

When

The timing for the project is driven by the existing resource consent conditions, which require the wastewater discharge to the harbour from Governors Bay to cease in 2018, Diamond Harbour by 2021 and Lyttelton by 2029. Because the Lyttelton wastewater treatment plant cannot treat the additional flows from Governors Bay and Diamond Harbour, the new project must be ready in 2021 to convey all flows to the Christchurch wastewater treatment plant in Bromley. Due to the earlier consent expiry, the first stage of the project taking wastewater from Governors Bay to Lyttelton must be operational in 2018.

The preparation of designs and gaining of consents must occur in time to enable Council to have the infrastructure operational in accordance with the above timeframes. Council is currently developing the preliminary designs and consent applications, due for completion at the end of November 2015, to enable consent lodgement in December 2015.

Detailed design will commence once consents are granted, with Council aiming that this start by November 2016 or sooner if consents are granted sooner.

Construction of stage 1 of the project, being the works to take wastewater from Governors Bay to Lyttelton, is planned to commence by September 2017.

Construction of stage 2 of the project, being the balance of the project works, is planned to commence by December 2018.

Current works in Lyttelton

- The Inflow and Infiltration Investigation project will assist with this project. The council is currently carrying out an inflow infiltration investigation into cross connections between the wastewater and stormwater systems at properties in Lyttelton.
- The aim is to reduce wet weather inflows which lead to the overflow of primary treated wastewater into the harbour.

Timeline



have your say

www.ccc.govt.nz/haveyoursay

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Phone (03) 941 5938
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If you wish to comment on the plan, please complete the enclosed freepost form and return by 5pm on 12 October 2015.

www.ccc.govt.nz/services/wastewater/wastewater-projects/lyttelton-harbour-wastewater-project



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Christchurch City Council



ELECo8/4598

have your say

September 2015

Lyttelton, Governors Bay and Diamond Harbour wastewater project

Christchurch City Council



Why

- Currently wastewater in Lyttelton, Governors Bay and Diamond Harbour is treated at a wastewater treatment plant at each of these locations. Wastewater receives primary and secondary treatment within the plant followed by an ultra-violet (UV) disinfection process before being discharged through an outfall pipeline into the Harbour.
- In 2004 the Lyttelton Harbour/Whakaraupo Joint Wastewater Working Party was set up. This group went through a comprehensive process of considering a number of options of how to treat and dispose of the wastewater from harbour communities. After a number of investigations and public consultation the recommendation from this working party in 2009 was approved by Council. This was to pump untreated wastewater from Lyttelton, Governors Bay and Diamond Harbour to the Christchurch Treatment Plant in Bromley.



have your say

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Drop in sessions

If you are interested in talking to the project team face to face about this project, the team will be available at the below drop in sessions:

Wednesday 23 September - Diamond Harbour Community Centre, stage room, off Waipapa Avenue, Diamond Harbour from 4.30 pm to 6.30 pm

Thursday 24 September - Top Club, 23 Dublin street, Lyttelton from 4.30 pm to 6.30 pm

You can comment by:

- Returning the enclosed freepost form
- Visiting the Christchurch City Council's 'Have Your Say' website: www.ccc.govt.nz/haveyoursay

If you wish to discuss any aspect of this plan or process please contact:

Tara King, Consultation Leader
Phone (03) 941 5938
Email tara.king@ccc.govt.nz

Please ensure that your comments reach us by 5pm on 12 October 2015.

What

Physical changes will occur at each of the treatment plant sites and at the new Lyttelton Terminal Pump Station site and along the pipeline routes:

