

# he āpititaka appendices

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# ko kā hua kino

## APPENDIX 1 significant negative effects

| Group/activity   | Significant and potential negative effects  | Responses  |
|--|---|--|
| <b>Roading and footpaths group</b>   |   |  |
| <b>Transport</b><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here.   | Air pollution – added emissions due to congestion.<br>Water resource pollution – detritus from roads entering drainage systems and waterways.<br>Land resource pollution from dust.<br>Constricted traffic flow resulting in longer transport time.<br>Limits on loading resulting in more trips to move tonnage.<br>Road roughness affecting vehicle operating costs.<br>Noise, vibration and/or pollution from road works.<br>Pedestrian safety (accidents).<br>Accessibility during road construction.<br>Visual impacts on landscape.<br>Effects on archaeological sites, heritage areas and/or areas of cultural significance. | Efforts are made to mitigate any negative effects through planning and consultation with the community.<br>The Council ensures that contractors follow accepted environmental practices while undertaking construction and maintenance.<br>Ongoing monitoring of the effects of operation is undertaken and action taken to remedy any issues arising.   |
| <b>Water supply group</b>  |   |  |
| <b>Water supply</b><br>The collection, treatment and distribution of drinking water has potential negative effects on the local community.<br>The 3 Waters Strategic Direction Statement and the system planning approach prioritises and plans the resolution of these issues and recognises that some issues can only be resolved pragmatically over longer periods of time. | Location of treatment plants close to residential properties could cause noise and/or odour issues.<br>Poor drinking water quality can cause sickness in the community and effect the ability to use water for domestic and trade purposes.<br>High water supply costs that may affect industries expanding/relocating to Dunedin or treatment upgrades costs being unviable for those ratepayers on low incomes  | Potential negative effects are managed as part of the day-to-day operation of the water supply activity. Preventative maintenance, emergency management and supply specific water safety plans are in place to limit disruption to wellbeing.<br>Efficiently manage and maintain the water supply services.<br>System planning looks at long term strategic investment objectives and outcomes for the optimal cost/benefit ratio. |

| Group/activity  | Significant and potential negative effects  | Responses   |
|---|---|---|
|   | Water take (e.g., taking water from a river for treatment) and discharges of wastewater from the drinking water treatment plants (e.g., backwash water used to clean membranes)   | Potential negative effects are managed as part of the day-to-day operation of the water supply activity. Activities are permitted and regulated by conditions of relevant resource consents, which ensure potential adverse effects are managed at acceptable levels. Chlorine is removed (using a de-chlorination unit) from any discharges from the water treatment plants to control potential contamination from water production.  |
| <b>Sewerage and sewage group</b>  |   |   |
| <b>Wastewater</b><br><br>The collection treatment and discharge of treated wastewater may have potential negative effects on the community.<br><br>The 3 Waters Strategic Direction Statement and the system planning approach prioritises and plans the resolution of these issues and recognises that some issues can only be resolved pragmatically over longer periods of time. | Locations of treatment plants close to residential properties can give rise to issues with odour or noise.  | Potential negative effects are managed as part of day-to-day operation of the treatment plants (including responding to customer complaints). Community liaison has been initiated in known areas of community concern, and complex odour and noise mitigation is programmed at treatment plants.   |
|   | High trade waste charges may affect industries expanding/relocating to Dunedin or treatment upgrade costs contributing to rating increases that are unviable for those ratepayers on low incomes.   | System planning looks at long term strategic investment objectives and outcomes for the optimal cost/benefit ratio.   |
|   | Discharge from the wastewater system from treatment plants and overflows from the network can impact the local community. These discharges to the environment can be planned (e.g., the constant discharge of treated wastewater via an ocean outfall) or unplanned (e.g., a heavy rainfall event, blockage or broken pipe in the network causing an overflow). There is also the potential for wastewater to enter the stormwater system (e.g., in heavy rainfall events). | Potential negative effects are managed as part of day-to-day operation of the wastewater system.<br><br>Activities are permitted and regulated by conditions of relevant resource consents, which ensure potential adverse effects are managed at acceptable levels. This includes monitoring of the effluent and sediment/coastal receiving waters and impact assessments.<br><br>Renewal programmes for the treatment plants and wastewater network are intended to minimise the incidence of asset failures.<br><br>System planning looks at long term strategic investment objectives and outcomes for the network, treatment plants and sludge treatment and disposal. Mana whenua are engaged as partners in system planning. |



