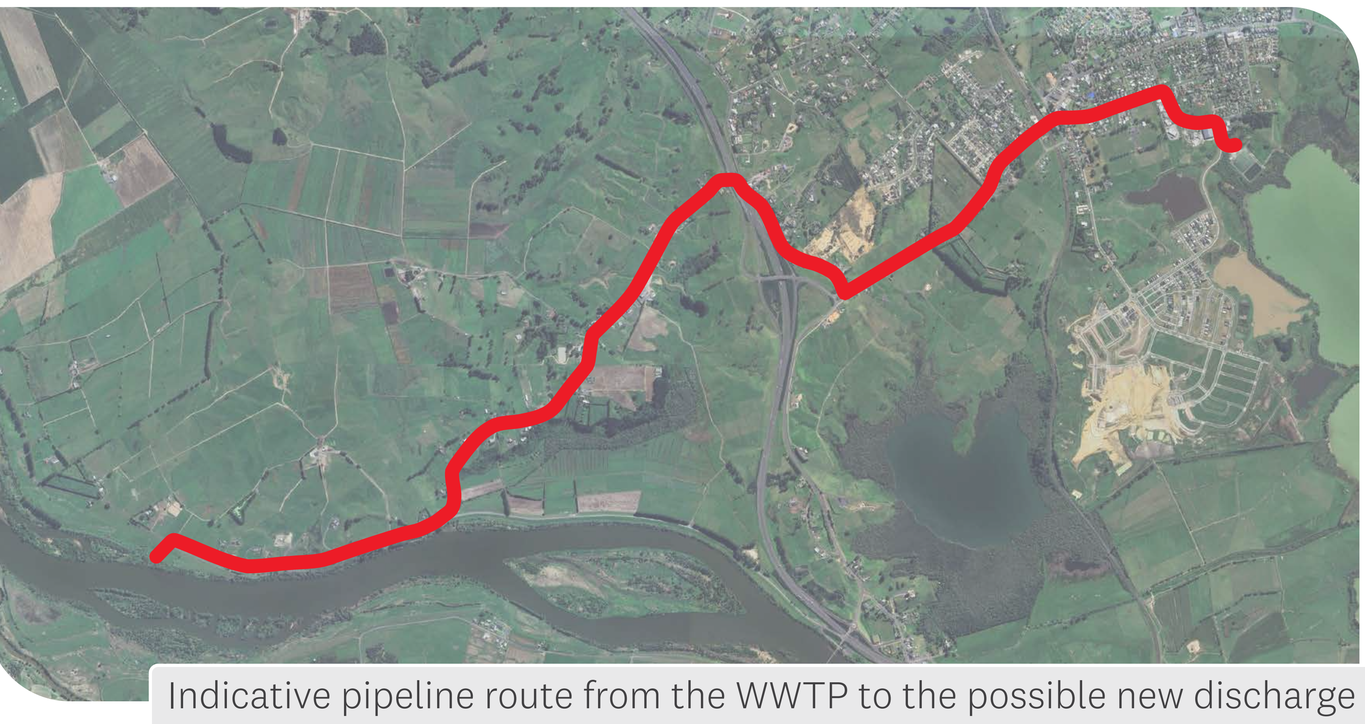
Option 1
Waikato River Discharge

Waikato River Water Hub

The Waikato River Discharge builds off the Water Hub Concept from the long list phase and features the installation of a pipeline from the recently upgraded wastewater treatment plant (WWTP) to a designated Water Hub before discharging to the Waikato River.

The Water Hub provides an opportunity for planting adjacent to the river for landscape and ecological enhancements.