- At Lyttelton wastewater treatment plant (located below Sumner Road between the container terminal and the coal stockpile yards of the Lyttelton Port Company), there will be a new above ground pump station wet well, pump station building and large storage tank. Tanks will be either concrete or steel. The storage tank will be approximately 5m high and 25m diameter, or two smaller tanks to provide the same storage if it is more economical or provides better operational performance.
- At Diamond Harbour wastewater treatment plant, (located below Koromiko Crescent, accessed off Otamuhua Lane), the existing steel tank will be converted to a pump station and a new large storage tank constructed. The tank will be either concrete or steel. The storage tank will be approximately 5m high and 15m diameter.
- At Governors Bay wastewater treatment plant, (located approximately 400 metres south of the Governors Bay jetty, above the foreshore), a new above ground pump station wet well and large storage tank will be constructed. The tanks will be either concrete or steel. The storage tank will be approximately 3m high and 12m diameter.
- At the new Lyttelton terminal pump station, (located at the old cenotaph site adjacent to the road tunnel), a new pump station building, emergency generator and a new road access with landscaping will be constructed.
- Submarine pipelines, from Diamond Harbour and Governors Bay as these are buried they will not be visible on the sea floor or at landfalls. The pipe will be buried sufficiently deep to prevent anchors catching or the pipe being damaged in storms or a tsunami or earthquake.
- Pipelines in the road, these will be located in Godley, Simeon, Norwich and Gladstone Quays and Port Hills, Scruttons and Ferry Roads. As these pipelines are buried these will not be visible above the road, other than the seal reinstatement.
- From the new pump station near the tunnel portal, all wastewater from the three existing treatment plants will be pumped through the Lyttelton Road tunnel to pump station 15 in Woolston, and then across to the Christchurch wastewater treatment plant in Bromley.

As preliminary design is completed, these elements of the project will be drawn up and be available during the next round of community engagement and consultation, and as part of resource consent applications.

How

- The proposed scheme will require Council to seek resource consents to construct and operate the system.
- New pump stations with overflow storage tanks constructed at the Diamond Harbour, Governors Bay and Lyttelton wastewater treatment plant sites. These will pump untreated wastewater to the new Lyttelton Terminal Pump Station, located at the old cenotaph site immediately west of the tunnel entrance.
- Treatment plants at each site will be decommissioned, but some of the structures would be retained and used for peak flow storage.
- Submarine pipelines buried approximately 1.0m deep into the sea bed, to convey untreated wastewater from Diamond Harbour and Governors Bay to Lyttelton. An alternate option to take untreated wastewater from Governors Bay to Lyttelton via the road is being investigated.
- Pipelines buried in the road reserve will convey the wastewater from where the submarine pipelines land and from the Lyttelton wastewater treatment plant, through to the new Lyttelton Terminal Pump Station.
- A new pipeline will be placed in the roof of the Lyttelton tunnel, requiring NZTA approval, then buried in the road through to Heathcote and then buried alongside Tunnel Road to Pump Station 15, located in Alport Place.
- Generators to provide emergency power supply at the Lyttelton Terminal Pump Station, with provision for installing generators at all other pump stations.

This scheme once completed will result in the cessation of treated wastewater discharges to the Harbour, except in emergencies.

Temporary works that are likely to be required during construction

A range of temporary works or activities will be required to enable construction, including the following, for which consent will be sought:

- Pontoons or temporary jetties at both ends of the landfall of the submarine pipelines to enable site and construction access
- Marker buoys and restricted construction zones on the Harbour at times when submarine pipelines are being placed
- Traffic management on the roads to enable pipeline construction
- Establishment of a Contractors work area and storage facility
- Rock blasting at the Lyttelton Terminal Pump Station site to enable construction the of the pump station.

Alternatives considered

Alternative treatment, conveyance and disposal options that have historically been carefully considered and discounted include:

- Piping wastewater from Diamond Harbour to Lyttelton via the road, as this was prohibitively costly to construct and operate and technically difficult due to the great length
- Piping wastewater from Governors Bay to Christchurch via Dyers Pass road, as this was costly to construct and operate and technically difficult due to the long length and height required to be pumped, and constraints on the ability of the existing wastewater reticulation system in the Cashmere area, to receive the additional wastewater flows.
- Disposal of treated wastewater to land at the southern end of the harbour, as this was costly to construct and technically difficult due to the great length of reticulation and unsuitable land conditions