| Group/activity  | Significant and potential negative effects  | Responses  |
|---|---|--|
| <b>Stormwater group</b>   |   |  |
| <b>Stormwater</b><br><p>The collection and disposal of stormwater may have potential negative effects on the interests of the community.</p> <p>The 3 Waters Strategy and implementation plan prioritises and plans the resolution of these issues and recognises that some issues can only be resolved pragmatically over longer periods of time.</p> <p>The Otago Regional Council is the controlling authority for the streams. A high proportion of the runoff is from erosion of land in rural catchments.</p> | <p>The local community can be affected by heavy rain events that result in flooding of properties and land.</p>   | <p>Potential negative effects are managed as part of day-to-day operation and maintenance of the stormwater system (including planning for upcoming heavy rainfall events as part of the Civil Defence Response).</p> <p>Where flooding is due to the failure of stormwater pipes that are privately owned (watercourses), minor extensions to DCC's network are made to reduce flooding and other hazards such as sinkholes and landslips.</p> <p>Work is in progress to better understand secondary flow paths by reviewing, updating and calibrating Stormwater Catchment Models.</p> |
|   | <p>Flooding can impact on property values and could lead to a potential loss of businesses if repeated flooding impacts their ability to operate and/or insure.</p>   | <p>Potential negative effects are managed as part of day-to-day operation and maintenance of the stormwater system (including planning for upcoming heavy rainfall events as part of the Civil Defence Response).</p> <p>Modelling of stormwater system to identify mains that are at capacity and may constrain future development.</p>   |
|   | <p>Discharge of contaminated stormwater to waterways.</p>   | <p>Activities are permitted and regulated by conditions of relevant resource consents, which ensure potential adverse effects are managed at acceptable levels.</p> <p>Water quality testing, and harbour sediment contaminant testing monitor contamination as part of resource consent requirements.</p> <p>Additional environmental monitoring project ongoing to sample critical stormwater outlets and assess environmental impacts as part of system planning.</p>   |
|   | <p>Discharge of stormwater into waterways or near areas of cultural significance.</p>   | <p>Water quality testing, and harbour sediment contaminant testing monitor contamination. Mana whenua are engaged as partners in system planning.</p>  |
| <b>Reserves and recreational facilities group</b>   |   |  |
| <b>Aquatic services</b><br><p>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here.</p>  | <p>The potential exists for negative effects on the environmental interests of the community from the use of chlorine gas as a pool disinfectant, resulting in harm from a leakage in the gas storage or delivery system.</p> | <p>Emergency systems for early leak detection and emergency cylinder shut-downs to minimise adverse effects are in place. Alarms are wired directly to the Fire Service to ensure a quick response. The gas cylinders are stored in an area separate from the primary pool facilities.</p>   |



