Central Auckland Stormwater and Wastewater Network Optimisation Programme

Terms of Reference and Project Outline

1. Introduction

The overall objectives of the Central Auckland Stormwater and Wastewater Network Optimisation Programme are for the Auckland Council Healthy Waters Department and Watercare to:

- Develop in parallel the long-term network integrated strategies for the provision of stormwater and wastewater services in the Central Auckland area for inclusion in the draft 2018 Long Term Plan, including a breakdown of the cost and timings for all significant programme components;
- Jointly support consultation on this strategy with the wider community, including the reasons for its selection and the reasons why other approaches have not been selected; and to
- Demonstrate exemplar behaviour in terms of Council organisations working together to solve problems and serve as a model for future collaborations.

2. Background

The Central Auckland isthmus has stormwater and wastewater services provided with five combinations of infrastructure:

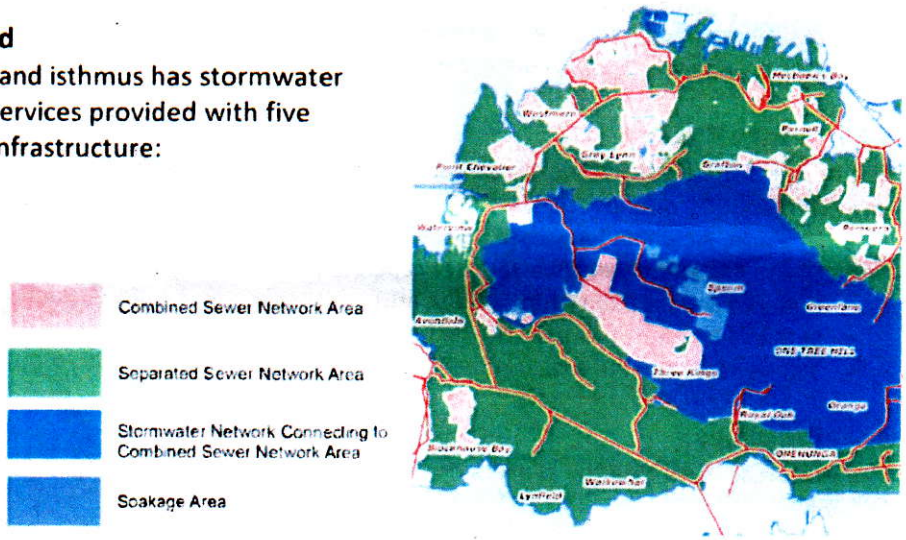


Fig 1 – Central Auckland Stormwater and Wastewater service provision

a) Separate stormwater and wastewater collection networks with the stormwater networks discharging in a controlled manner to the local receiving environments and the wastewater being conveyed through to the Mangere Wastewater Treatment Plant (Fig 1 – green areas);
b) A separate wastewater network, with stormwater discharged locally and soaking directly into the underlying aquifer. It is likely there are also private property on-site stormwater storage tanks to attenuate the stormwater soakage pit flows (Fig 1- blue areas);
c) A separate wastewater network with no stormwater collection system and stormwater being discharged directly on to the ground surface with overland and/or subsurface flow taking the stormwater to the nearest stream and receiving environment (Fig 1 – Blockhouse Bay pink area);
d) A separate wastewater network and a separate stormwater collection system, but where the stormwater network is connected downstream back into the wastewater collection network. This approach has typically been adopted to alleviate local flooding issues and/or as an interim measure until a long-term stormwater solution is provided. This arrangement occurs in both soakage and non-soakage areas (Fig 1- light blue areas); and
e) The remaining combined one pipe wastewater and stormwater systems where in the event of stormwater exceeding the capacity of the pipe then the rainfall induced overflows discharge at engineered overflow points (Fig 1 – pink areas).

The separate wastewater and combined networks are owned and operated by Watercare. The separate stormwater networks and, in all cases, the provision of stormwater services to the property owners is the responsibility of Auckland Council's Healthy Waters Department.