Where

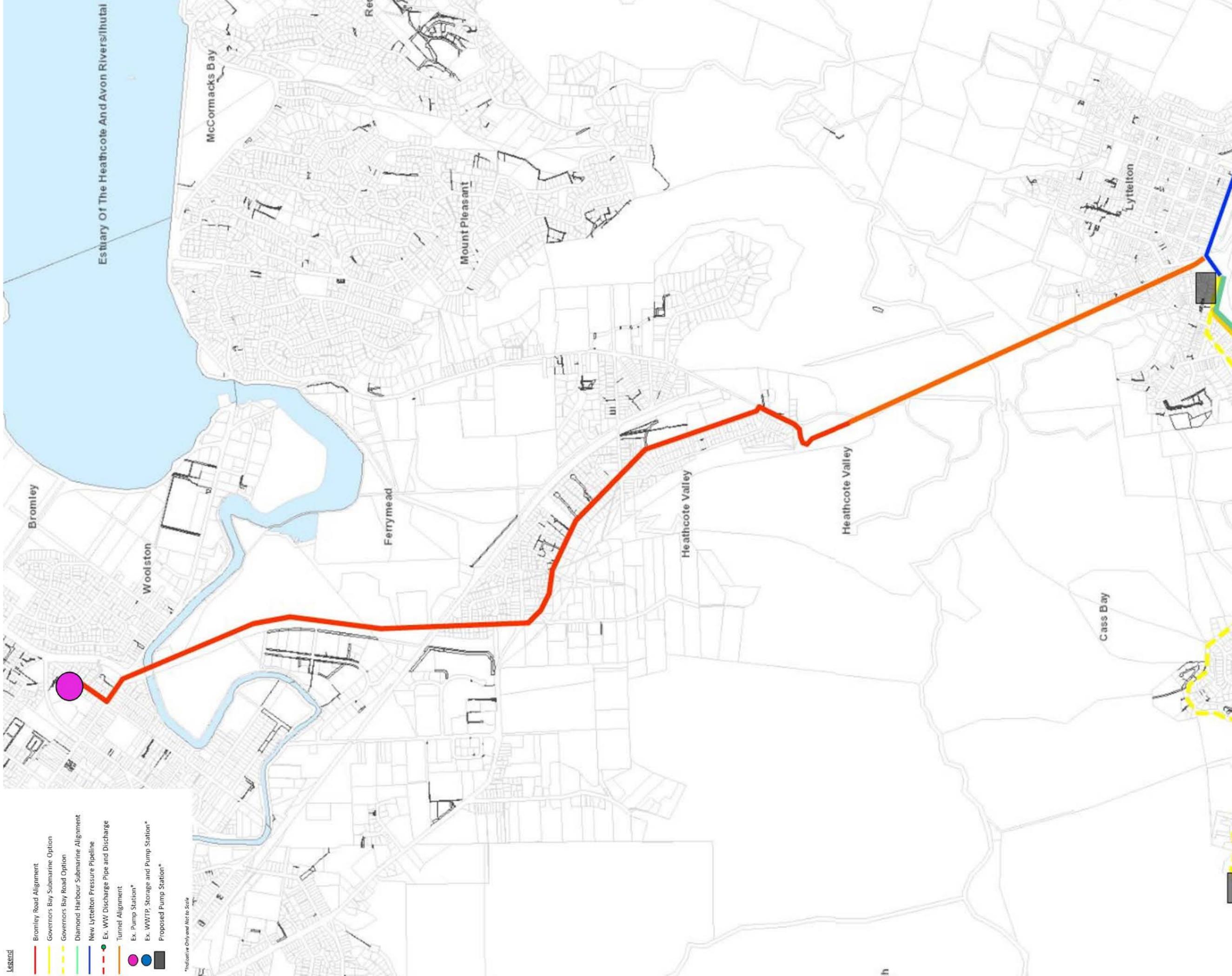
- See enclosed maps.



Legend

- Bromley Road Alignment
- Governors Bay Submarine Option
- Governors Bay Road Option
- Diamond Harbour Submarine Alignment
- New Lyttelton Pressure Pipeline
- Ex. WW Discharge Pipe and Discharge
- Tunnel Alignment
- Ex. Pump Station*
- Ex. WWTP, Storage and Pump Station*
- Proposed Pump Station*

*Indicative Only and Not to Scale



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