| Group/activity  | Significant and potential negative effects  | Responses   |
|---|---|---|
|   | High energy consumption involved in the heating and operation of pools may impact environmental interests.  | Energy use has been reduced with heat recovery projects. The 10 year plan includes a project to install a second heat recovery heat pump at Moana Pool (cutting 75% of our LPG use at the facility) and then installing either a wood pellet boiler or an air source heat pump (which would mean using no LPG at all).<br><br>Energy efficiency has been a key consideration in the design of the new Mosgiel Pool to be built. |
|   | The social wellbeing of individuals could be impacted by near-drowning, drowning incidents or perception of a danger of drowning.                             | This is managed by supervision of all pools by trained lifeguards.  |
| <b>Botanic Garden</b><br><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here.     | Use of chemicals for pest plant, animal, and disease control.   | This is managed through the compulsory adherence by the contractor to: Agrichemical Users Code of Practice – NZS 8409; Regional Plan – Air; and Fertiliser Use Code of Practice – (NZFMRA).<br><br>The adherences to these standards are monitored by staff supervising the work.   |
|   | Biosecurity risk of exotic (and native) plants and captive birds escaping or causing or disease in local native flora and fauna.                              | This is managed by monitoring the health status of aviary birds and plants, staff who engage all measure necessary to ensure bird and plant health is maintained at optimum levels at all times.<br><br>Holding structures for birds and potential of weediness of plants are checked and monitored at all time with appropriate remedial work is carried out before any harm or loss occurs.                                   |
| <b>Parks and reserves</b><br><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here. | Conflict between provisions of recreation pursuits (e.g. mountain biking) vs. environmental protection.   | This is managed through the adoption of appropriate, consulted policy (Tracks Policy) and Reserves Management Plans.  |
|   | Use of chemicals for pest plant, animal, and disease control.   | This is managed through the compulsory adherence by the contractor to: Agrichemical Users Code of Practice – NZS 8409; Regional Plan – Air; and Fertiliser Use Code of Practice – (NZFMRA).<br><br>Adherences to these standards is monitored by staff supervising the work.  |
| <b>Regulatory services group</b>  |   |   |
| <b>Building services</b><br><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here.  | Because the Building Services unit is not able to control the incoming work load sometimes it is not able to issue consents within the statutory time frames. | A short fall in processing capacity can be compensated for by contracting other Building Consent Authorities to assist with the work.   |



| Group/activity  | Significant and potential negative effects   | Responses  |
|---|--|--|
| <b>Waste management group</b>   |  |  |
| <b>Waste and environmental solutions</b><br><br>Waste collection and management services may have potential negative effects on the interests of the community.                                     | Odour and noise for residents neighbouring the Green Island Landfill.  | Council's current and proposed future approach for management is in accordance with resource consents for this activity.   |
|   | Recoverable resources which end up at the landfill are a loss of resource efficiency.  | Programmes and communications promoting correct recycling practices are continually being developed and improved.  |
|   | Litter and illegal dumping negatively impact on the community from a visual, environmental and financial perspective and it can be difficult to identify offenders.  | Council continues to engage and work collaboratively with affected parties in an effort to reduce the frequency of littering and illegal dumping events. A more coordinated approach is being taken across Council.  |
|   | Methane emissions from waste disposed to landfill contribute to Dunedin's carbon emissions profile.  | Council has developed a long term strategy to develop waste diversion and resource recovery infrastructure in order to significantly reduce waste disposed to landfill by 2030.  |
| <b>Community and planning group</b>   |  |  |
| <b>City development and resource consents</b><br><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here. | District Plan policies and rules, NES and regulation, their administration via permitted activity status and resource consent decisions can have negative effects on the interests of people within the community. | If these policies and rules and their administration is done effectively and appropriately, the effects should maximise the potential benefits to the community as a whole.  |
| <b>Community development and events</b><br><br>No significant negative effects are currently identified, but examples of potential negative effects on the local community are included here.       | The Events Team organises large events within the city. At times, these can cause some traffic congestion, in particular around Forsyth Barr Stadium and Octagon areas.  | <p>The Events Team is actively promoting ride-share, walking and other options for people to attend major events within the city. The Council works with the ORC and other providers to ensure there are buses from the Stadium to the city.</p> <p>More work is planned to explore further options to reduce traffic volumes in and around the Stadium and Octagon during major events.</p> |



