and moderate permeability, as observed in the Wakefield UDA, with fewer clay restrictions (SKM Brightwater – Wakefield Flood Hazard Mapping, December 2013; Campbell 2014).

Land coverage

Land cover largely determines the volume of water that will run-off as stormwater into our network. Pervious land cover such as parks, reserves, forests, and paddocks create less run-off because water can infiltrate and/or evaporate while impervious surface such as pavement, roofs and roads eliminate opportunities for infiltration and increase the volume of water that needs to be collected and discharged by the stormwater network.

Existing land coverage

The existing land coverage according to the land cover database³ is:

- Brightwater: The majority of the of the UDA is classified as “Built-up” with the remaining classified as “High Producing Exotic Grassland”
- Wakefield: The UDA has areas classified as, “Built Up”, “High Producing Exotic” “Grassland”, “Indigenous Forest”, “Urban Parkland”, “Gorse and/or Broom”, “Exotic Forest” (in order of largest contributing area to smallest)

Tasman Resource Management Plan (TRMP) – Existing zoning

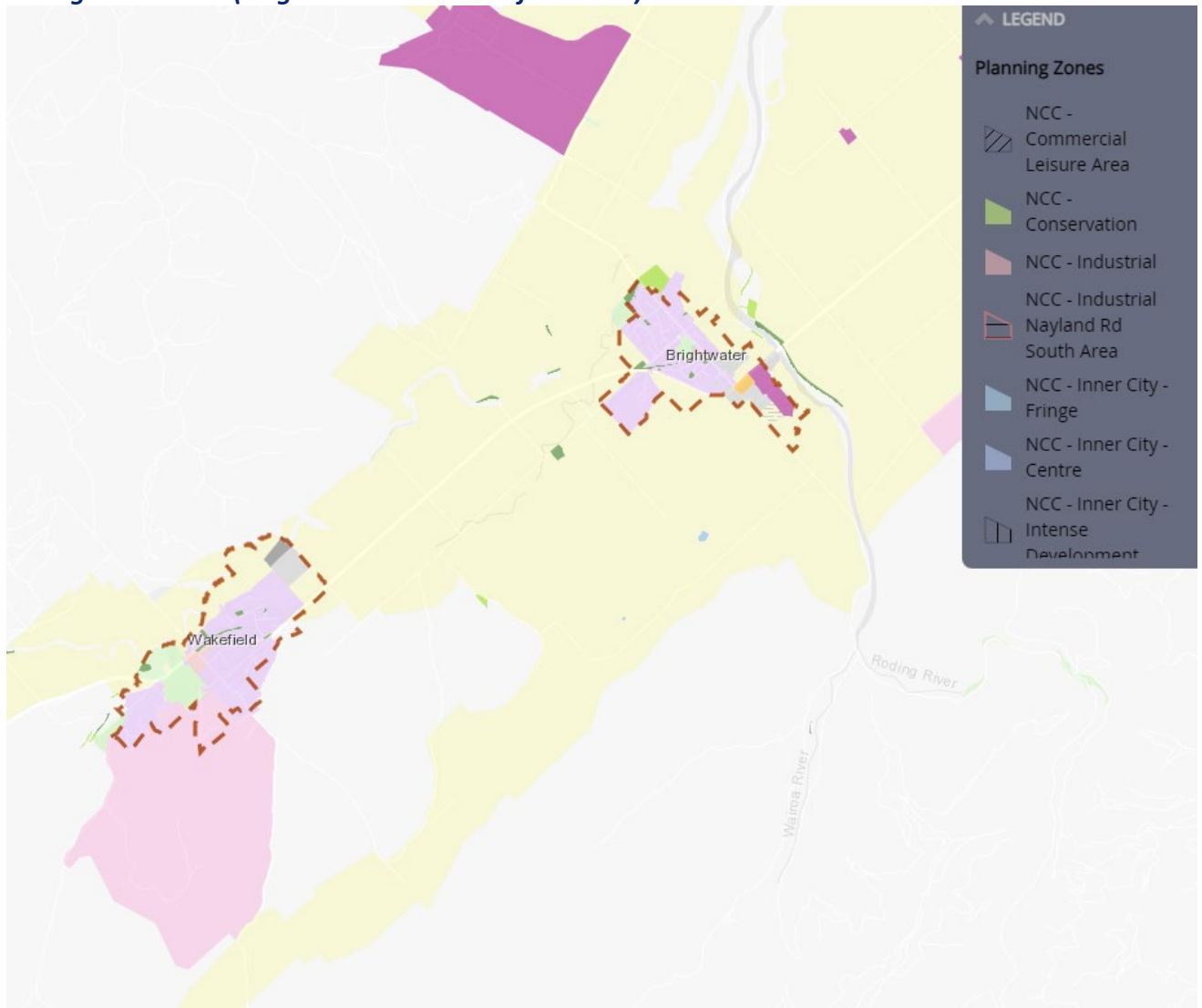
The TRMP determines where different land use activities are allowed within the region. Changes in land use have potential significant effects on stormwater flows and stormwater quality. This is especially the case for zoning rules that allow a rural land use to transform into an urban land use (residential, commercial, industrial).

- Majority of Brightwater is zoned as residential land with some commercial, light industrial, and rural industrial uses.

³ Landcare Research via LRSI Portal

- Majority of Wakefield is zoned as residential land with some commercial, light industrial and heavy industrial uses.

Figure 9:TRMP (Brightwater and Wakefield CMP)



Future development

Areas of development and intensification in Brightwater and Wakefield have been included in the Future Development Strategy (2022-2052) which outlines plans for growth over the next 30 years. The following two images show the proposed FDS growth cells in Brightwater and Wakefield respectively. More detail can be found [here](#)⁴, in the strategy.

⁴ [Future Development Strategy 2022 - 2052 | Tasman District Council](#)

Figure 10: FDS Areas Brightwater

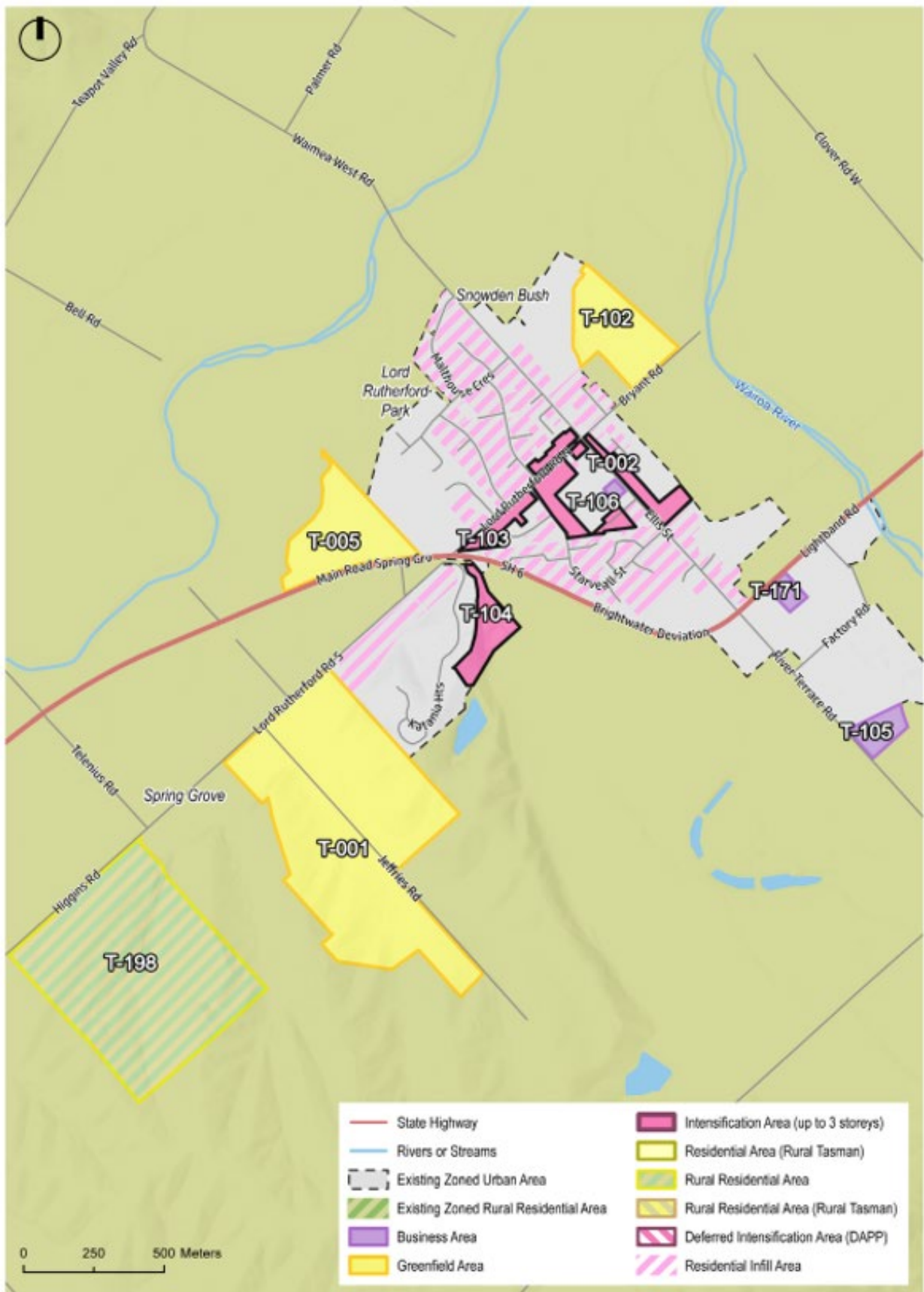
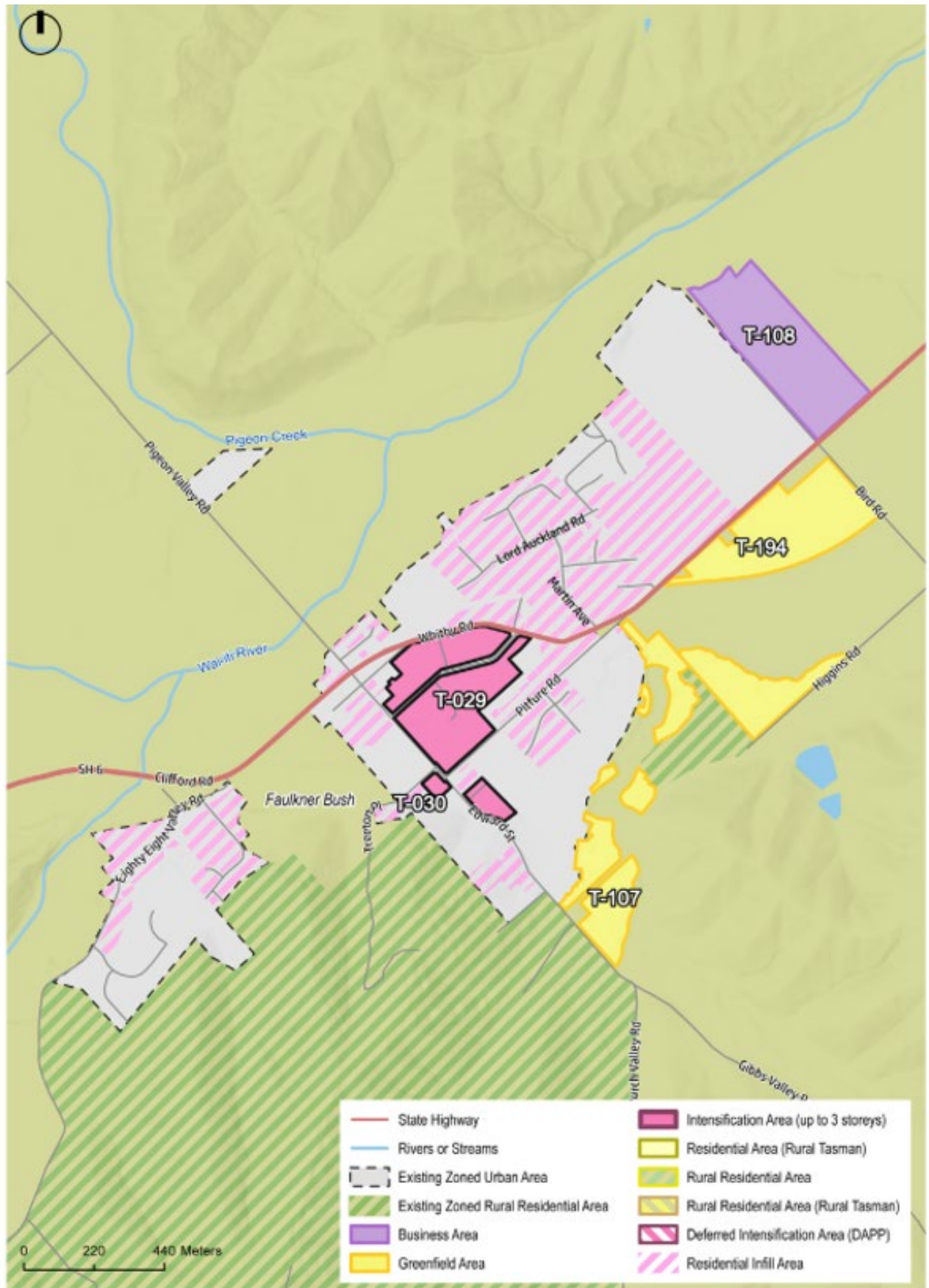