Example of the existing land subject to the Water Hub and enhancement planting



Indicative pipeline route from the WWTP to the possible new discharge location. This would be consulted on before proceeding any further

Option Rating

💧💧💧💧	Environment:
💧💧💧💧	Social/Community:
💧💧💧	Time Frame:
💧💧💧	Physical/ Constructability:
$$$$$	Cost

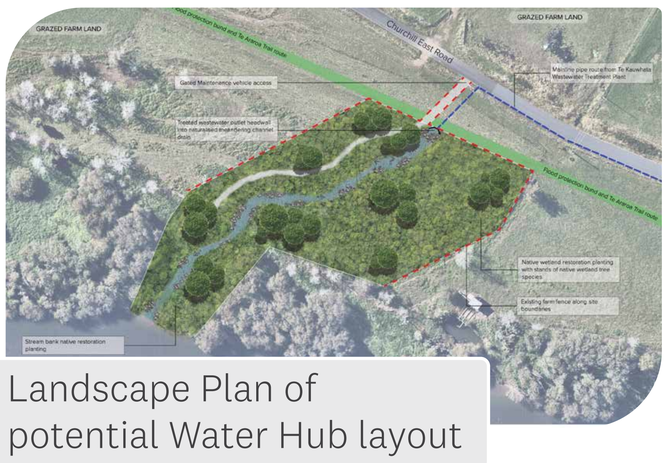
What are the benefits?

- Planting enhancements adjacent to the Waikato River
- Recreational amenity opportunity
- Removes discharge from the lake

What are the limitations?

- Adds a point source discharge to the river (may not align with policy or partner aspiration)
- Requires construction of a considerable length of pipeline
- Expensive compared to option 3
- New resource consent required

Artist's impression of the potential Water Hub



Landscape Plan of potential Water Hub layout

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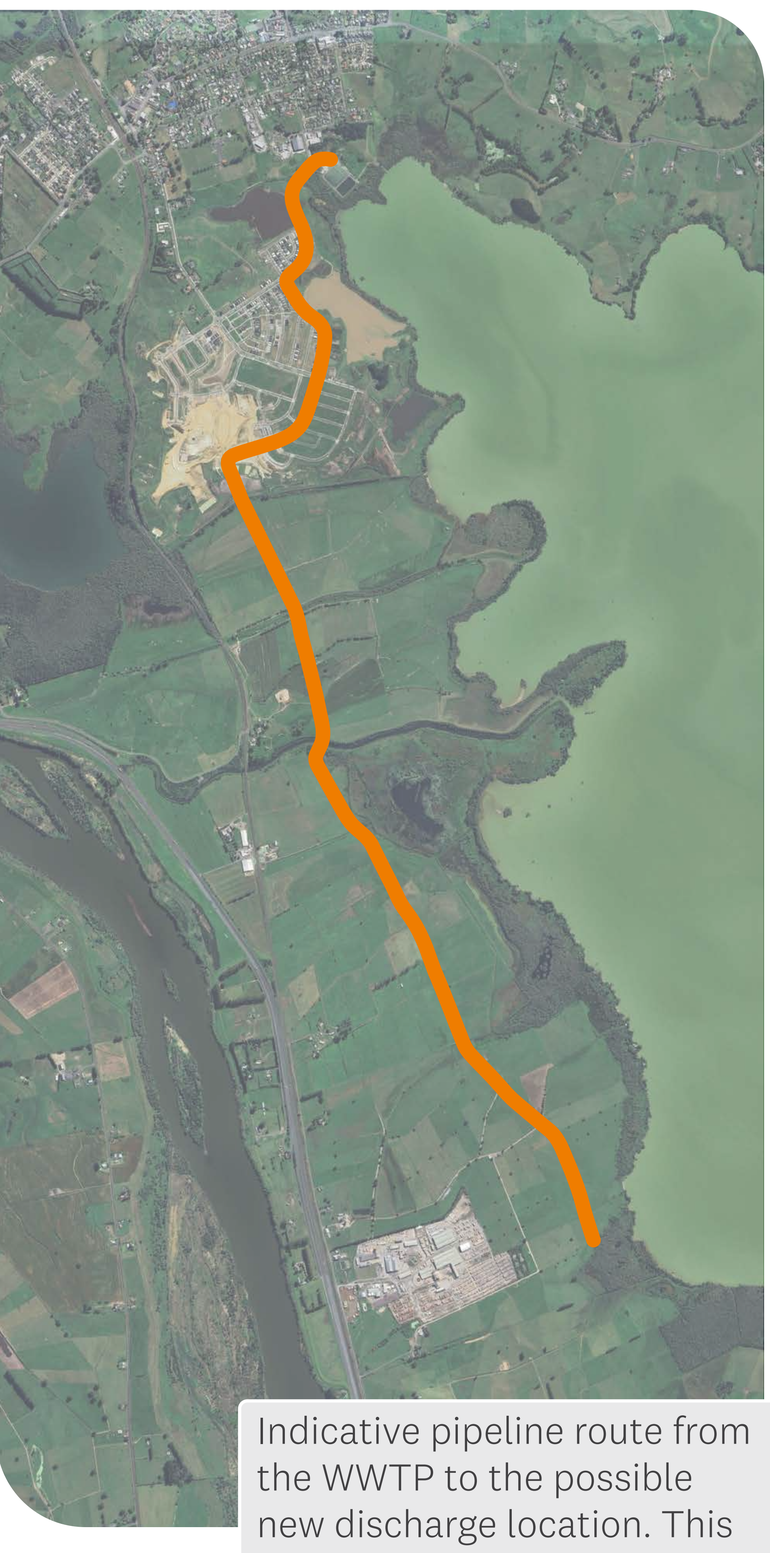
Option 2
Lake Discharge - New site

