Drinking water | Wastewater | Stormwater

SERVICING ASSESSMENT

Drinking water, wastewater and stormwater

DUNEDIN CITY COUNCIL | kaunihera a-rohe o Ōtepoti

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1 About this document

1.1 Purpose of the assessment

This Servicing Assessment document records an assessment of communities' access to drinking water services in the Dunedin City Council **(DCC)** territorial area, conducted by staff of the DCC 3 Waters Group in accordance with the requirements of Section 69 of the Local Government (Water Services) Act 2025 (**LGWSA**). This document also records a DCC staff assessment of communities' stormwater and wastewater services conducted in accordance with the requirements of Section 71 of the LGWSA.

Sections 69 and 71 of the LGWSA set out the requirements for assessments, which must consider, from a public health perspective, the access that communities have to three waters services both now and in the future and the adequacy of those services. More information about the LGWSA assessment requirements is provided in Section 3.1 of this document.

In Dunedin's Future Development Strategy 2024-2054 (**FDS**) and Dunedin's 9-Year Plan 2025-34 (**9YP**), the DCC undertook to deliver a 'servicing assessment' of drinking water, wastewater and stormwater services available to communities in accordance with the Local Government Act 2002 (**LGA**) requirements current at the time.

The FDS stated the 'servicing assessment' would determine whether existing three waters servicing arrangements in unserviced (or partially serviced areas) are adequate, and whether upgrades or extensions are required to address public health risks, environmental effects or other significant issues. The FDS said that the DCC would determine priority areas for more detailed analysis of servicing options based on the findings of the servicing assessment.

The 9YP clarified that the 'servicing assessment' must be completed by 1 July 2026. The 9YP stated that the purpose of the servicing assessment was to identify any adverse public health or environmental impacts arising from existing three waters services available to communities in Dunedin, including accounting for future demand. The 9YP stated that for any communities where issues were identified, the assessment would be followed by further detailed assessments of options for potential service extensions or upgrades that may be needed to address the issues.

The LGWSA came into force in August 2025 and carried over, with modifications, the LGA 2002 requirements for territorial authorities to assess drinking water, wastewater and stormwater services available to communities in their districts. The LGWSA requires territorial authorities to assess drinking water, wastewater and stormwater services every 3 years. Territorial authorities are required to conduct the first assessment of drinking water services by 1 July 2026 and the first assessment of wastewater and stormwater services by 1 July 2029.

The remainder of this document is comprised of the following:

- **Section 2:** Information about Dunedin and the communities assessed in this Servicing Assessment
- **Section 3**: Information about assessment requirements, assessment criteria used, and assessment methodology
- **Section 4**: Assessments of DCC three waters services available to communities
- **Section 5**: Assessments of other, non-DCC three waters services available to communities
- **Section 6**: Mana whenua assessments of three waters services available in three locations of significance to mana whenua
- **Section 7**: Analysis of assessment findings and comment on next steps, including how the assessment findings may be used to inform future planning for three waters infrastructure and services.

1.2 Water and Sanitary Services Assessment 2007

The DCC completed a 'Water and Sanitary Services Assessment' in 2007 (**WSSA**). The WSSA is a predecessor to this Servicing Assessment.

The LGA included a requirement for councils to assess water and sanitary services by 30 June 2005. The DCC carried out a Water and Sanitary Services Assessment during 2004/05. The report was published in 2007.

The purpose of the WSSA was to assess the adequacy of drinking water, wastewater, stormwater, cemeteries, crematoria and public toilet services within the DCC territorial area. This included identifying any gaps in DCC services and non-DCC services, and identifying any areas that may have required further investigation.

The WSSA recommended the DCC take steps to better understand the age, composition and condition of the drinking water services it supplies. DCC implemented this recommendation by collecting condition and performance data at treatment plants, the results of which informed the plant renewal programme.

The WSSA identified potential issues for communities without DCC three waters services. The community of Allanton was serviced by septic tanks and the WSSA found that a number of septic tank leakages were leading to the contamination of the roadside ditches and watercourses, that resulted in high faecal coliform levels downstream of Allanton in the Taieri River.