There are no significant negative effects identified for the following groups/activities:

| Group                                      | Activity  |
|--|---|
| Reserves and recreational facilities group | Cemeteries and crematorium  |
| Property group                             | Commercial property<br>Community housing<br>Operational property  |
| Galleries, libraries and museums group     | Dunedin Public Art Gallery<br>Dunedin Public Libraries<br>Lan Yuan Chinese Garden<br>Olveston Historic Home<br>Toitū Otago Settlers Museum  |
| Regulatory services group                  | Animal services<br>Parking services<br>Environmental health<br>Alcohol licensing<br>Parking operations  |
| Economic development group                 | Business development<br>Destination Dunedin<br>Dunedin i-Site Visitor Centre  |
| Governance and support services group      | Business information services<br>Civic and administration<br>Corporate leadership<br>Corporate policy<br>Council communications and marketing<br>Customer services agency<br>Finance<br>Fleet operations<br>Human resources<br>Investment account<br>Waipori fund<br>Warm Dunedin |



# tauākī tauraki

## APPENDIX 2 statements of variation

### Statement of variation to the assessment of water and sanitary services

In 2007, the Council undertook an Assessment of Water and Sanitary Services of the provision of water-related and sanitary services within its district. The Assessment reviewed Council-operated water, wastewater and stormwater services, and assessed communities without such services having 25 or more persons in residence for more than 60 days per year. The resulting report, adopted in 2008, identified a number of issues and actions resulting from the assessment.

The Council has a statutory obligation under the Local Government Act 2002, Schedule 10, Part 1 (6a), to identify and explain significant variations between the Assessment of Water and Sanitary Services 2007/08 and the proposals set out in the Council's 10 year plan. The changes outlined below are a summary of changes since the Statement of Variation in the 10 year plan 2018-28.

### 3 Waters assumptions

Forecast capital expenditure budgets for water supply, wastewater and stormwater systems are based on asset condition assessments, asset performance, asset life renewals and replacements and servicing of areas rezoned for development in the Second Generation District Plan (2GP). The work required for development area forecasts will be reassessed once proposed zoning changes from Variation 2 of the 2GP are agreed and incorporated.

3 Waters plans to invest in a higher growth scenario from 2019 – 2038, followed by a medium growth scenario from 2038 onwards. Current projections indicate the population will continue to grow sharply until 2038, reaching 142, 318.

Growth-related capital expenditure will be debt financed and funded by development contributions where appropriate.

3 Waters will consider a review of the existing Water and Sanitary Services Assessment as part of its strategic system planning during 2021 – 2024. Capital expenditure budgets will be reviewed to accommodate changes and required actions from this review.

### 3 Waters general

3 Waters is currently in Stage 1 of system planning for water and wastewater, and will commence stormwater in 2021. System planning assesses the 'entire system' from source to disposal, enabling optimal long-term strategic decision making. This could be on the number of treatment plants and treatment processes, storage options within the system, possible wet weather treatment options, water demand management, resilience and growth etc.

The 2008 Water and Sanitary Services Assessment (WSSA) makes reference to the need to 'better understand the composition, age and condition of the assets. Until it does, the accuracy of the future renewals forecasts is uncertain'. Recent work has been undertaken at the treatment plants to collect condition and performance data, the results of which informs the significant plant renewal programme. 3 Waters also plans to improve the condition assessment data programme through the programme of work to prepare for Water Reform.

The WSSA also highlights that 'a more robust method of determining the Capital Works Programme needs to be developed. Network modelling can be used to determine service levels and the capacity (or lack of) in the network'. As part of the system planning process the cost and benefit of differing levels of services can be assessed, and under the reform work programme 3 Waters has also started to improve asset management practices and processes such as criticality, risk frameworks and improving capital delivery processes.

### Water supply

The Drinking Water Standards New Zealand (DWSNZ) were revised in 2018 and further changes are anticipated in the short to medium term as a result of the Government's 3 Waters Reform. This will likely require additional new capital expenditure to ensure treatment plants and networks comply with tightened DWSNZ and legislation.