Figure 11:FDS Areas Wakefield



Plan change 76

Plan Change 76 covers greenfield growth in Wakefield and seeks to implement the changes adopted in the FDS.

Plan change 81 (Currently pending Ministerial Signoff)

Plan Change 81 covers several areas in the District including Brightwater and Wakefield and seeks to implement the intensification growth changes adopted in the FDS.

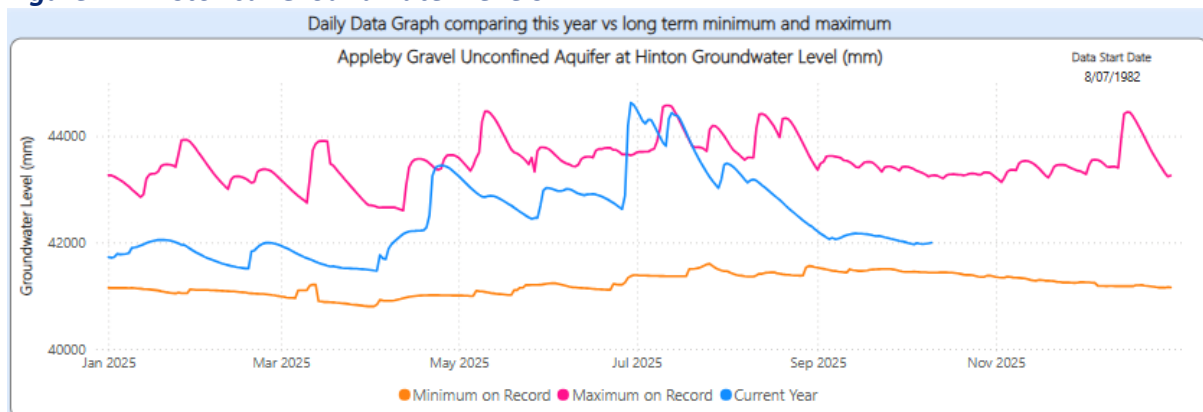
As these FDS growth areas are likely to proceed, the area considered by the CMP includes the combination of the UDA areas and the FDS areas as shown in Figure 1.

Groundwater

Ground levels in this area are high and due to this groundwater has been observed to pop out from the ground surface. Additionally, during wet months water can often pond for longer periods as it is unable to soak into the ground. TDC monitors groundwater levels in all major aquifers in the district, which can be found [here](#).⁵ Daily data from 2024 is compared to the long-term minimum and maximum in the graphs below. More information about the location of these monitoring locations can be found on the TDC website.

GW 247 – Hinton is in Spring Grove (between Wakefield and Brightwater), with groundwater level records dating back to 1982.

Figure 12: Historical Groundwater Levels



TDC completed a groundwater quality survey of the Waimea plans (October to December 2021) which involved sampling of 137 bores/swells and 9 spring samples across the four main aquifer systems. The study found that groundwater nitrate levels in areas north of Brightwater and on both sides of the Waimea River are relatively high, nearing or exceeding 50% of the Maximum Acceptable Value (MAV) set by the Ministry of Health (5.6 g/m³ nitrate-N). These high levels

⁵ [Groundwater levels | Tasman District Council](#)

are found in regions with ongoing agriculture and horticulture activities, indicating that current practices contribute to increased nitrate levels in all four aquifers.

Conversely, there is a strong decreasing trend of nitrate levels in the unconfined aquifers south of Brightwater.

Rivers and streams

Pitfure, Mount Heslington Stream, Jeffries Creek

- Mount Heslington Stream and Jeffries Creek arise from steep hillside catchments to the south. They both cross through parts of the Brightwater UDA.
- Mount Heslington Stream crosses through the southeast through the stockyards, under the deviation (SH6) across Brightwater primary school, under Ellis Street and into a diversion channel that takes stream away from its 'natural channel' direct to the Wairoa.
- Jeffries Creek cuts across the far southwest end of the UDA around Lord Rutherford Road before draining into the Pitfure Stream.
- The Pitfure Stream is a long flat meandering stream that drains the floodplain between Wakefield and Brightwater. Various catchments discharge into the Pitfure Stream including parts of Wakefield, and catchment from the hill country to the east between Wakefield and Brightwater. It mainly travels down the eastern side of the valley before flowing under State Highway 6 and joining the Wai-iti River south-west of Brightwater.
- Eighty-Eight Valley Stream is to the west of the Wakefield UDA and discharges to the Wai-iti through an existing embankment (previous railway embankment).
- These three streams are fed by reasonably large rural catchment that are outside the UDA, however they experience frequent 'out-of-channel flow' which can result in problems within the UDA.

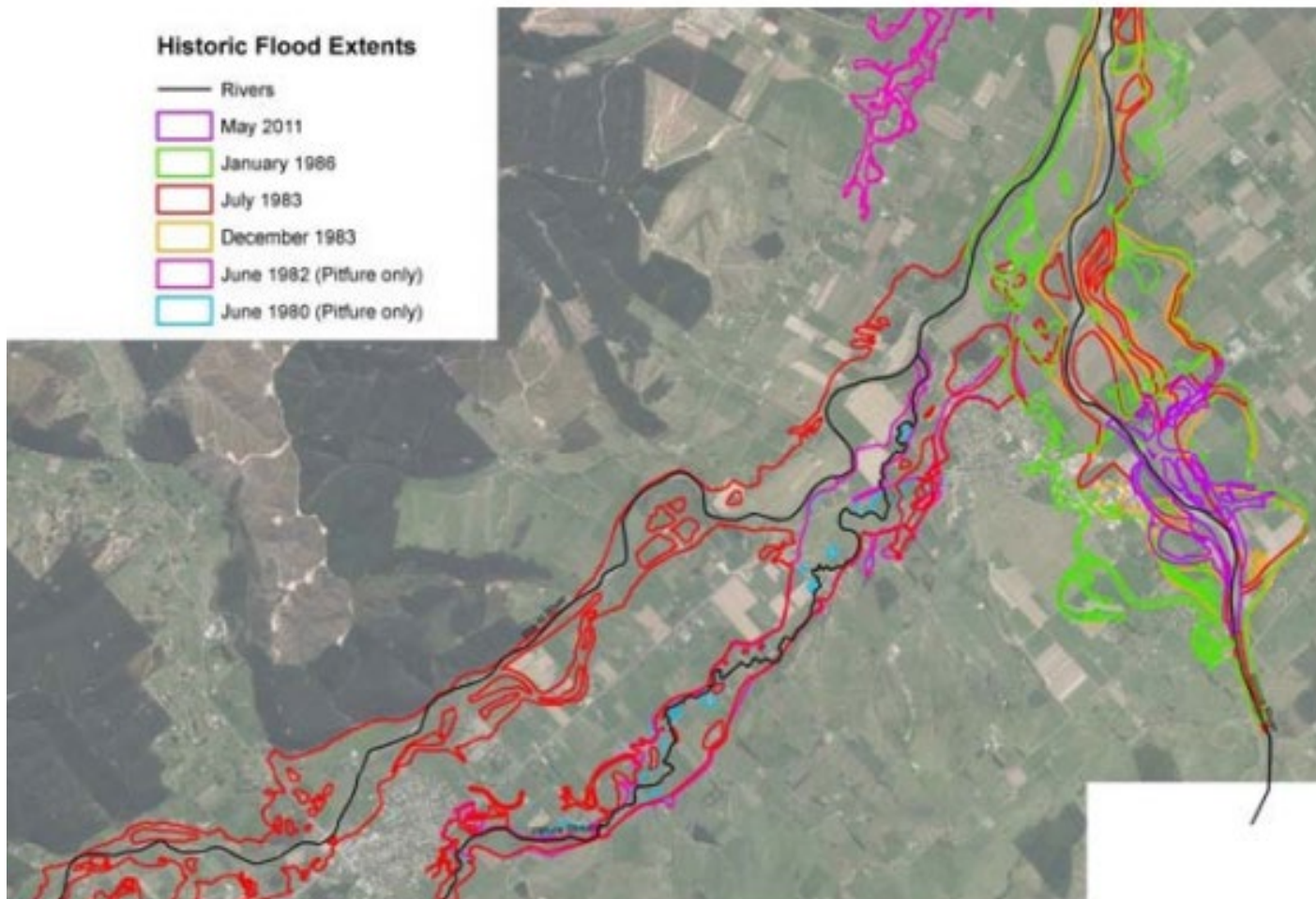
Wairoa and Wai-iti Rivers

The Wairoa and Wai-iti Rivers are outside the UDA and are outside of the scope of this CMP. The Wairoa and the Wai-iti are the receiving environment for stormwater discharges from the UDA and therefore, we need to work to reduce the impacts of the urban area on downstream river water quality.

A significant issue is that the rivers themselves impact how much stormwater can be discharged, as high-water levels in the river reduce the discharge capacity of the stormwater network upstream. Though this CMP focuses on stormwater and is limited to the UDA and proposed future growth areas under current Plan Change processes, TDC acknowledges that the wider catchment, especially the rivers, play a significant role in the flood hazard to the towns.