Following a detailed assessment of options to rectify the issues identified at Allanton, the DCC installed a reticulated wastewater system at Allanton in 2011. This service extension was largely funded by the property owners of Allanton.

The WSSA also found a number of individual properties through the communities without DCC wastewater services that had issues with septic tanks not being correctly used or maintained, which could lead to contamination of the surrounding environment and pose public health risks. DCC staff followed up with properties identified by the WSSA that had problems with wastewater to ensure these issues were rectified.

The WSSA made a recommendation to educate contractors and local communities about roof water supplies and septic tank maintenance. DCC implemented this recommendation by providing educational information on the DCC website.

The DCC has provided a statement of variation for the WSSA at each iteration of the DCC's Long-Term Plan since 2007. The statement of variation outlines any substantial servicing changes (e.g. wastewater service extension to Allanton or significant upgrades to DCC three waters network and plant assets) that have occurred since the last Long-Term Plan.

2 Background: Dunedin and DCC

2.1 Characteristics of Dunedin

The DCC territorial area includes both urban and rural environments.

The majority of the Dunedin City urban area receives reticulated drinking water, wastewater and stormwater services from the DCC.

Dunedin's rural environment is large, at around 314,822 hectares or approximately 96% of the total land area of the city. This rural environment is highly varied, stretching from coastal lowlands north and south of the main urban part of the city, through river plains, valley systems, hill country and rolling uplands, to the inland mountain ranges at the western extent of the territory.

The map in Figure 1 shows all of the DCC territory. The grey areas are areas zoned for rural land uses. The pink areas are areas zoned for urban land uses.

The rural environment is dominated by pastoral farming in many areas, which contributes to the sense of openness and low density of development throughout much of Dunedin.

Dunedin's residential environments are diverse in character and include a variety of housing types ranging from apartments to stand-alone residential buildings.

