

Beachlands Wastewater Scheme - Short list options

Option 2a: Tributary of the Te Puru Stream - Diffuse discharge
Locality map

Beachlands Wastewater Scheme - Short list options

Option 2a: Tributary of the Te Puru Stream - Diffuse discharge



Option 2a Overland Flow (Diffuse Discharge) to Tributary of Te Puru Stream

Stantec Short List Discharge Options Watercare

Legend

- Indicative Overland Flow and Diffuse Discharge Locations
- Beachlands WWTP Designation Boundary
- Beachlands WWTP Property Boundary
- Wastewater Catchments
- Plan Change 88 Area

Data Sources: NIWA, LINZ NZ, Stantec NZ
Basemap Service Credits: Esri Community Maps Contributors, LINZ, Stats NZ, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS, Swisstopo, HERE, Garmin, Foursquare, FAO, METI/NASA, USGS, Mapbox

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Discharge location

Tributary of Te Puru Stream.

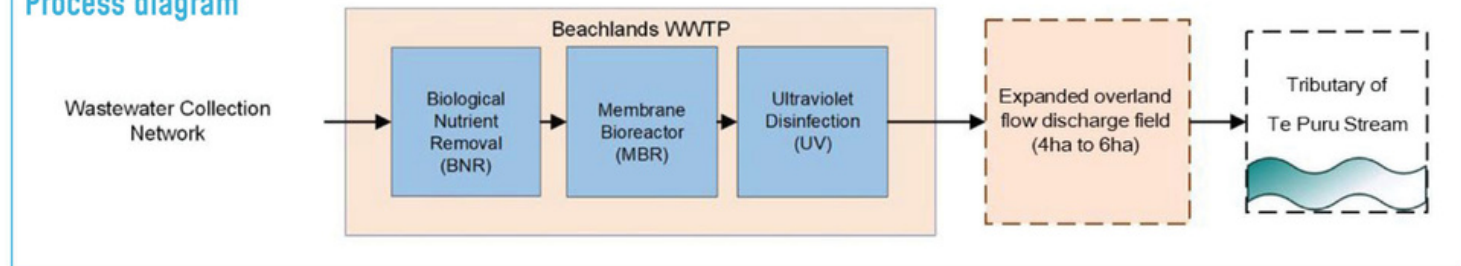
Treatment option

- Biological Nutrient Removal (BNR).
 - Membrane Bioreactor (MBR).
 - Ultraviolet disinfection (UV).
 - Overland flow discharge field
- BNR + MBR + UV disinfection + overland discharge field

Treatment location

Existing Beachlands Wastewater Treatment Plant (WWTP) site.

Process diagram



Typical treated water quality

| | |
|----------------------------------------------|----------------------------------|
| Population Equivalent | 30,000 |
| Average Daily Flow (ADF) m ³ /day | 6,000 |
| Parameter | Median Concentration mg/L |
| Biochemical Oxygen Demand (BOD) | 5.0 |
| Total Suspended Solids (TSS) | 5.0 |
| Total Nitrogen (TN) | 5.0 |
| Total Phosphorus (TP) | 1.0 |
| Faecal Coliforms | <10 cfu/100ml |

Key components

| Item | Description |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conveyance system | Outlet to stream after overland flow via expanded diffuse discharge. |
| Treatment system | Existing Beachlands WWTP site. BNR + MBR + UV disinfection + overland flow discharge field. |
| Discharge system | Outlet to stream via the expanded overland flow land discharge field (4ha to 6ha within the Watercare property) to accommodate increased flows as population grows. |

Indicative costs

| | | | | | |
|----------------|-------------------------|----------------------------------|--------------|----------------------|-------------------------|
| Capital | \$210M to \$300M | Operating and maintenance | \$52M | Whole of life | \$262M to \$352M |
|----------------|-------------------------|----------------------------------|--------------|----------------------|-------------------------|