The Wai-iti and the Wairoa have a history of flooding. The figure below shows some of the historical flood extents that have been recorded by TDC. As shown, breaching of the riverbanks can result in the inundation of the Brightwater and Wakefield UDA.

Figure 13: Historical flood extents (To be updated in final for 2025 events)



The potential for future stopbanks to protect the towns from the Wai-iti and Wairoa will be investigated under the Rivers Activity Management Plan as a separate process from the CMP.

Table 2: Environmental Data - River Flow (TDC, May 2024, to be updated)

Gauge Name		Wai-iti at Belgrove	Wai-iti at Livingston (downstream Brightwater)	Wairoa at Irvines ⁶ (upstream Brightwater)
Period of Analysis		January 1987 to May 2023	June 1976 to December 2019	11 November 1957 to 1 June 2023.
Return Period Record data	Annual	46 m ³ /s	181 m ³ /s	711.2 m ³ /s
	5 year	62 m ³ /s	256 m ³ /s	921.9 m ³ /s
	10 year	74 m ³ /s	317 m ³ /s	1065.8 m ³ /s
	20 year	86 m ³ /s	375 m ³ /s	1193.8 m ³ /s
	50 year	102 m ³ /s	451 m ³ /s	1345.9 m ³ /s
	100 year			1450.7 m ³ /s
	Extreme Recorded	95.7 m ³ /s (09/05/2023)	397.7 m ³ /s (10/07/1983)	1466.3 (25/01/1986)

Stormwater assets

Brightwater

There are approximately 600 properties within the Brightwater UDA. The main urban areas of Brightwater discharge into piped system either into one of the three streams or into the old river channels that lead into the Wairoa or Wai-iti Rivers.

Pipe assets were installed between 1964 and 2023. The assets are relatively young and generally in good condition. The network varies in size from 100 to 1200 mm, however most of the network is less than 600mm diameter. As per the NTLDM, the primary stormwater system should now be designed to manage the 10% AEP + climate change flow. However, being older, most pipes in Brightwater are undersized for this current design requirement.

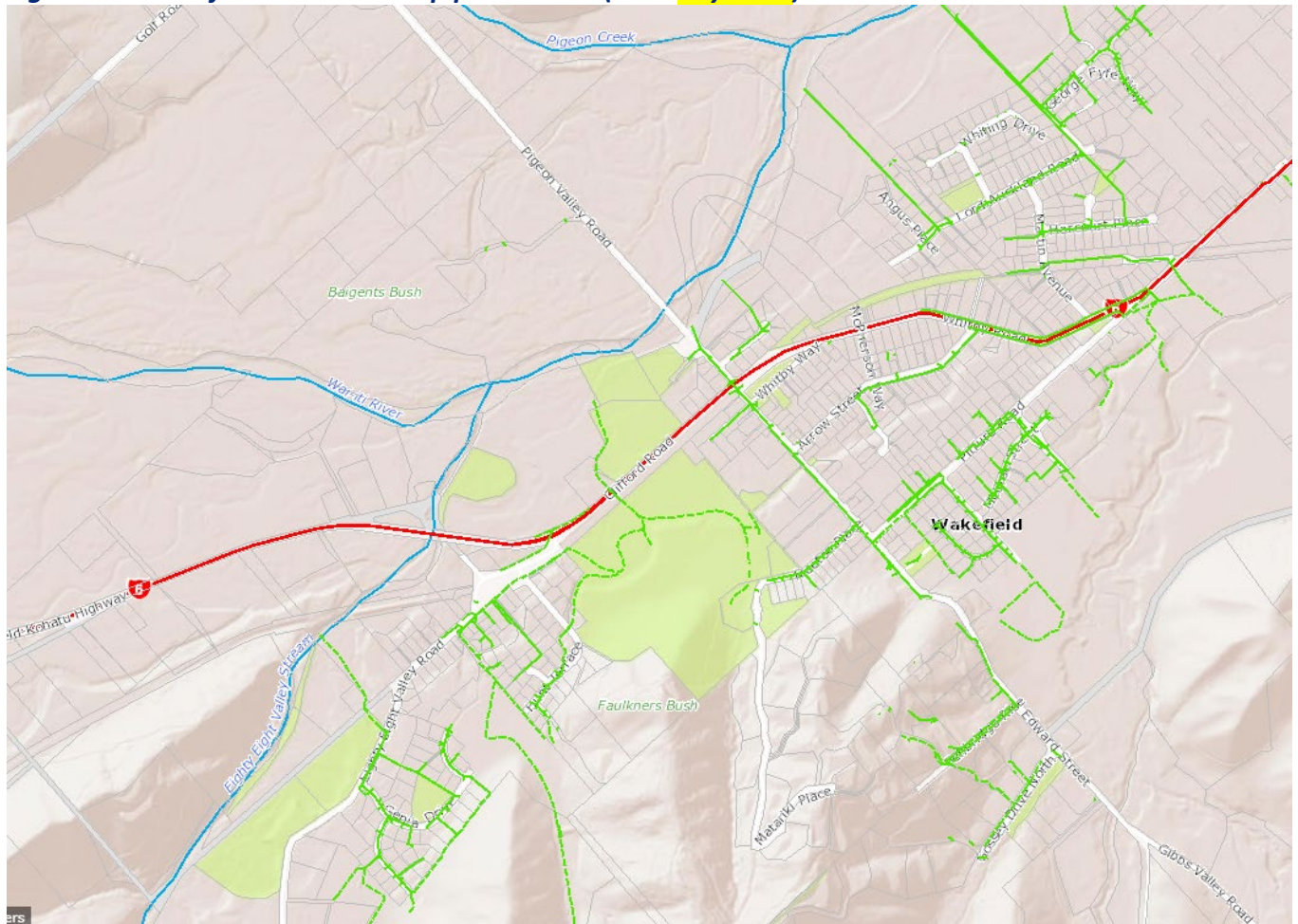
The approximate location of the piped network can be found on Top of the South Maps (TSM)⁷ and in the figure below. TDC owns and manages approximately 12km of stormwater pipe network (including culverts). Note: The new urban stormwater system definitions under the Water Services Legislation are likely to change these numbers.

A small stormwater pumping station operates in the Brightwater Underpass but is a Roading asset.

⁶ the flow at the location Wairoa at Irvines was traditionally measured by a flow recorder located just below the confluence of the Wairoa and Lee rivers. This recorder has been replaced by individual recorders on the Wairoa, Lee and Roding Rivers. The flow currently published as "Wairoa at Irvines" is the sum of the three upstream tributaries and is considered by Council to be a continuation of the original flow site.

⁷ [Top of the South Maps](#)

Figure 15: Wakefield Stormwater pipe network (TSM July 2023)



Open Channels

TDC manages approximately 1.6km of open drains in Wakefield and 20.km in Brightwater. The below channels are maintained by TDC and cleared twice yearly if required.

UDA	Name	Location	Ownership
Brightwater	Jeffries Creek	Eder Property to Lord Rutherford Road South	Private
		Hill Property Lord Rutherford Road South	
		Bashford property to Lord Rutherford Road South	
Brightwater	Ellis Street Drain	96 Ellis Street to Brightwater School	TDC
		Ellis Street to Brightwater Engineers	
Brightwater	Railway Reserve Drain	Brightwater Engineers to Wairoa River	
Wakefield	Eighty-Eight Valley drain	72A Eighty-Eight Valley Road to 88 Valley Stream	TDC
	Domain Drain	Faulkner’s Bush to 39 Eighty-Eight Valley Road	
	88 Valley Dam	Eden Property 88 Valley Road	

Eden detention basin

The Eden detention dam was constructed in 1999 on the farm then owned by the Eden family. The land is still private, but the facility is TDC owned and maintained. It comprises of a simple earth embankment with a concrete scour apron and a fenced intake area for a 450mm concrete discharge pipe.

Overland flow paths

Overland flowpaths are routes that the stormwater will take when the capacity of the piped network is exceeded, where there are no pipe systems, when pipes/inlets are blocked, and when soakage into the ground reaches capacity. The image below provides an indication of the location of overland flow paths. The figures show the center lines and not the width of these paths.

The image below provides an indication of the location of overland flow paths. The figures show the centre lines and not the width of these paths.

Risk Management Plans

OLFP are an essential part of the stormwater network. Any structures within flowpaths that may obstruct overland flows can lead to increased flooding and damage to property. Protection and enforcement are a key part of overland flow path management, and TDC will be strengthening its role in the future facilitated by new direction from centre government enacted in August 2025. TDC will be required to undertake stormwater network *Risk Management Plans*, and these will include management of urban OLFPs of greater than 0.4ha catchment area.

Stream health & aquatic habitat

Key issues

In Spring 2023, TDC employed a specialist consultant team to inspect the local stream around Wakefield and Brightwater and undertake a stream rapid habitat assessment. They checked things like the sediment, diversity, fish cover, bank erosion and vegetation.

What they found was a bit of a mixed bag. Some parts of our streams are in good shape, but others are not doing as well. A big problem is that a lot of dirt is getting washed into the water, and the land on the stream banks is eroding away. Parts where there are not many plants to help hold the soil together are doing worse. Iwi also advise that *soil loss and sediment entering waterways and our coastal marine environs, over previous decades has resulted in the loss of some taonga species and their natural habitat.*

The consultants also tested the water to see how much life it is supporting (environmental DNA testing). The streams in Brightwater are average, but the ones in Wakefield are mostly above average. So even though some parts of our streams need help, they are still home to a lot of life.

Table 3: Summary of stream rapid habitat assessment for Brightwater

Stream Name	Findings	Fish detected from eDNA sampling	Rapid habitat assessment
Pitfure (Wai-iti Tributary)	Quality improves from upstream to downstream. Highly eroded stream banks Minimal to no riparian planting upstream but some more downstream	Īnanga (downstream) Shortfin eel (upstream) Kaharore Bully Longfin eel Common smelt (downstream)	Poor - Good
Mount Heslington lower (Wairoa Tributary)	Mostly dry with areas of standing water in places. Discounted from the Wairoa by a 2 m large drop	No sampling too little water	Poor - Fair
Mount Heslington upper (Wairoa Spring)	Some sections dry and others had good flow	Shortfin Eel Common Bully	Fair

Figure 16: Habitat Quality Assessment Brightwater (SLR, 2023)

