

## Managing stormwater in Southshore and South New Brighton

As part of the Stronger Christchurch Infrastructure Rebuild Team (SCIRT), some stormwater outfall pipes into the Ihutai/Estuary were replaced and extended. We also replaced flap gates with duckbill valves to minimise the tide flowing back up the stormwater network. Duckbill valves remain closed when the tide is high, and when the tide drops they allow water to flow out of the network into the river or estuary. This does take time, so the water won't immediately start draining as soon as the tide drops, but it does slowly drain away.

We no longer use flap gates in the area because they jam open too easily. This lets the tide (and debris) flow back up the stormwater network, causing blockages. They can also get jammed closed when sand from the estuary edge builds up in front of them.

While duckbill valves can still get clogged with sand and debris, it doesn't happen so easily and they can be more easily maintained. They are still the most effective option we have for our outfall pipes in this area. If you see a duckbill valve that's clogged or broken, call us on **03 941 8999** and we'll get a maintenance crew out to fix it.

We use temporary pumps at key locations to help drain stormwater during extreme high tides or ahead of very heavy rain. They pump water from the stormwater system directly into the estuary. One of the difficulties with temporary pumps is that they need to be set up before an event so they rely on accurate weather forecasting and having resources available at the time.

Permanently running pumps that constantly force water out of the stormwater network is not something we do anywhere in the city. Whether the pump is set up permanently or temporarily, we only use them when we predict there is going to be increased demand on the stormwater network.

Throughout Christchurch we use streets, especially in low-lying areas, as storage areas or secondary flow paths for stormwater when the network is overwhelmed. While street flooding may be a significant inconvenience, it is still preferable to properties flooding.



*Duckbill valve on a stormwater outlet*

## An update on the Community Hub

With the Earthquake Legacy Project moving into a different stage and the exact timing for adaptation planning still to be determined, we've decided to end our lease on the Community Hub at 82 Estuary Road. We haven't been using the space in the same way as we were, so we'll be moving out in December.

Keep an eye on our website and Facebook page for the latest updates

[www.coastalfutures.nz](http://www.coastalfutures.nz)

[Facebook.com/coastalfutures](https://www.facebook.com/coastalfutures)



## Kia ora

**Since the Council made its decisions on responses to the earthquake legacy issues in South New Brighton and Southshore, we've been busy doing what can be done right away, and planning for what needs to go out to contract.**

- We've inspected the stopbanks north of Bridge Street and completed some repairs and maintenance to 40 metres of the stopbank along Kibblewhite St (you can read more about that below).
- The new stopbank by Bridge Street is complete and the access and track are improved.
- The emergency bunds at Jellicoe Marsh and by the campground have been tidied up and planted.
- We're underway with the design of the bund from Bridge St to the jetty and we'll be starting work onsite in February next year.

You can read the staff report and recommendations, and the subsequent Council resolutions recorded in the meeting minutes, by visiting <https://christchurch.infocouncil.biz> and searching for the Council meeting on 29 August, 2019.

**Here's an update on where things are at . . .**

### South New Brighton – north of Bridge Street

Ensuring that stopbanks are well-constructed and are doing their job of keeping people safe from flooding was identified as a key community need in the Earthquake Legacy Issues Report to Council. Council has requested staff to undertake a stopbank condition assessment and update previous investigations into life-safety risk of flooding from a breach or overtopping of the stopbank between Pages Road and Bridge Street, to account for the updated 2018 high tide statistics.

We're now in the process of commissioning an update of previous investigations into life-safety risk. We're expecting that assessment to be completed early next year and we'll be in touch to arrange an opportunity for the community to talk to our engineers about the findings and any next steps needed.

We also recently completed some repair and maintenance of the stopbank. As part of the Earthquake Legacy project we undertook an inspection of the stopbank along Kibblewhite Street and identified a couple of points where the water has cut into the bank. While this does not affect the integrity of the stopbank, and the work isn't considered urgent, we decided to get onto it now, to prevent it becoming a bigger job later.

We've added new rocks and some specialist sea wall 'geofabric' in places along approximately 40 metres of the stopbank on the river side. This work has been added to the base of the stopbank.



*Repaired stopbank at Kibblewhite Street*

## South New Brighton – south of Bridge Street

In South New Brighton – south of Bridge Street, protection from flooding from the estuary, preventing further erosion of the estuary edge and protecting key community facilities and assets were all identified as important community needs.

Council has requested staff to build engineered setback bunds to give protection to the South New Brighton School and Seafield Place. We've engaged a consultant to finish the design for the engineered bund between Bridge Street and the jetty area, and we are applying for the necessary consents and permits. All going to plan, we could be starting construction in February next year. In the meantime, you can expect to see people in high vis doing site walkovers in the area as part of our preparations.

Council also asked staff to restore the estuary edge from the Yacht Club to the boardwalk using reno mattresses and gabion baskets as previously existed pre-earthquake. We're now preparing a 'request for proposal' for the detailed design of a plan to restore the estuary edge and we're aiming to have the detailed design plan done by early next year.

The work on 185m of new stopbank along Bridge Street and into the Reserve is now complete, though we are still in the 'maintenance stage' where we have people out checking to see that everything is performing how we would expect (plants are establishing, etc).