The Enhanced Lake Discharge - New site

The Enhanced Lake Discharge project includes the installation of a pipeline (see graphic below for pipeline route) from the recently upgraded wastewater treatment plant (WWTP) to a new discharge location at the southwestern side of Lake Waikare.

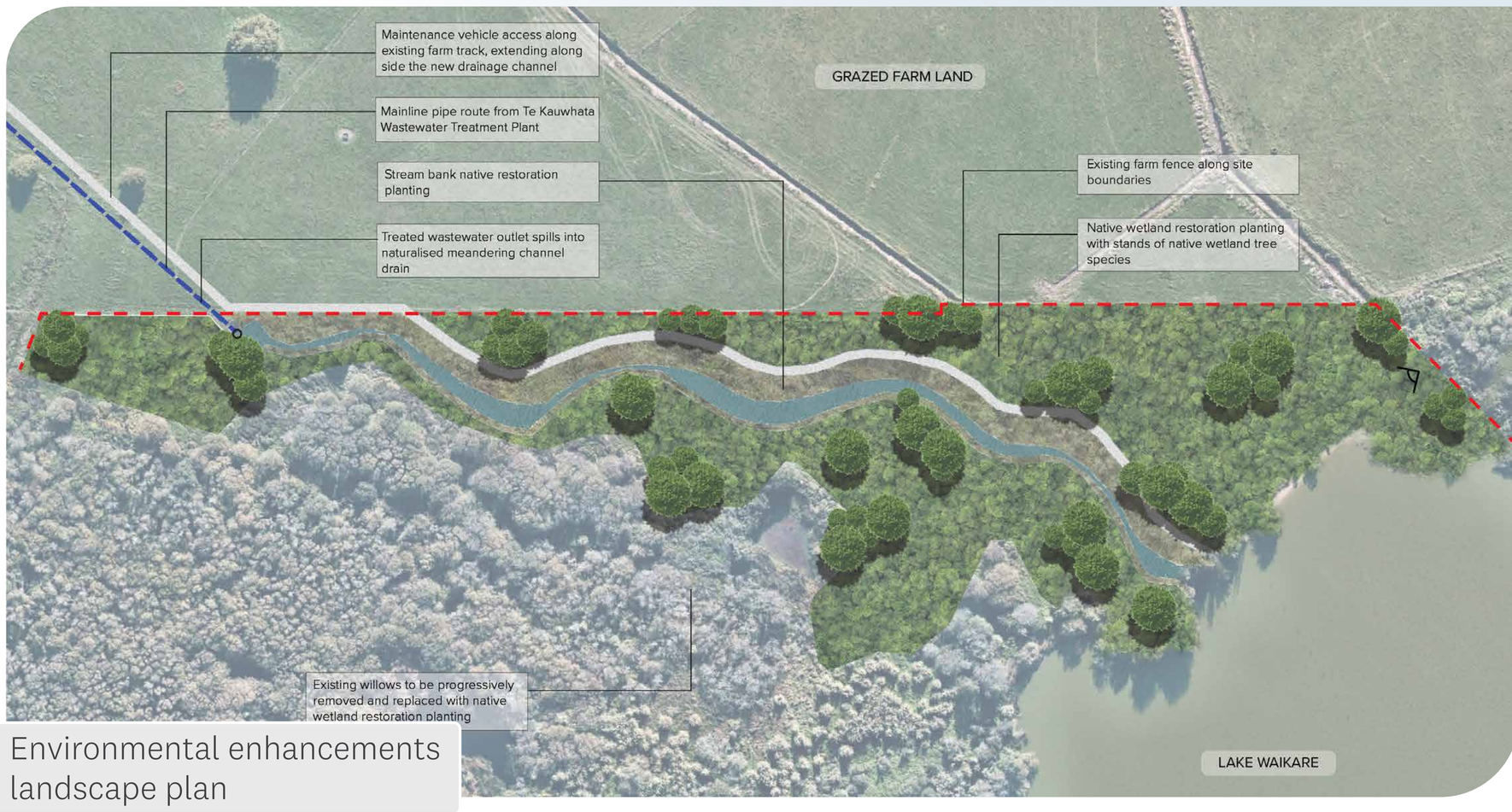
The natural filtration processes of the wetland will provide additional treatment to treated wastewater before it is discharged into Lake Waikare.