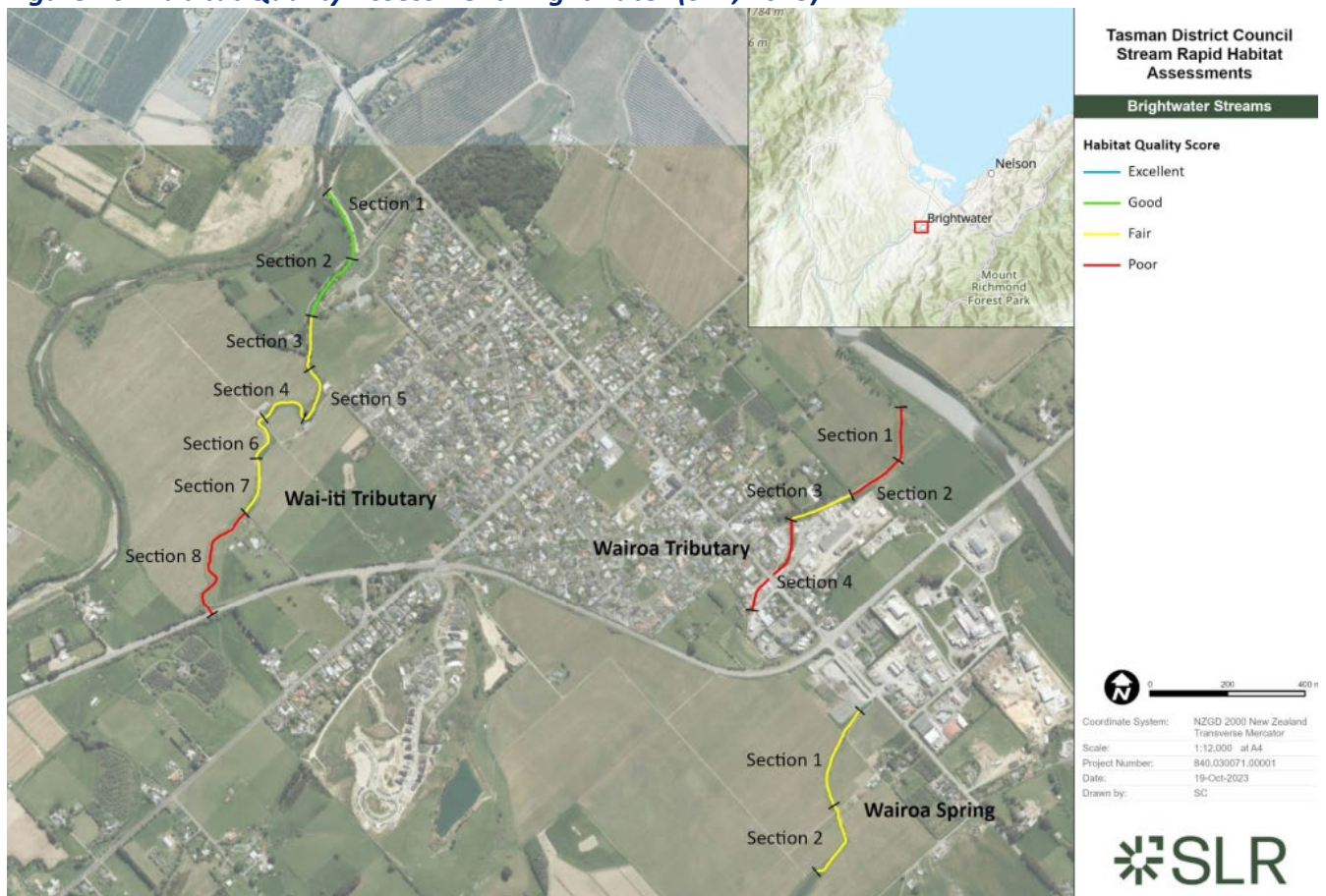


Table 4: Summary of stream rapid habitat assessment for Wakefield

Stream Name	Findings	Fish detected from eDNA sampling	Rapid habitat assessment
Church Valley Stream	Water appeared turbid Evidence of recent and ongoing bank collapse and erosion	Shortfin eel (upstream) Kaharore Bully Longfin eel (upstream)	Fair
Eighty-Eight Valley Stream	Generally good but steeper gradient upstream, more prominent bank collapses and bank erosion	Longfin eel Kaharore Bully Shortfin eel (upstream) Brown Trout (upstream) Kōaro (upstream) Pouched lamprey (upstream)	Good
Eighty-Eight Valley Tributary	Varying degrees of condition. Dense vegetation in places. High cascade/waterfall which would provide a barrier to fish passage.	No fish were detected likely due to fish barriers	Poor - Good

Figure 17: Habitat Quality Assessment Wakefield (SLR, 2023)



Aspirations and targets

Our urban streams, aquatic habitats and coastal environment are healthy and accessible.

The table below summarizes how we are tracking against our freshwater aspirations and proposed 10yr and 30yr targets.

Table 5: Freshwater aspirations progress tracking

Number	Objective	Current	10 year Target	30 year Target
1.1	Enhance habitat diversity and stream health, including riparian and wetland vegetation, diversity of bed/bank substrate (including woody debris), meander, diversity of width/depth, floodplain connectivity and diversity of bank shape suitable for aquatic and riparian fauna needs	The streams vary from poor to good. Bank erosion and collapse and lack of riparian planting contributed to the poorer stream conditions. Streams are generally modified and are disconnected from the floodplain except in higher flood flows	Streams are in fair condition. There is no degradation of streams. New developments but ensure that they are improving the stream health through their development	Streams are in Good to Excellent health

1.2	Minimize stream modification and loss of natural streams (including springs and seeps)	Streams have been piped and modified such as Mount Heslington Stream		
1.3	Maintain and restore fish passage at man-made instream structures	There are fish barriers in the streams such large drops in Mount Heslington and Eight-eight Valley stream Tributary	Fish barriers are being removed	All Fish barriers have been removed
1.4	Provide for public access, amenity and connectivity along our urban stream network, creating green linkages connecting our hill country to the sea	Most streams are not accessible to the public and are on private property	New development provides green reserves and access to streams; some old areas have had access negotiated with landowners	New development provides green reserves and access to streams; a significant number of accesses have been arranged to previously private stream banks.
1.5	Protect and restore specific areas of cultural and community significance within the stream corridors	There are reserve areas such as Faulkners Bush (within the Wakefield UDA) and Snowdens Bush (adjacent to Brightwater UDA) which are fed by and rely on groundwater and overland flows as their water source	TDC works with community groups to understand the importance of these areas and works with them to understand any stormwater issues	The community and cultural values of these areas are understood and protected

Improvement actions

Table 6: Freshwater improvement action tracking

Item	Name	Aspirations benefitted	Role in Achieving aspiration
S.1	Support riparian planting	1.1	Encourage more riparian planting and protection of the existing riparian buffer. Improves the stream health by reducing bank collapse and increase shading
S.2	Enhance through development	1.1, 1.2 and 1.4	Ensure that developments enhance waterways and streams by improving health and providing reserves and public access Reduces modification, improves the health of the stream and provide connectivity to waterways
S.3	Negotiate for public access to stream banks.	1.4	Negotiate for public access to stream banks to provide connectivity to waterways
S.4	Remove fish barriers	1.3	Maintaining existing solutions and progressively removing more fish barriers will directly address issue
S.5	Cultural area enhancement	1.5	Work with the community to seek their views and implement measures to improve the cultural areas related to the stream network. This will directly address this issue

Water quality and contamination

Key issues

Stormwater runoff collects pollutants from surfaces like roads, parking lots, industrial areas, and certain building materials. When discharged, this contaminated stormwater affects the health of our streams, estuaries, and coastal inlets.

Brightwater and Wakefield have commercial and industrial zones, according to the TRMP. Activities like automobile maintenance, oil or chemical handling, and timber-related practices increase the risk of contamination if proper guidelines are not followed.

Te Rūnanga o Toa Rangatira views the quality of stormwater not only as an environmental concern but as an issue of cultural wellbeing. When contaminants enter our rivers and streams, they diminish the mauri of the wai, harm taonga species, and restrict our ability to access and use traditional food sources. Stormwater must be carefully managed. Similarly with discharges to land and air, all contaminants have adverse effects on the mauri of Te Taiao. The cumulative effects of all discharges require consistent monitoring and management to prevent irreversible degradation.⁸

Currently, there is limited treatment of stormwater runoff from areas with high contamination in the district, and there are no TDC maintained treatment devices in Brightwater and Wakefield. Compared to other regions in New Zealand, the adoption of stormwater treatment and water-sensitive designs in new subdivisions is low. The NTLDM 2020 (5.4.8) outlines when stormwater treatment is needed, but it often excludes residential development from these requirements.

⁸ Te Rūnanga o Toa Rangatira feedback regarding the Brightwater and Wakefield Catchment Management Plan 22 July 25

Aspirations and targets

TDC: Stormwater discharges do not degrade the water quality and ecosystem health of our streams and estuaries.

Ngati Kuia: *Maintaining and improving the mauri of Wai Māori (freshwater)*⁹.

The table below summarizes how we are tracking against our water quality aspirations and proposed 10yr and 30yr targets.

Table 7: Water quality aspirations progress tracking

No.	Objective	Current	10yr Target	30yr Target
2.1	Avoid contamination of stormwater through source control	Awareness and management are low	Water Quality is monitored on a regular basis	Private landowners are aware of contamination risk and manage their site appropriately
2.2	Treat stormwater runoff from (re)developments, where avoidance is not possible, in accordance with requirements of the NTLDM	There are no TDC owned treatment devices. Treatment from Residential development is excluded from the NTDLM	Stormwater treatment is being implemented in new development	All new developments have stormwater treatment
2.3	Retrofit stormwater treatment to existing discharges, focusing on high-risk areas such as busy roads, intersections and large carparks	There are no TDC owned treatment devices	Retrofit policies and guidelines are in place TDC owned carparks have stormwater treatment	Major roads (state highways) have stormwater treatment. Treatment devices are well maintained and working
2.4	Implement a targeted approach to stormwater management and treatment of runoff from industrial, commercial, and residential areas aimed at identified contamination risks related to specific activities	TDC holds limited information about the type of activities that take place within the UDAs and there is no education program for the area in place	The location of high-risk sites is known, and awareness of stormwater quality is increasing	High risk sites are visited regularly to check compliance

⁹ Taiao_Ngati Kuia response to Brightwater Wakefield CMP 1 May 2025

Improvement actions

The table below outlines the proposed improvement actions for Brightwater and Wakefield.

Table 8: Water quality improvement action tracking

Item	Name	Aspirations benefitted	Role in achieving aspiration
Q.1	New stormwater treatment	2.1,2.2	All new greenfield residential developments must have stormwater treatment
Q.2	Retrofit stormwater treatment	2.3	Install stormwater treatment devices at car parks when they are next re-developed
Q.3	NZTA retrofit stormwater treatment	2.3	Encourage NZTA to install stormwater treatment devices along the state highway
Q.4	Business Register	2.4	Develop a register of businesses whose activities are high-risk of producing contamination to focus monitoring attention.

Flooding

Key issues

Flooding is a natural occurrence and often occurs near streams, places where water naturally flows across land (overland flow paths) and in lower-lying areas. The flood risk in urban areas may increase due to several factors including:

- More and faster runoff from surfaces that do not absorb water (impervious surfaces)
- Natural streams get piped, which decreases their ability to handle and store water flow
- The piped networks may not handle the amount of water from heavy events
- Water flow across land gets blocked by fences, buildings and other structures
- Development in low lying areas that are prone to flooding
- Climate changes which cause heavier rainfall

Flooding issues in southwest Brightwater are interrelated. The main issue is the relatively flat topography of the valley floor which is primarily a flood plain for the Wairoa River and is naturally graded towards the urban areas of southwest Brightwater, which combined with insufficient drainage capacity leads to widespread overland flow and flooding.