3. Current commitments of the parties in the area

3.1 Watercare

It is very likely Watercare will commence construction of the Central Interceptor Main Tunnel between Western Springs and the Mangere Wastewater Treatment Plant, the associated link sewers, and the Mangere Pump Station and Rising Main in 2019, with commissioning 2025/26. This commitment does not at this stage include any associated network augmentation, or works within the catchments north of the current Central Interceptor catchment. ($ million – real), Completion Date

Other Central Auckland projects underway, with value exceeding $15M, include the:

- Glen Eden wastewater storage tank and branch sewer upgrade $18M, 2018
- Wynyard Quarter wastewater pumping station and storage $21M, 2019
- Glendowie Branch Sewer upgrade $29M, 2019
- Collingwood Street and Franklin Road separation (underway).

3.2 Healthy Waters

The projects the Healthy Waters Department are progressing are:

- St Marys Bay options assessment ($30 million)
- Hepburn, Picton and Anglesea Streets stormwater/wastewater separation
- Okahu Bay stormwater/wastewater separation
- Waterview separation (North and South)
- St Marys Bay stormwater network optimisation
- 3 Kings separation to soakage.

4. Principles

The Watercare and Healthy Waters operating principles for this programme of works are as follows:

1. The parties' governance arrangements will not be compromised. Approvals will be obtained from each party, as per business as usual;
2. A party receiving a benefit or service from the other party will recompense the deliverer of the service fairly and equitably. In particular:
   - Inflow and infiltration will be maintained at optimal economic levels. Healthy Waters will collaborate with Watercare to achieve this outcome
   - The Watercare Network Discharge Consents specifically requires Watercare to demonstrate the network will comply with wet weather overflow criteria. There is strict liability on Watercare to comply with these consents under the RMA
   - The combined sewers are not for flood mitigation. The fact that stormwater enters the combined sewer does not obviate Auckland Council's responsibilities for providing stormwater services in the combined sewer areas;
3. The parties will work together collaboratively to develop the long-term integrated network strategies for the provision of stormwater and wastewater services in the Central Auckland area; and
4. Recommended technical solutions will be supported by robust technical evidence and a business case outlining the reasons for selection of the preferred approach

Additional notes:

a) The integrated stormwater and wastewater strategies for the Central Auckland Area will be a formally and regularly reviewed by the parties (Healthy Waters and Watercare) to ensure currency and agreed progress from decade to decade
b) Community engagement by Council and Watercare will be themed around property owners keeping stormwater out of wastewater eg complying gully traps, no cross connections, adequately maintained and operated onsite stormwater storage and soakage pits
c) Work between Watercare and Healthy Waters will occur in accordance with the agreed Detailed Partnership Schedule, Interdependency Sign-off Record, and Operational Agreements. These documents were prepared prior to integration and are to be reviewed to incorporate the above principles and the operational experience from the last six years.

5. Needs and Drivers of the Network Optimisation Programme

5.1 Watercare

Watercare has three primary needs being addressed by the proposed programme of works in the area:

1. Providing capacity in the network to enable growth in the Central Auckland area and the southern area due to relief of demand on the Orakei Main and Eastern Interceptor;
2. Resiliency and redundancy for the Manukau Siphon and Hillsborough Tunnel through duplication of these assets; and
3. Reducing rain induced wet weather overflows in the Central Interceptor catchment by 80% by 2030 to comply with the Central Interceptor Wastewater Discharge Consent.

5.2 Healthy Waters

Healthy Waters has three primary needs as follows:

1. Providing capacity to enable growth in the Central Auckland area through the provision of effective stormwater services with traditional or "green" solutions;
2. To improve the water quality of the receiving environments; and
3. To minimise flood hazards where practical in accordance with the agreed levels of service.