Projects aimed at increasing the resilience of Dunedin's water supply are ongoing. The refurbishment of the Ross Creek reservoir is currently complete and the upgrades of Waikouaiti water treatment plant is ongoing. There is a significant work programme under the 'water supply resilience' project in the 10-year plan, which aims to improve the resilience of the water supply in the event of severe drought, catchment fire, or major pipeline or treatment plant failure. Mosgiel is no longer supplied by bores, it is now supplied from the Mount Grand Water Treatment Plant.

### Wastewater

Capital works are planned to renew critical plant assets at all the metropolitan wastewater treatment plants and assess the future of sludge treatment and disposal. System planning is underway to inform the large-scale strategic investment plan for the wastewater systems, including wet weather flow management, ability to treat to anticipated new standards and accommodate growth. Reviewing, updating and calibrating the hydraulic models is underway, along with assessing the key environmental impacts of wastewater discharges and overflows. Capital work is underway for the upgrade to Seacliff wastewater treatment plant.





Planning has started for upgrades to the northern wastewater schemes of Middlemarch, Waikouaiti-Karitane and Warrington to ensure the treatment plants are able to meet effluent quality targets as existing discharge permits expire over the next 7 years.

### Stormwater

Significant work is underway to review, update and calibrate priority stormwater hydraulic models and to assess the environmental impact of key discharges. Significant capital works are proposed as part of the South Dunedin flood alleviation project to reduce the risk of flooding in this community, by bringing affected assets up to currently accepted design standards. Capital works are proposed for Mosgiel during 2021-2028 to bring areas of the network and pump stations with capacity issues up to currently accepted design standards. High priority discrete watercourse projects are ongoing. It is anticipated that as part of 3 Waters reform, new stormwater standards and regulation will come into force which will likely result in additional capital expenditure being required.

### Public toilets

The Council intends to maintain its approach of ensuring sufficient public toilet facilities. Included in the 10 year plan is a capital budget to provide more public toilets. In the first year it is intended to provide a Changing Places Bathroom in the central city, and from year 2 onward, a further two toilets each year. Residents will be given the opportunity to engage on this initiative and can provide feedback on preferred locations for the new toilets. Appropriate cleaning and maintenance through capital and operating budgets over the next 10 years is being provided, in accordance with its last Assessment of Water and Sanitary Services.

### Cemeteries and crematoriums

The Council manages 19 cemeteries throughout the Dunedin area, although a number of cemeteries are closed to new burials (Andersons Bay Cemetery, East Taieri Cemetery, Northern Cemetery, Port Chalmers old cemetery, West Taieri and the Southern Cemetery).

Pandemic planning has been undertaken to ensure that the Dunedin City Council can manage its burial services during an outbreak, and this planning is periodically reviewed.

A cemetery capacity analysis has been undertaken to identify potential sites suitable for an urupa within Council's existing cemeteries. Council will be engaging with iwi and hapū and through the Māori Participation Working Party to identify a location and design for a proposed urupā.

The Council intends to maintain its approach of ensuring sufficient and appropriately managed cemeteries and crematoria through its capital and operating budgets over the next 10 years, in accordance with its last Assessment of Water and Sanitary Services.

## Statement of variation against adopted Waste Management and Minimisation Plans

The Dunedin City Council has a statutory obligation under the Local Government Act 2002, Schedule 10, Part 1, Clause 6 to identify and explain significant variations between its waste management and minimisation plans adopted under section 43 of the Waste Minimisation Act 2008 and the proposals set out in the Council's 10 year plan.

The Council had a statutory obligation under the Waste Minimisation Act 2008, Part 4 section 43, to review the Council's Resource Recovery and Waste Management Strategy (RRWMS), and develop a Waste Management and Minimisation Plan, (WMMP). The review requires a full waste assessment to be completed for the district. This review covers both Council and non-Council activities.

A waste assessment for the Dunedin City District was completed in 2018. Accordingly, the next review by DCC will be due six years in October 2024. Following public consultation an amended Waste Minimisation and Management Plan (WMMP2020) was adopted by Council on 25 May 2020.

There are no significant variations between the proposals outlined in the 10 year plan and the Council's Waste Minimisation and Management Plan.