Notable flooding issues in Wakefield are generally related to outbreaks from Eighty-Eight Valley Stream and the Wai-iti River, though there has been localized ponding observed on residential properties during prolonged rainfall event. The Pitfure Stream also backs up towards the corner of Pitfure and Whitby Roads (SH6) in larger events. Additionally, the existing pipe network has limited capacity, which results in roadside flooding during intense rain events.

Flooding impacts on cultural values

We recommend that knowledge from te Tauihu iwi be included when assessing flood-prone areas. Historical knowledge of natural flow patterns, wetlands, and catchment boundaries can inform more holistic flood management strategies and avoid repeating the mistakes of past land-use changes. Also, not all flooding is negative. Tuna normally use flooding or heavy rain to help assist when they start migrating from the upper parts of the awa to the moana.¹⁰

¹⁰ Te Rūnanga o Toa Rangatira feedback regarding the Brightwater and Wakefield Catchment Management Plan 22 July 25

Table 9: Recent flooding observations summary

Location	Description	Observations of flooding
Mount Heslington Stream	Mount Heslington Stream travels through Brightwater’ urban drainage area. This overland flow has been constrained with development and spills into adjacent properties.	TDC has received reports of flooding from properties adjacent to Mount Heslington stream including the primary school and properties downstream of the Ellis Street Culvert. This flooding is a result of natural overland flows being blocked and piped as well as undersized infrastructure.
Rintoul Place	Stormwater travels upstream through NZTA culverts under SH6 -Brightwater Deviation and discharges adjacent to a driveway off Rintoul Place cul-de-sac. Overflow flow path follows the road carriageway and water ponds in the road. There is an existing stormwater infrastructure and sumps located in the carriageway. This infrastructure was installed in 1988- 1993 and is 300-450 mm diameter and is undersized to take this flow.	TDC has received reports of the carriageway and properties adjacent to Rintoul Place flooding in events such as August 2022 and June 2003.
Jeffries Creek	<p>Jeffries creek overtops upstream of Lord Rutherford Road South and flows into adjacent properties and depressions.</p> <p>The section of Jeffries Creek upstream of Lord Rutherford Road South was upgraded in 2011 to increase the level of service.</p> <p>The channel is maintained by TDC to ensure that the floodgates function as required.</p>	<p>In 2003 discharge from the stream entered houses, garages and sheds. The culvert under Load Ruthford Road South was blocked with debris.</p> <p>In May 2017 a heavy rain event caused the creek to overtop; with floodwaters running through adjacent properties.</p>
Pitfure Stream	The relatively flat nature of the area. Many depressions through the land act as overflow channels for the Pitfure, resulting in the stream spreading in waters over a broad area. High flows in the Wai-iti River cause the Pitfure stream to “back up” and not drain efficiently. Many properties are affected but TDC has little information on whether any houses flooding.	<p>Many properties may have been affected by surface flooding, but TDC has little information on whether any houses have flooded.</p> <p>June and July 2025 the Pitfure Stream breached at Lord Rutherford Park and caused washout of the access road crossing and flood damage to the TDC hall.</p>

<p>Wakefield</p>	<p>Flows from Eighty-Eight Valley Stream can overflow. The historical railway embankment provides some protection but also restricts the flow.</p> <p>Some properties sit lower than the nearby road, so overland flows can cause ponding since there is no outlet for the water to escape.</p> <p>The existing pipe network has limited capacity, which might result in stormwater overflowing from drainage sumps during heavy rain events.</p>	<p>TDC has received reports of stormwater ponding around the commercial area and properties adjacent to State Highway 6 east of the village. No evidence of residential house floors flooding is currently known by the CMP drafting team.</p> <p>June and July 2025 the watercourse in the Wakefield Recreation Reserve rose and washed out a pedestrian bridge.</p>
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Clarifying flood hazards – **to be updated for final**

After the adoption of the Urban Stormwater Strategy, TDC’s Stormwater asset planners have started considering the hazard framework from the 2024 release of the WaterNZ National Stormwater Modelling Guide¹¹ for classification and communication purposes. This framework shows that fast moving flows as low as 150mm may transport small vehicles that would then present a hazard to anyone or anything hit. Conversely, slow-moving flows up to 0.5m deep are not considered to represent a hazard to people but may flood buildings causing significant financial impact.

In May 2025 the government issued a proposed National Policy Statement for Natural Hazards which introduces a new Likelihood and Consequence matrix that would encourage Councils to match the response to the hazard level even for very low frequency events such as 1-in-5000 ARI year events.¹²

Furthermore, in July 2025 the government published an independent reference group report¹³ that estimated damages to dwellings based on different depths of flooding and suggests the ceasing of government buyouts for natural hazard damages in 20 years.

Collectively these documents present a significantly new framework for consideration of natural hazards that will need to be integrated into the Stormwater Risk Management Plans required by the 2025 Water Services Legislation.

¹¹ [Stormwater Modelling Guide: Water New Zealand](#)

¹² [Attachment 1.8: Proposed provisions – New National Policy Statement for Natural Hazards | Ministry for the Environment](#)

¹³ [A proposed approach for New Zealand's adaptation framework | Ministry for the Environment](#)

Aspirations and Targets

Stormwater flooding does not create hazard to our community or cause damage to properties.

Our aspiration is our long-term goal for the future. We understand that sometimes it may not be practical or affordable, or even possible, to reach them with the timeline that our TDC's Long-Term plan and Infrastructure Strategy sets. So, to keep us on track, we have started setting smaller targets along the way.

The table below summarizes how we are currently tracking against our flood mitigation aspirations and proposed 10yr and 30yr targets.

Table 10: Flooding aspirations progress tracking

Number	Objective	Current	10-year Target	30-year Target
3.1	New and existing properties are serviced by a primary network with capacity to convey flows of at least 10% AEP	Not all properties are serviced by a stormwater network. Most of the network has a level of service lower than this	New properties are serviced by a primary network of with capacity to at least a 10% AEP	New properties are serviced by a primary network of with capacity to at least a 10% AEP and can be adapted to accommodate increases due to climate change
3.2	No habitable floors are expected to flood because of a storm event of 1% AEP or less (as measured through stormwater modelling)	A floor level survey of the area has not been completed by modelling shows properties flooding in a 1% AEP event, though this flooding is generally because of river flooding not stormwater flooding. TDC holds no records of habitable floor flooding	Understanding of the number of habitable floors expected to flood New development is outside of the 1% AEP flood plain	New development is outside of the 1% AEP flood plain and can be adaptive to accommodate climate change
3.3	Flooding is addressed in a prioritised order of 1st – Hazards (minimise safety effects) 2nd – Damage (minimise	There are no projects in the AMP or LTP to address flooding in Wakefield or Brightwater.	We understand where high-hazard flooding could occur and where nuisance flooding does occur. An improvement program has been development	We understand where high-hazard flooding could occur and where nuisance flooding does occur. An improvement program has

	economic effects) 3rd – Nuisance (minimise social effects)			been development
3.4	Overland flow paths are improved and protected to safely convey up to 1% AEP without any flooding of habitable floors	Overland flows and streams such as the Mount Heslington stream break their bank frequently and flood private property	Overland flow paths have been identified, and improvement actions have been scoped	Overland flow paths have been identified, and improvement actions have been scoped
3.5	Climate change effects are accounted for in flood risk assessments	Flood modelling using the latest climate change projects from NIWA	Flood modelling includes the latest climate projections and flood risk assessments for the UDA are completed and communicated to the community	
3.6	New developments are designed in accordance with the NTLDM	New developments are generally designed in accordance with the NTLDM however historically there has been a lack in water sensitive design approaches	Plan and consent requirements are successfully implemented	Plan and consent requirements are successfully implemented
3.7	Understand and manage residual flood risks (above 1% AEP) appropriately	The flood risk is understood through modeling, which is shared with the community mainly through notices on LIMs. Management of flood risk generally falls into river management approaches.	Complete and up-to-date understanding of flood risks	The community is knowledgeable about the flood risks and there are management plans in place