5.3 Auckland Council Regulatory Services Directorate

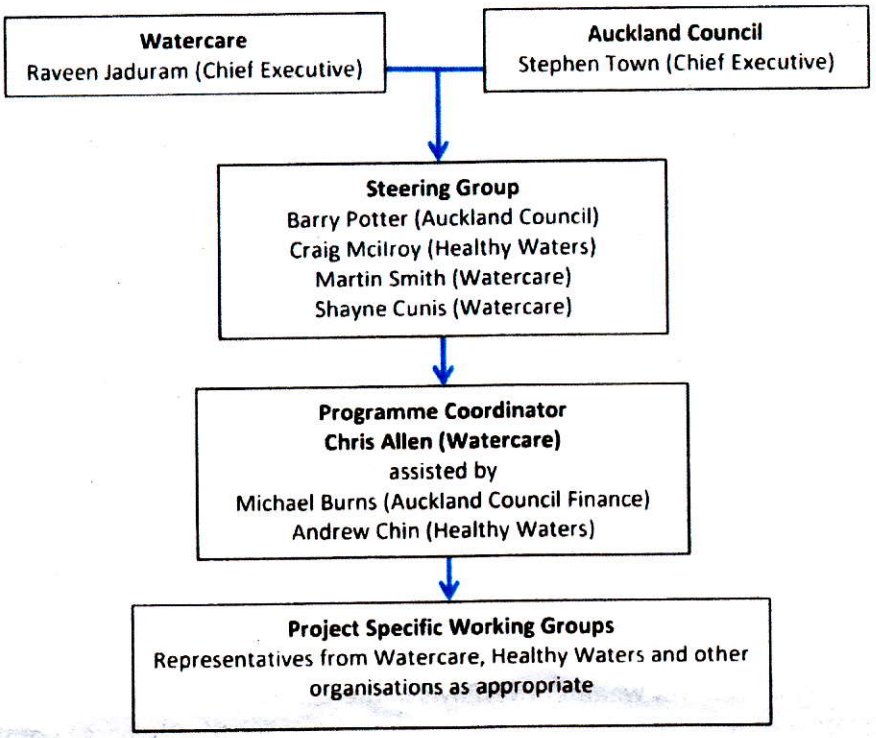
There are three further needs to be addressed which are the responsibility of the Auckland Council Regulatory Services Directorate:

1. Using soakage, where available, as the preferred means of stormwater disposal;
2. Using redevelopment and changes of property use to require the separation of private property stormwater and wastewater services, as per the Code of Practice; and
3. Rectifying private property inflow and infiltration non-compliance matters such as low gully traps, stormwater cross-connections to the wastewater collection system, and leaky private wastewater pipes.

6. Proposed Team Structure

The Steering Group will meet monthly to review progress and maintain an executive overview. The programme coordination team is responsible for the development of the programme and the delivery of a strategy for the draft 2018 Long Term Plan. The team will also provide direction to the working groups, and monitor the progress of the working

groups and ensure these are sufficiently resourced. Project specific working groups will be formed to undertake specific analyses and deliver specific outcomes



7. Solution Development

Any proposed solution must:

- Demonstrate progressive and logical improvements to network performance over time to achieve desired environmental, social, economic and cultural outcomes;
- Meet ultimate development projections based on Unitary Plan outcomes;
- Demonstrate how responsible asset management practices will be maintained; and
- Demonstrate financial prudence.

8. Indicative Catchment Optimisation

- St Marys Bay
- Herne Bay
- Coxs Creek
- Edgars Creek
- Motions Creek
- Westmere
- Lower Meola Creek / Pt Chevalier
- Upper Meola Creek
- Haverstock Catchment (Branch 8)
- Lyons Catchment (Edendale)
- Oakley Creek
- Whau Creek
- Onehunga

- Financial modelling of various network optimisation options
- Development of robust cost estimates
- Investigation of development controls, low impact/water sensitive design and groundwater utilisation
- Development of a Cost / Benefit option evaluation framework and integration with the outcomes sought by the National Policy Statement for Fresh Water Management.

9. Assessing Benefits and Risks

The following outline criteria are proposed as a means of assessing potential options and developing the Best Practicable Option:

- Extent of Overflow Reduction
- Cost
- Social and Community Impacts
- Mana Whenua Values
- Network Management and Operations
- Constructability
- Consistency with Statutory framework

10. Programme

A programme of work meeting the above requirements is to be determined by 30 June 2017 to ensure presentation and submission for the draft 2018 Long Term Plan consultation process.

11. Measures of Success

The measures-of-success will include:

1. Developing programmes of work for the provision of stormwater and wastewater services to sufficient detail (including needs addressed, scope, cost, time) for use in the LTP process
2. Having this planning work completed in accordance with the timeline agreed between the Steering and the Project Coordination Groups and prior to June 2017
3. Funding for the programmes of work to be agreed between the parties
4. Working within the operating principles of the parties as set out in these Terms of Reference

Approved by:	Approved by:
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Chief Executive	**Chief Executive**
Auckland Council	Watercare