Indicative pipeline route from the WWTP to the possible new discharge location. This would be consulted on before proceeding any further.

Land adjacent to possible new discharge site

Land adjacent to possible new discharge site



Environmental enhancements landscape plan

Option Rating

💧💧💧💧	Environment:
💧💧💧💧	Social/Community:
💧💧💧	Time Frame:
💧💧💧	Physical/ Constructability:
$$$$$	Cost

What are the benefits?

- Planting a new native wetland enhances landscape and ecological values of this site
- The new wetland can provide recreational amenity

What are the limitations?

- Doesn't remove discharge from the lake (treated discharge is significantly improved due to WWTP upgrade)
- Careful management required
- Construction of a considerable length of pipeline required
- Comparatively expensive to Option 3

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Option 3

Lake Discharge - The current site

The Enhanced Lake Discharge - current site

The Enhanced Lake Discharge at the current site includes expanding the native wetland adjacent to the existing wastewater treatment plant (WWTP) site to provide landscape and ecological restoration benefits at the lake edge.

Treated wastewater will continue to be conveyed from the recently upgraded WWTP via the channel through the new native wetland into Lake Waikare (see plan bottom right for more proposed planting detail).

Te Kauwhata wastewater discharge environmental enhancements plan

Option Rating

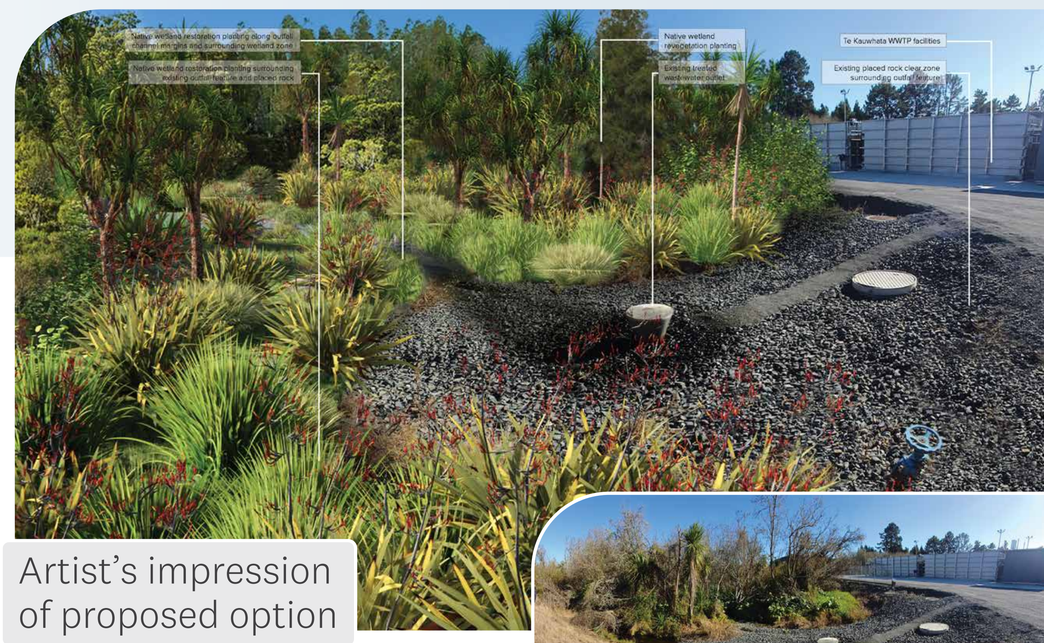
💧💧💧💧	Environment:
💧💧💧💧	Social/Community:
💧💧💧💧	Time Frame:
💧💧💧💧	Physical/ Constructability:
$$$$$	Cost