Figure 18: 10% AEP 6H present day modelled maximum depth for Brightwater



Figure 19: 1% AEP 6H present day modelled depth for Brightwater



Figure 20: 1% AEP 2090 RCP 8.5 modelled maximum depth for Brightwater

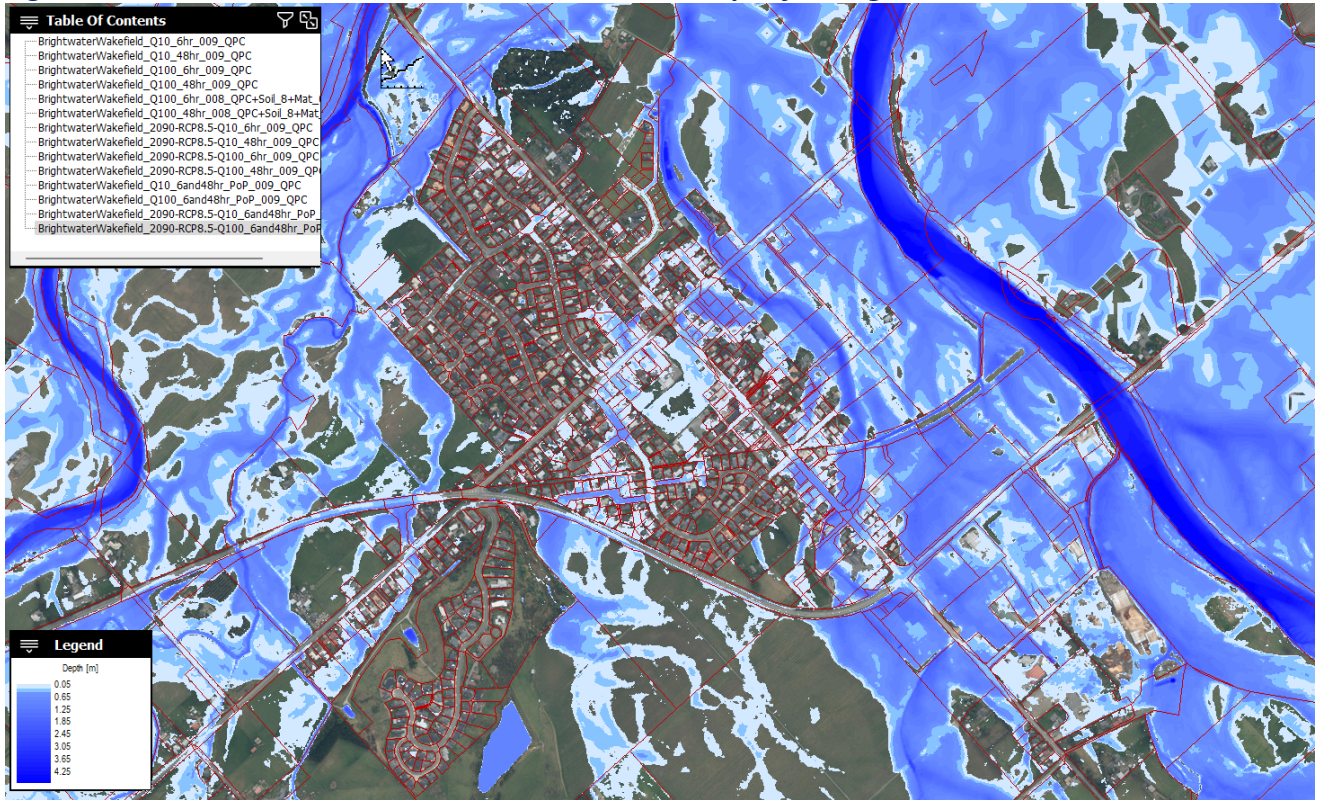


Figure 21: 1% AEP 2090 RCP 8.5 modelled maximum hazard for Brightwater

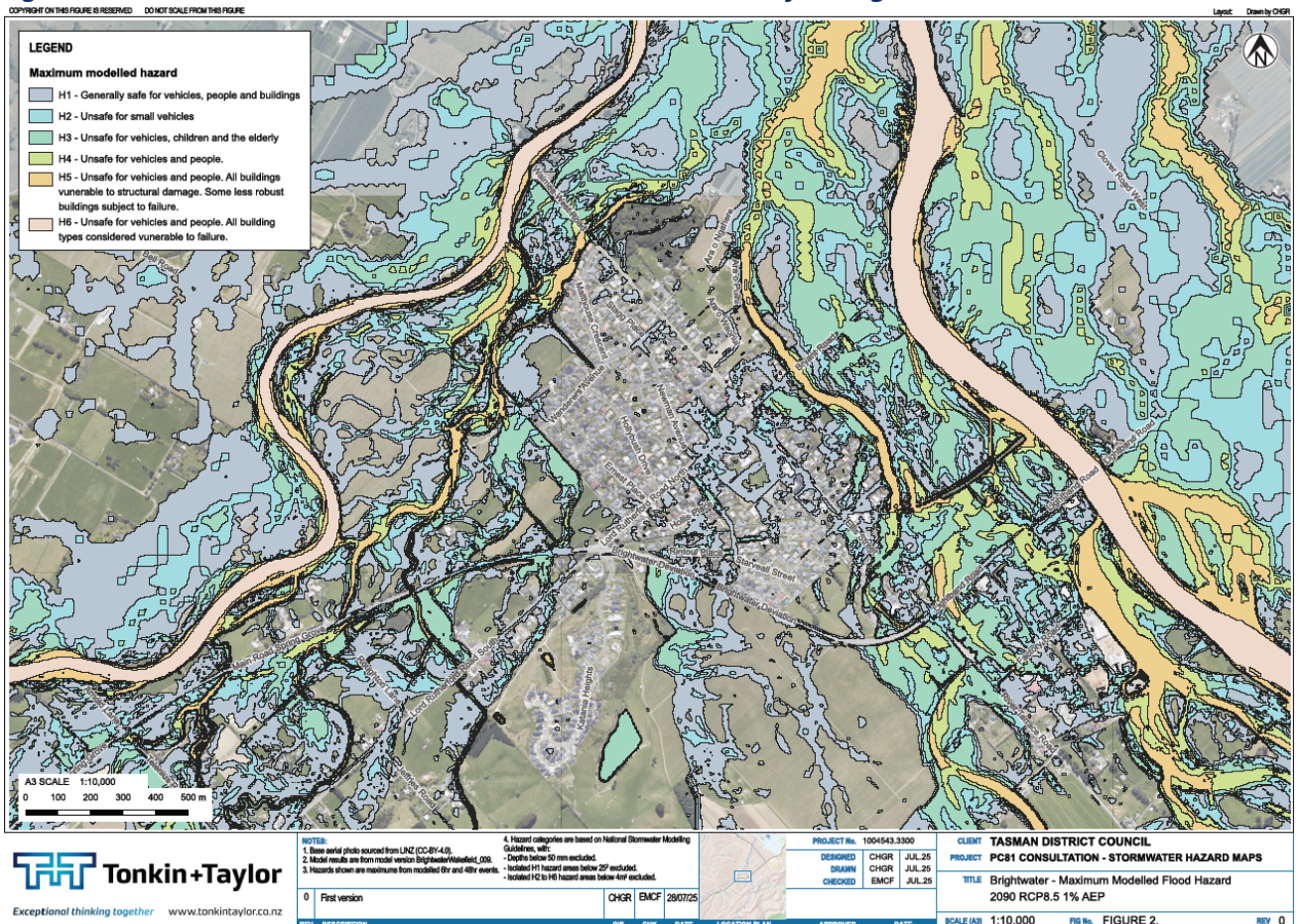


Figure 22: 10% AEP present day modelled maximum depth for Wakefield



Figure 23: 1% AEP present day modelled depth for Wakefield

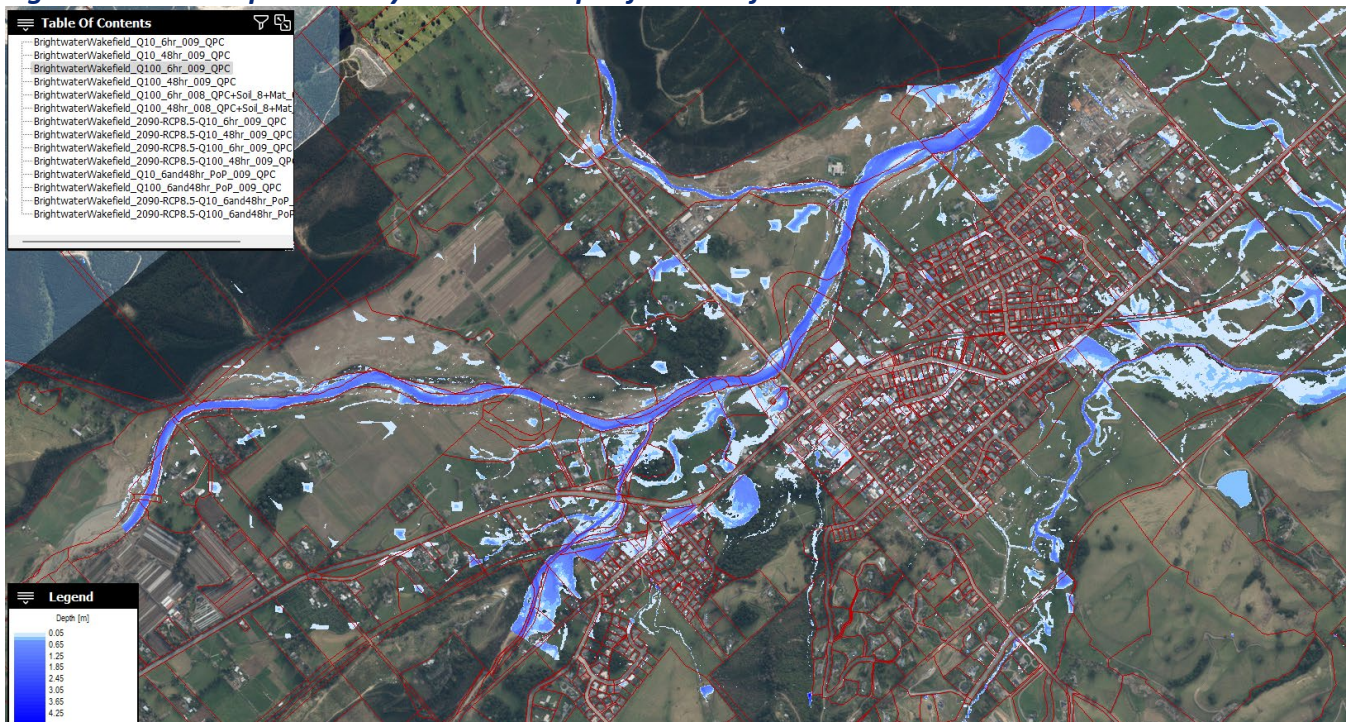


Figure 24: 1% AEP 2090 RCP 8.5 modelled maximum depth for Wakefield

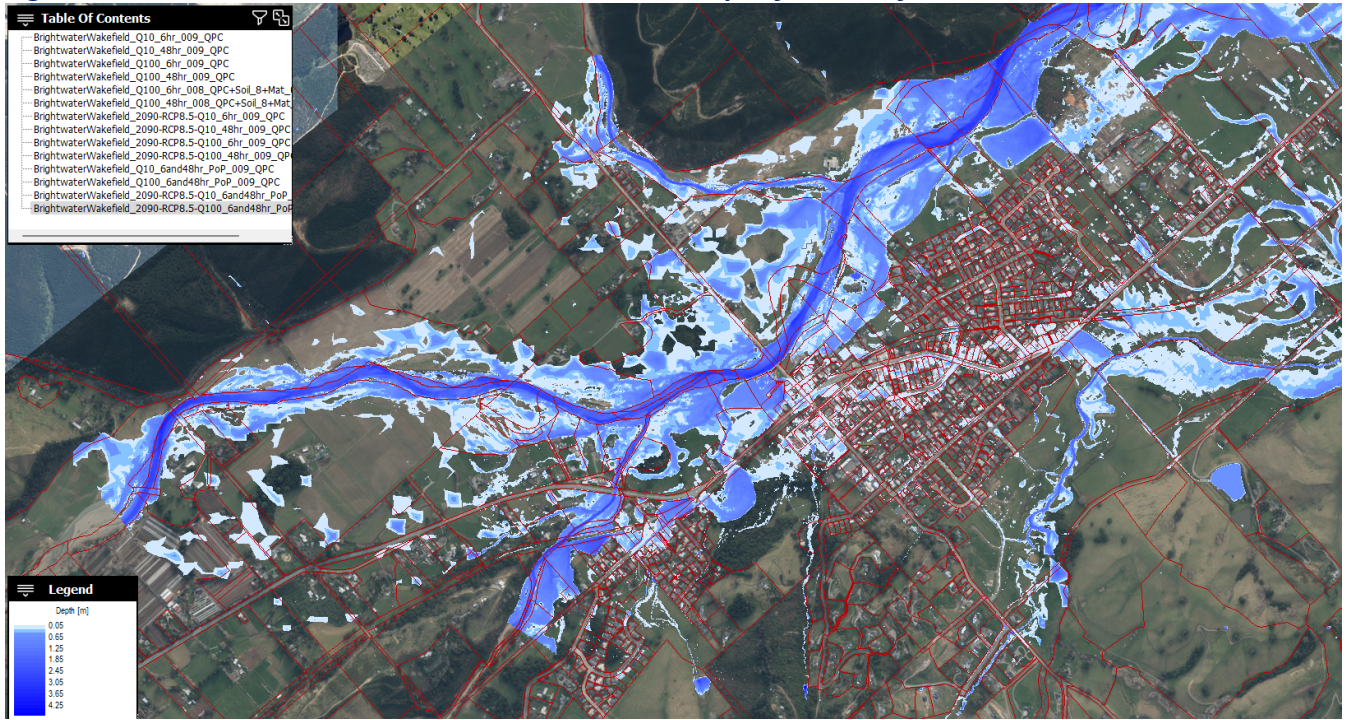
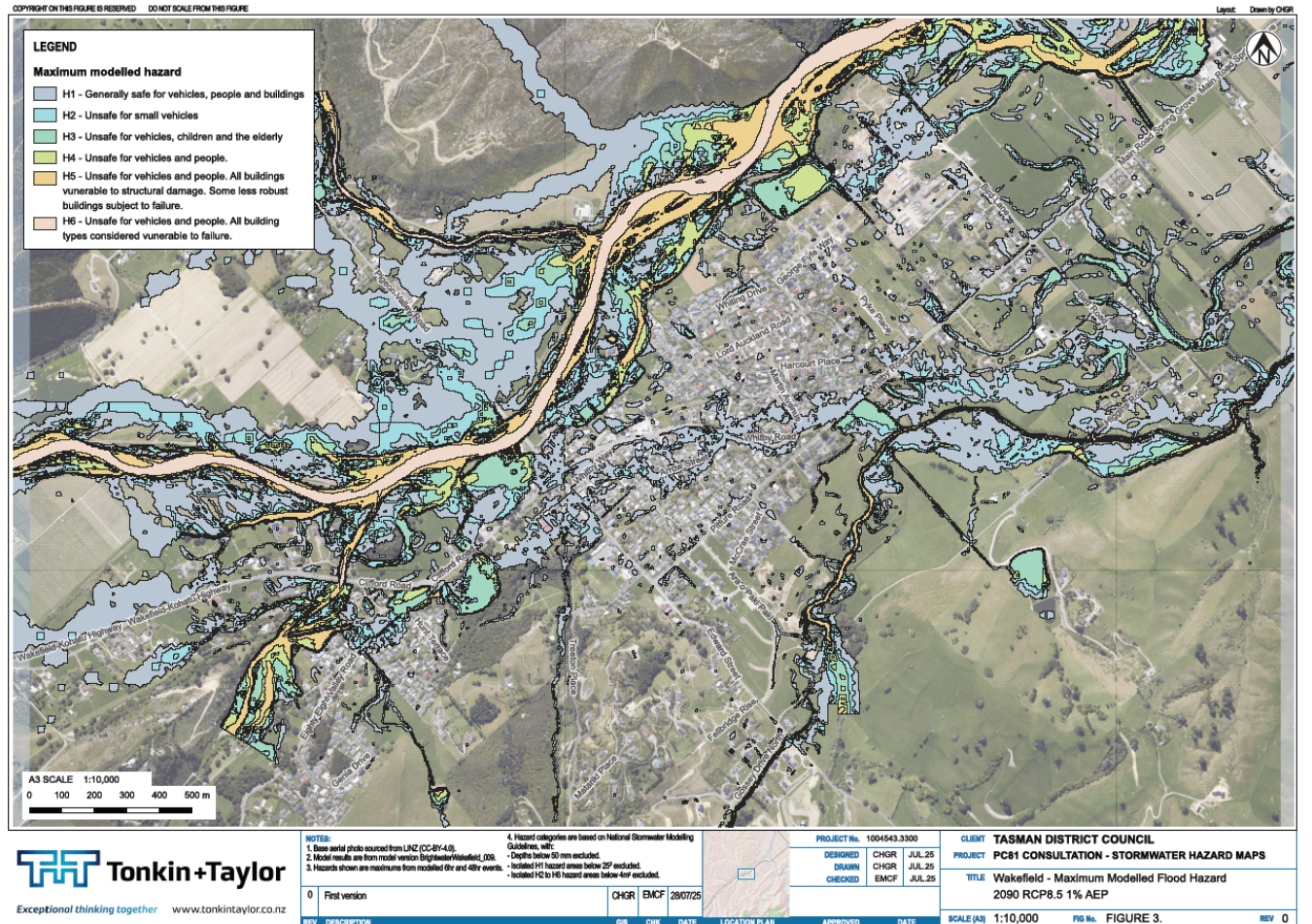