While the work to stabilise and landscape the bunds at Jellicoe Marsh is mostly complete, contractors will be returning to the site to do some final surface treatments. And we have recently added top-soil and grass to the top of the bund around the campground.

We've also completed two temporary pump 'set down' areas at 36A and 62 Rocking Horse Road (in the red zone), to make it easier and faster to install temporary stormwater pumps when required.



*The new stopbank at Bridge Street*

## Planning and approvals

With all this kind of work, there is a planning and approvals process that can impact on timing and costs.

You can find a fact sheet on the planning and approvals process on [www.coastalfutures.co.nz](http://www.coastalfutures.co.nz) (it's in the 'document' section on all of the 'Options' pages).

## Upcoming adaptation planning

In 2020 we'll start working with communities across Christchurch (including Banks Peninsula) who will be impacted by sea level rise to develop adaptation plans.

Adaptation planning is a way we can adjust to the actual and expected changes from climate change through community-led planning. It's an ongoing process that takes into consideration not just our natural environment and conservation values, but also our 'built' environment – our houses, communities and infrastructure – and the community values and aspirations that contribute to a sense of place.

Adaptation planning puts community engagement at the centre of the decision-making process and gives us a way to progress things and make decisions, even when there is uncertainty about the rate and effects of climate change.

We have time to plan and prepare so that we have an agreed, proactive strategy for how we respond now and into the future.



## Southshore

In Southshore, protecting the estuary edge from further erosion and repairing the estuary-edge erosion protection were identified as key community needs. Council requested staff set up a collaborative group which includes a technical expert nominated by the Southshore community. This group will investigate the repair and protection of the estuary edge, within the context of earthquake legacy issues, to develop an erosion mitigation plan.

We're working with the Southshore Residents' Association to establish a contract with their nominated technical expert. This technical expert will be an integral part of the collaborative group. They will work with Council, and the independent company that will be contracted, to investigate estuary edge options. Together all three parties will come up with an approach to erosion management that addresses the earthquake legacy issues. We're hoping to have the contracts in place before Christmas.

## Area-wide

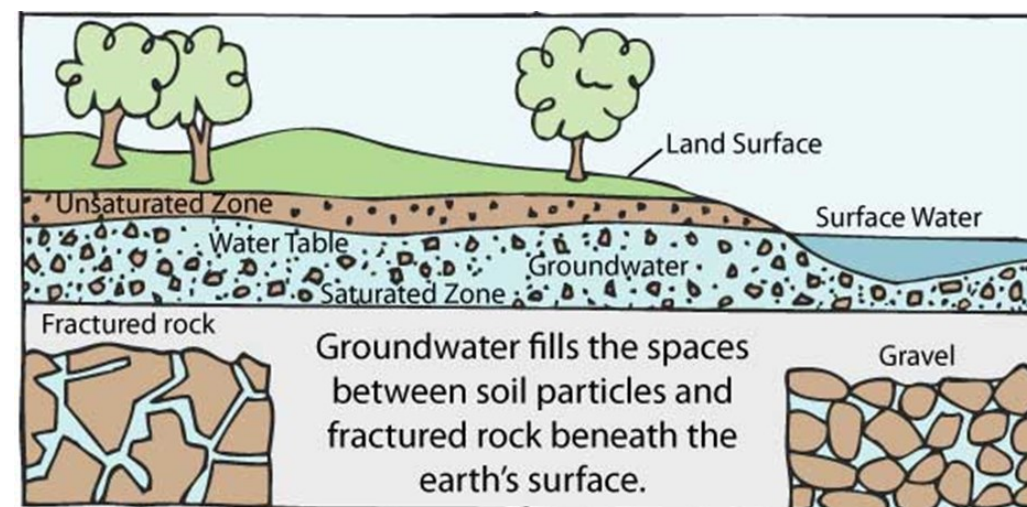
The use and enjoyment of the natural and built environment were identified as key community needs, as was having well-maintained and cared-for parks and public spaces. Council has directed staff to develop a continuous walkway / cycleway adjacent to the estuary edge, including renewal of the existing Estuary Walkway from Evans Ave to Ebbside Street in South New Brighton and from Ebbside Street through the red zone to the south end of Southshore.

Work to develop a continuous walkway/cycleway is going to be done progressively, and in conjunction with other projects as appropriate. We're currently preparing a scope of works and prioritising areas where track development is most urgent. Construction work will be starting before Christmas.

## Managing groundwater

Much of Christchurch has shallow groundwater. However, because Southshore and South New Brighton are close to the coast, groundwater in this area is affected by the tides. Areas adjacent to the estuary edge in South New Brighton Park and along Rocking Horse Road in Southshore have the shallowest groundwater levels, at less than one metre below the ground surface.

The Council does not intentionally pump or drain shallow groundwater anywhere in Christchurch. However, this sometimes happens as part of other Council drainage work.



How we manage groundwater in the future will be considered as part of the adaptation planning process for the city as a whole. We're working with Environment Canterbury to make more information publically available about shallow groundwater throughout Christchurch. This will help us monitor changes over time against a baseline of groundwater levels.