What are the benefits?

- Expansion of existing wetland enhances landscape and ecological values at this site location
- Easy to implement, comparatively minor physical works compared to other options
- Reasonably priced

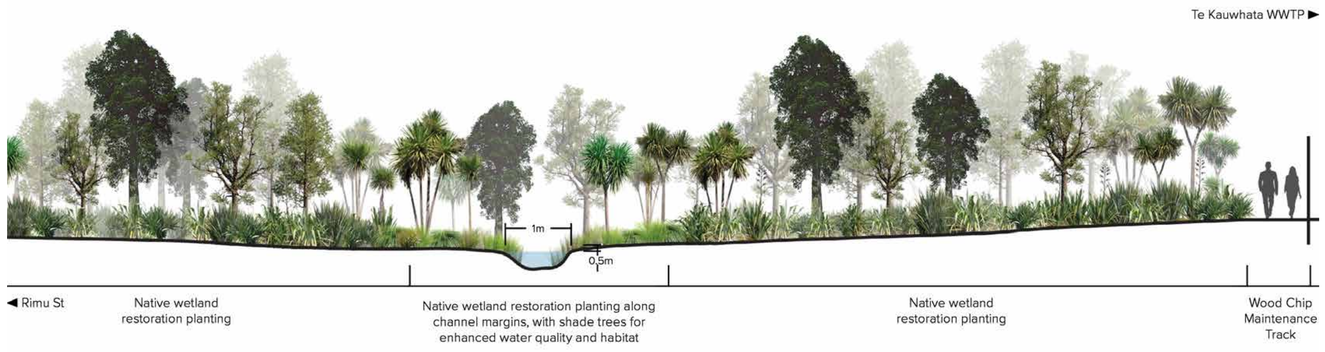
What are the limitations?

- Doesn't remove discharge from the lake (but treated discharge quality is significantly improved due to recent WWTP upgrade)
- Careful management of wetland required



Artist's impression of proposed option

Existing site



Typical cross section of the proposed native wetland

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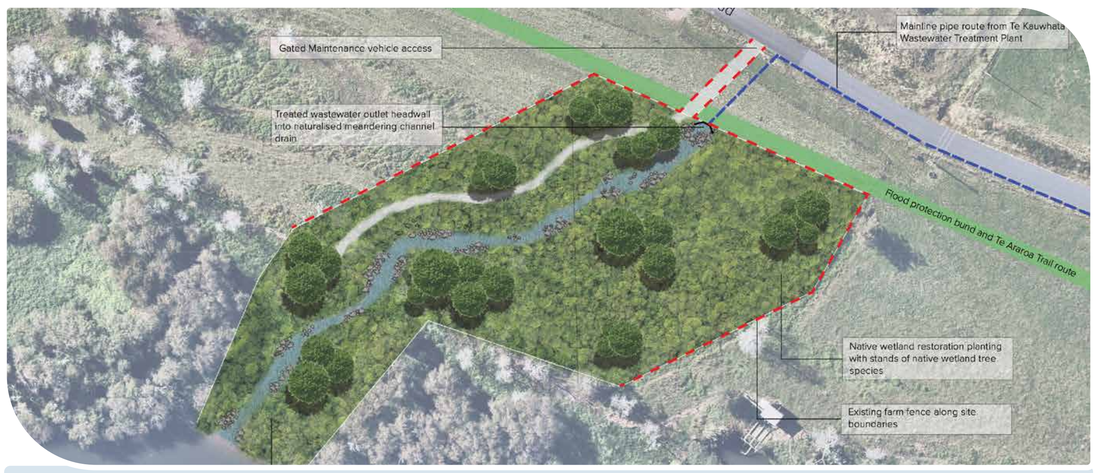
Longlist Options