Figure 25: 1% AEP 2090 RCP 8.5 modelled maximum hazard for Wakefield



Improvement actions

TDC's Urban Stormwater Strategy 2019 sets out a prioritised order of how flooding should be addressed in the District. The prioritised order is as follows:

1. Hazard (minimise safety effects)
2. Damage (minimise economic effects)
3. Nuisance (minimise social effects)

There are a range of flood mitigation options, however they generally address different types of flooding and have varying degrees of feasibility. A summary of this is shown in the table below.

Type of flood mitigation	Type of flooding addressed			Feasibility			
	< 10% AEP Flood	< 1% AEP Flood	Hazard/ Damage/ Nuisance	Practicality of implementation *	Cost effective**	Future proof ***	Recommended approach
Increase pipe capacity	✓		May reduce some damage to property, but primarily reduces nuisance flooding	Medium	No	No	No
Open channel conveyance	✓	✓	Can reduce hazards, damage, and nuisance flooding	-High in greenfield -Low in existing built-up areas	-Yes, for greenfield - No for existing built-up areas	Yes	Yes (greenfield)
Pumping	✓	✓	Can reduce hazards, damage, and nuisance flooding	Low	Low	No	No
Combined options	✓	✓	Can reduce hazards, damage, and nuisance flooding	Low	Low	No	No
Soakage	✓		Typically, only aimed at reducing nuisance flooding but has potential to be scaled up in some areas	High	High	Yes	Yes
Sump upgrades	✓		May reduce some damage to property, but primarily reduces nuisance flooding	High	High	No	Yes
Overland flow management	✓	✓	Can reduce hazards, damage, and nuisance flooding	High	High	Yes	Yes
Site specific interventions	✓		May reduce some damage to property, but primarily reduces nuisance flooding	Case by case assessment	Case by case assessment	Case by case assessment	Case by case assessment

* Practicality of implementation is based on the technical complexity of construction, level of social and economic disruption and ability to receive resource consent

** Cost effectiveness is measured based on a cost per property (construction cost) for which flooding is resolved as well as an estimated of ongoing maintenance costs.

*** future proof is measured based on how resilient the solution is to climate change, timeframe during which the intervention would remain effective as well required ongoing maintenance and risk of failure.

Over the years staff at TDC have considered a long list of potential projects to reduce the frequency of flooding and flood depths including:

Brightwater flooding improvement options

- Diverting Mount Heslington Stream to the Wairoa River
- Stormwater detention in the Mount Heslington Stream catchment
- Daylighting Mount Heslington Stream downstream of the primary school
- Upgrading Mount Heslington Stream upstream of Ellis Street
- Upgrading the Ellis Street culvert
- Upsizing the piped network
- Reversion of low flow through Lord Rutherford Park and Snowdens Bush to remediate dieback and including bunding of Pitfure Stream to keep high flows in current channel.

Wakefield flooding improvement options

- Bunding in Faulkner Bush Scenic Reserve and Wakefield Recreation Reserve to minimize impacts of spill from Eighty-Eight Valley Stream
- Additional catchpits and stormwater pipe along Whitby Road
- Additional catchpits and soakage on the corner of Arrow and Whitby
- A new open channel near the corner of Pitfure and Whitby
- Upsizing the piped network

Most of these options will only reduce flood depths in smaller more frequent flooding. Although these smaller more frequent events impact the community, they are unlikely to result in damage or hazards as the stormwater flows are generally shallow and slower moving.

The capacity of stormwater infrastructure in Brightwater and Wakefield is restricted by the flat topography and high downstream water level. Therefore, TDC is limited in what can be achieved and few flooding related stormwater projects for Brightwater or Wakefield have been programmed in the Long-Term Plan 2024-2034 and no new capital works are specifically proposed in this CMP, however minor improvement works will still be implemented under the existing stormwater budgets.

The improvement actions summarized in the table below focus on minor improvements and more bespoke localized solutions that may prove to be cost-effective after assessment through a business case approach.

Table 11: Flooding improvement action tracking

Item	Name	Aspiration benefitted	Role in achieving aspiration
F.1B	Brightwater School	3.2- 3.4	Further investigation of Mount Heslington stream near school to determine willingness of parties to undertake works to reduce <i>frequency</i> of flooding and development of a business case.
F.2	Public awareness	3.4, 3.7	Increase public awareness of flooding locations and publish flood information on public maps so community is better aware of the likely flooding areas and associated hazards.
F.3	Minor stormwater improvements	3.1	Investigate inlet and soakpit pit at corner of Arrow and Martin Streets in Wakefield to reduce ponding in smaller more frequent flood events.
F.4B	Rintoul Ave	3.1	Investigate installing additional catchpit(s) at raised crossing to remove ponded stormwater.
F.5B	Lord Rutherford Park	3.2, 3.3, 3.4, 3.7	Investigate returning low flow to its historical route of passing through Lord Rutherford Park to Snowdens Bush to remediate vegetation die off, with high flow continuing down the current channel including bunding to prevent excessive flows through the park and private property.

F.6W	Wakefield Recreation Reserve	3.2, 3.3, 3.4, 3.7	Investigate bunding of flow in Falkner Bush to prevent flows across playground and into residential areas of Wakefield, including along the south edge of Wakefield recreation reserve to prevent excessive flows through the park and private property.
F.7	Floor Level Surveys	3.2, 3.4, 3.7	Conduct floor level surveys of areas subject to flooding to assist prioritization of remedial works and public awareness.

Development

Key issues

In the past we have often used engineered solutions like drains, pipes, and channels, to replace nature's way of controlling water, like the absorption of water into the ground, the paths it travels, and the streams it forms. But when we create new developments, we have the chance to build communities that are both resilient and respectful to nature. This allows us to view stormwater not only as a challenge we need to solve but as a chance to enhance the way we interact with and protect our environment.

Historically there has been a low uptake of water sensitive design solutions in the region. This is generally due to:

- Rule framework - Typically not enforced in plans or a requirement of the consent
- Design approach - Requires interdisciplinary approach and is often considered too late in the design approach
- Perception of high costs
- Structure planning - Lack of clarity for the whole catchment to provide a comprehensive approach

Aspirations and targets

TDC: We enable water sensitive growth for future generations

Ngati Kuia: Opposing activities that degrade water quality, such as excessive impervious surfaces and inappropriate land disturbance.

Supporting activities that enhance water quality and ecological health, such as riparian planting and responsible stormwater management.¹⁴

The table below summarizes how we are currently tracking against our water sensitive aspirations and proposed 10yr and 30yr targets.

¹⁴ Taiao_Ngati Kuia response to Brightwater Wakefield CMP 1 May 2025

Table 12: Development aspirations progress tracking

Number	Objective	Current	10-year Target	30-year Target
4.1	Utilise and support the implementation of Water Sensitive Design as the guiding design principle for all new developments and redevelopments.	There is a low uptake of water sensitive design in new developments. Changes to consenting approaches are underway to address this.	TDC documents are up-to-date and fit for purpose Plan and consent requirements successfully implemented. Some WSD principles are implemented in new development	WSD principles are fully adopted in new development Stormwater and green infrastructure are operated as a single network
4.2	TDC will provide clear guidance through structure planning on catchment-specific stormwater requirements in new growth areas	There is no Structure Plan in place for Brightwater or Wakefield. There are, however, recent updates due to Plan Changes and the FDS.	Structure plans for new growth areas are being developed	Structure plans have been developed and are being implemented
4.3	Establish good working relationships with the development community to support the development of rules, requirements and supporting practice notes that are clear and implementable and reduce uncertainty.	The NTLDM and practice notes outline water-sensitive design principles, but these historically have not been enforced or implemented.	TRMP updates enforce adoption of WSD	WSD principles are fully adopted in new development

Improvement actions

To enable our streams the room to move and flood without creating a hazard to the community and damaging properties future development should have suitable setbacks and/or freeboard from rivers and streams.

Additional aims of setbacks are to allow for:

- Walking and cycling paths
- Maintenance access
- Riparian planting

Where the stream has sufficient width (i.e. 3m at mean annual flow) an esplanade reserve will generally be acquired by TDC with new subdivisions. This will often achieve freeboard requirements, but each case needs to be assessed based on sufficient modelling

Above are flood model outputs that should be used as a starting point for any future development. New development should be set back to be outside the modelled 1% AEP with RCP8.5 climate change flood extent (excluding freeboard).

The table below outlines the proposed improvement actions for Brightwater and Wakefield.

Table 13: Development improvement action tracking

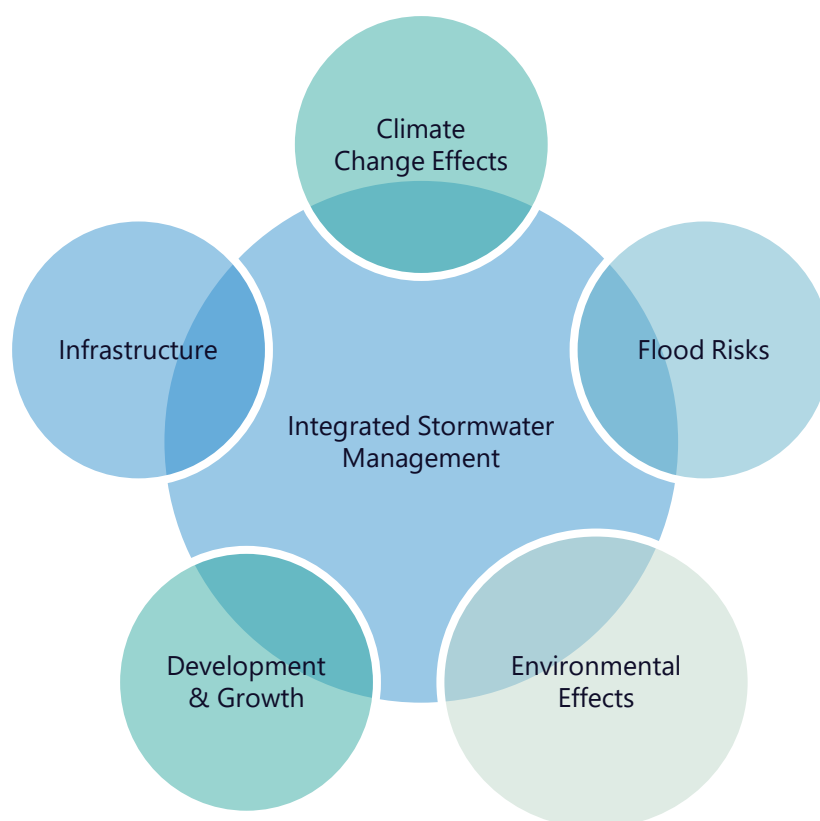
Number	Name	Role in Achieving aspiration
D.1.	Encourage stream setbacks in structure plan changes	Aspiration 4.2
D.2.	Comply with the LDM requirements for water sensitive design	Aspiration 4.1 and 4.3
D.3	Build connections with the development community to support the improved implementation of the CMP aspirations.	Aspiration 4.3

Integration

Key issues

Problems with stormwater are often connected and generally cannot be solved in isolation. That is why we need to consider the whole catchments need and work together. We should bring stormwater management into every part of what TDC does, from planning our region’s growth to improving roads.

When we team up across different TDC departments and our ngā iwi partners, we can work more efficiently, make things run smoother and find new ways to improve that we might have missed if we were focusing on just one thing at a time.



Climate changes impacts on cultural values

Climate change affects cultural values, taonga species, or customary practices such as mahinga kai. Climate change has direct and cumulative impacts on the cultural, environmental, and spiritual wellbeing of our people. More frequent flooding, warmer temperatures, and changing stream flows affect the health of taonga species, customary access to freshwater bodies, and the mauri of our waterways.¹⁵

¹⁵ Te Rūnanga o Toa Rangatira feedback regarding the Brightwater and Wakefield Catchment Management Plan 22 July 25

Aspirations and targets

TDC: We manage stormwater in a holistic, efficient and cost-effective manner

Ngati Kuia: *Maintaining and improving the mauri of Wai Māori (freshwater).*

Ensuring cultural values such as kaitiakitanga, manaakitanga, and whanaungatanga are upheld.¹⁶

The table below summarizes how we are currently tracking against our aspirations and proposed 10yr and 30yr targets.

Table 14: Integration aspirations progress tracking

Number	Objective	Current	10-year Target	30-year Target
5.1	We partner with Tāngata Whenua Iwi and collaborate with internal and external stakeholders to achieve better stormwater outcomes	Te Taiuhu Iwi are involved in our planning and projects	Strengthened collaboration	Strong partnership
5.2	We manage stormwater so that it addresses the needs of multiple values in a balanced and practical manner throughout the entire life of the asset (design, operation, decommissioning)	Ad-hoc and partial achievement	The CMP has been developed and reviewed as per the consent requirements Relevant matters are picked up into the AMP process	Ongoing
5.3	We co-ordinate with river management planning to ensure optimum outcomes for both river and urban stormwater	Ad-hoc and partial co-ordination	Service Level Agreement (SLA) between TDC Rivers Team and Stormwater Water Service provider (WSP)	Strong partnership based on effective SLA

¹⁶ Taiao_Ngati Kuia response to Brightwater Wakefield CMP 1 May 2025

Improvement actions

The table below outlines the proposed improvement actions for Brightwater and Wakefield.

Table 15: Integration improvement action tracking

Number	Name	Role in Achieving aspiration
I.1	Continue to work with Tāngata Whenua, collaborate with stakeholders and engage with the community	Continues to work towards Aspiration 5.1
I.2	Look for stormwater improvement opportunities in other TDC projects I.e. Waimea Water and Wastewater Strategy	Works towards achieving Aspiration 5.2
I.3	Establish first SLA between Rivers Team and Stormwater WSP	Minimum groundwork for achieving Aspiration 5.3

Summary

This table summarises the key current and proposed improvement actions that support achievement of the aspirations.

Table 16: Summary of actions towards achieving aspirations

Area	Aspiration	Improvement or existing action
1) Our urban streams, aquatic habitats and coastal environment are healthy and accessible.	1.1 Enhance habitat diversity and stream health, including riparian and wetland vegetation, diversity of bed/bank substrate (including woody debris), meander, diversity of width/depth, floodplain connectivity and diversity of bank shape suitable for aquatic and riparian fauna needs	S.1 Encourage more riparian planting and protection of the existing riparian buffer
	1.2 Minimise stream modification and loss of natural streams (including springs and seeps).	S.2 Ensure that developments enhance waterways and streams by improving the health and providing reserves and public access
	1.4 Provide for public access, amenity and connectivity along our urban stream network, creating green linkages connecting our hill country to the sea	S.3 Negotiate for public access to stream banks to provide connectivity to waterways
	1.3 Maintain and restore fish passage at man-made instream structures.	S.4 Remove fish barriers
2) Stormwater discharges do not degrade the water quality and ecosystem health of our streams and estuaries.	2.1 Avoid contamination of stormwater through source control	Q.1 All new greenfield residential developments must have stormwater treatment
	2.2 Treat stormwater runoff from (re)developments, where avoidance is not possible, in accordance with requirements of the NTLDM.	Q.2 Install stormwater treatment devices at carpark when they are next re-developed
	2.3 Retrofit stormwater treatment to existing discharges, focusing on high risk areas such as busy roads, intersections and large carparks.	Q.3 Encourage NZTA to install stormwater treatment devices along the state highway
	2.4 Implement a targeted approach to stormwater management and treatment of runoff from industrial, commercial, and	Q.4 Develop a register of businesses whose activities are high-risk to contamination.

	residential areas aimed at identified contamination risks related to specific activities.	
3) Stormwater flooding does not create hazard to our community or cause damage to properties	3.1 New and existing properties are serviced by a primary network with capacity to convey flows of at least 10% AEP	F.1 Further investigation of Mount Heslington stream near school to determine willingness of parties to undertake works to reduce <i>frequency</i> of flooding and development of a business case F.3 Investigate soakpit at Arrow Street (Wakefield) Investigate minor works on Martin Street and corner of Pitfure to reduce ponding in smaller more frequent flood events and the start of larger events. F.4 Rintoul Place Investigate installing additional catchpit(s) at raised crossing to remove ponded stormwater. F.5 Investigate bunding of the Pitfure Stream on the true right as it passes through Lord Rutherford Park F.6 Bunding in Faulkner Bush Scenic Reserve and Wakefield Recreation Reserve to minimize spill impacts from of Eighty-Eight Valley Stream.
	3.2 No habitable floors are expected to flood because of a storm event of 1% AEP or less (as measured through stormwater modelling	F.2, F.4, F.7 Investigate areas where floor level surveys would be justified
	3.3 Flooding is addressed in a prioritised order of 1st – Hazards (minimise safety effects) 2nd – Damage (minimise economic effects)	F.2, F.4, F.7 Floor level surveys within flood prone areas to understand the

	3rd – Nuisance (minimise social effects)	risk of habitable floor flooding
	3.4 Overland flow paths are improved and protected to safely convey up to 1% AEP without any flooding of habitable floors	
	3.5 Climate change effects are accounted for in flood risk assessments	F.2 Keep flood hazard maps up to date with latest climate change projects and ensure these are available to the public
	3.6 New developments are designed in accordance with the NTLDM	Already standard practice
	3.7 Understand and manage residual flood risks (above 1% AEP) appropriately	Installation of flow monitoring at Mount Heslington stream to better understand relationship between rainfall and groundwater levels. Increase public awareness of flooding locations and publish flood information on public maps so community is better aware of the flood hazards
4) We enable water sensitive growth for future generations	4.2 TDC will provide clear guidance through structure planning on catchment specific stormwater requirements in new growth areas	D.1 Provide setback and freeboard recommendations in the CMP for growth areas Standard practice for planners to include setbacks in plan change.
	4.1 Utilise and support the implementation of Water Sensitive Design as the guiding design principle for all new developments and redevelopments.	D.2 Comply with the LDM requirements for water sensitive design. A specific requirement to implement WSD is proposed to be incorporated into Plan Change 81
	4.3 Establish good working relationships with the development community to support the development of rules, requirements and practice notes that are clear and implementable and reduce uncertainty.	D.3 Build connections with the development community to support the

		improved implementation of the CMP aspirations.
5) We manage stormwater in a holistic, efficient, and cost-effective manner	5.1 We partner with Tāngata Whenua Iwi and collaborate with internal and external stakeholders to achieve better stormwater outcomes	I.1 Continue to work with Tāngata Whenua, collaborate with stakeholders, and engage with the community S.5 Work with the community to seek their views and implement measures to improve the cultural areas related to the stream network
	5.2 We manage stormwater so that it addresses the needs of multiple values in a balanced and practical manner throughout the entire life of the asset (design, operation, decommissioning)	I.2 Look for stormwater improvement opportunities in other TDC projects (e.g. in the Waimea Water and Wastewater Strategy)
	5.3 We co-ordinate with river management planning to ensure optimum outcomes for both river and urban stormwater	I.3 Establish first SLA between Rivers Team and Stormwater WSP