Water Hub

Indirect discharge to the Waikato River through a constructed naturalised surface water



Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

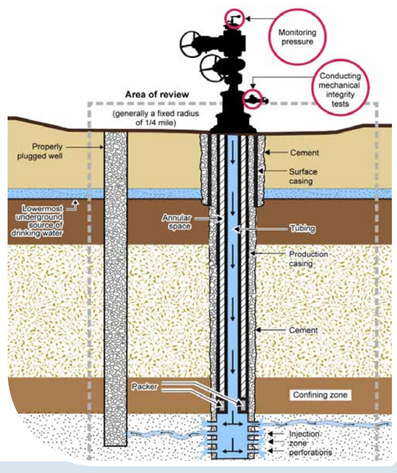
Discharge to Land

Slow rate irrigation discharge to a piece of land

Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

Deep Bore Injection

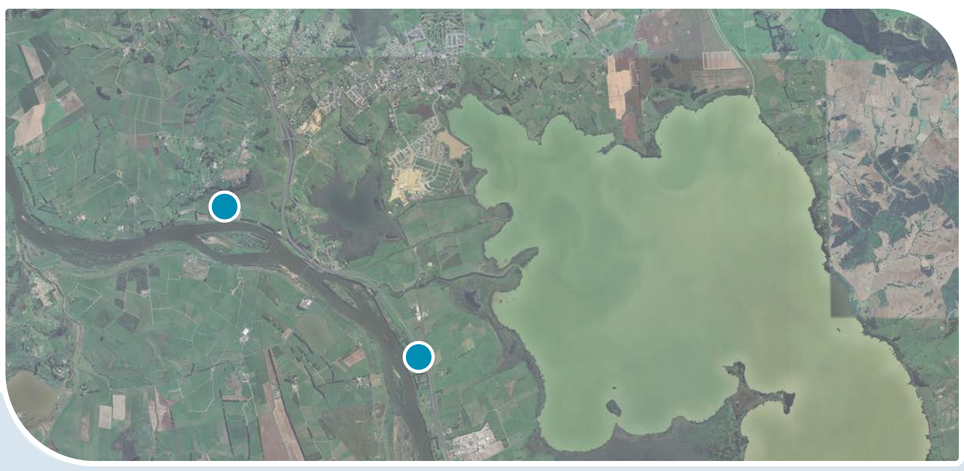
Pumping treated wastewater into the subsurface using bores



Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

Rapid Infiltration to River & Sands

Subsurface discharge of treated wastewater into river sand at a site adjacent to the Waikato River



Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

Discharge to Whangamarino Wetland

Discharge of treated wastewater to a constructed wetland before discharge to the Whangamarino Wetland

Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

Discharge to Lake Waikare

Discharge of treated wastewater to a channel with wetland enhancement planting, before discharge to Lake Waikare

Environment:	Time Frame:
Social/ Community:	Physical/ Constructability:

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Concurrent Optioneering Process Summary

Treatment Process:

The processes to be undertaken for the improvement of treated discharge from the Te Kauwhata WWTP

The improved discharge water quality will have a reduction in nutrient and microbial concentrations

Assessment of flows

Review of the treatment options and value

Decision Making

Implementation

Short List Locations

Discharge method:

Determining the method and location for the improved treated discharge from the Te Kauwhata WWTP

Review of existing and new information

Preliminary consultation

Background Assessment

Conceptual Long List Options

Consultation and Long List Assessment

Short List Assessment ← We are currently here in the process

Consultation and Recommended Option Assessments and Implementation

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