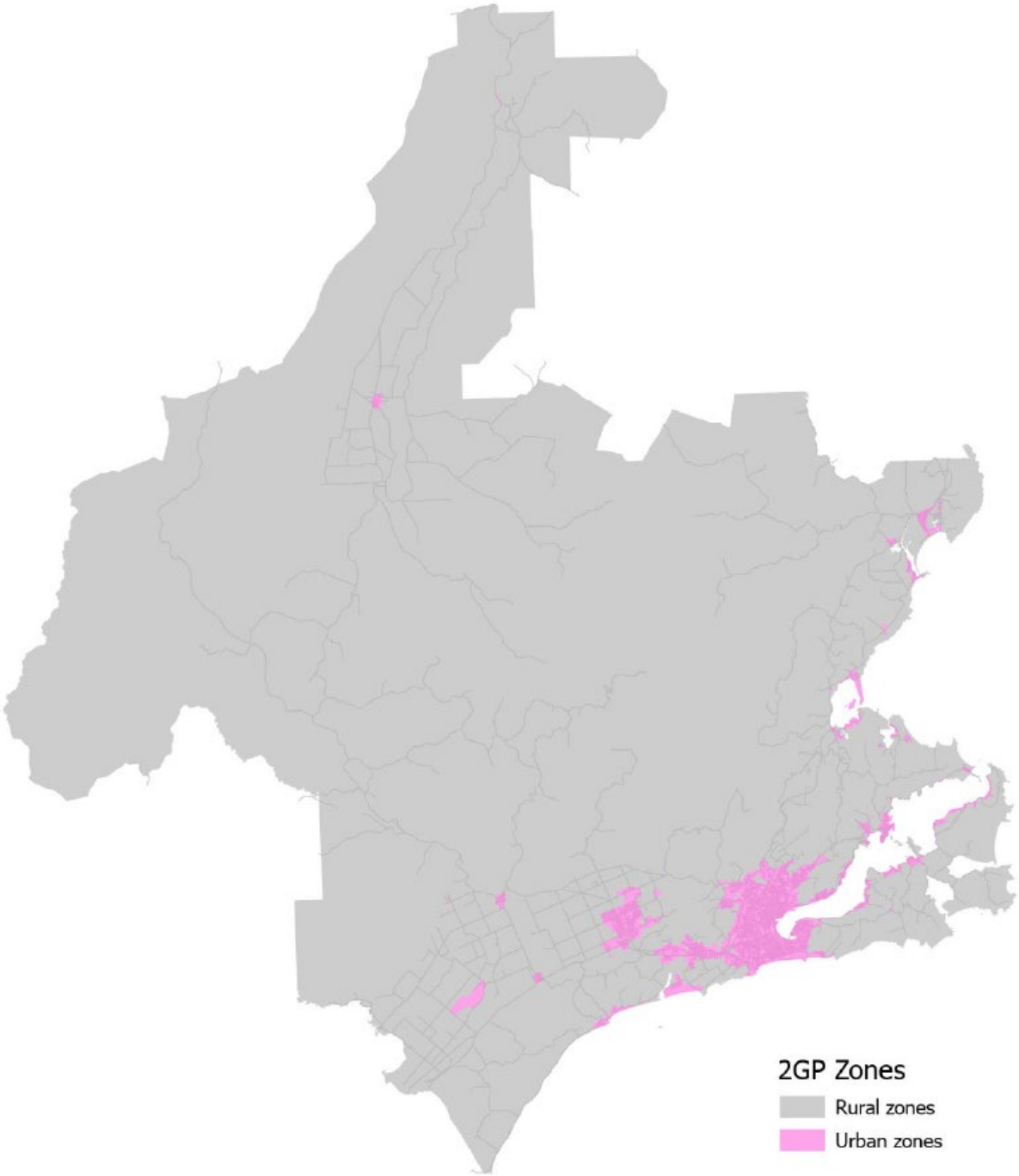


Figure 1: Urban and Rural zones

Dunedin's 9-Year Plan 2025-34

According to the significant forecast assumptions used in the 9YP, Dunedin's population was estimated as 135,700 in 2024 and is projected to grow to 149,500 in 2054. Over a five-year period (2019/20-2023/24) there has been an annual average of 483 new homes consented (an average of 387 of these per year have been built). Figure 2 illustrates that population growth is expected to rise more rapidly up until 2033 before it tapers off again. This continued growth provides DCC with an indication of the further three waters services required to meet servicing requirements of the increasing population and associated housing requirements.

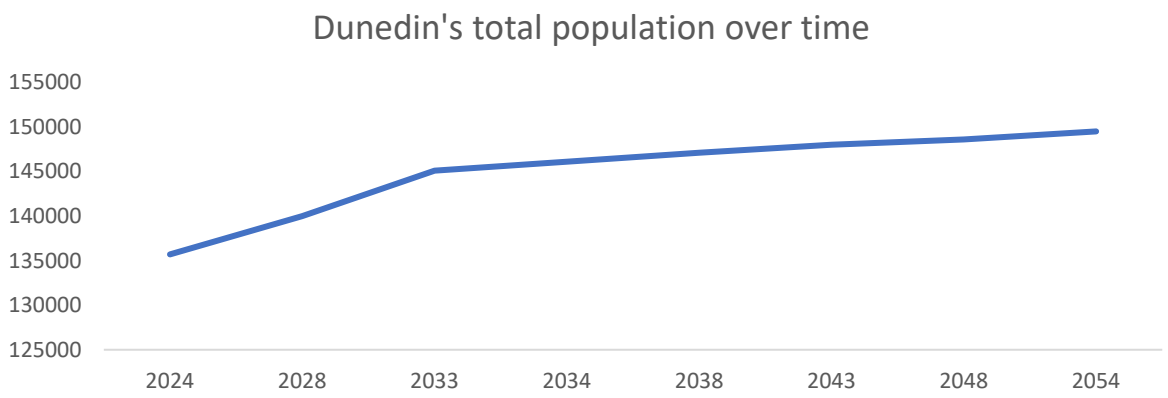


Figure 2: Dunedin's population projections

Dunedin's Future Development Strategy 2024-2054

The FDS is a spatial planning document that sets the vision for how Dunedin will develop over the next 30 years, including how Dunedin will:

- Achieve well-functioning urban environments in its current and future urban areas
- Provide at least sufficient development capacity for housing and business land needs to meet expected demand over the next 30 years
- Help to integrate planning decisions under the Resource Management Act 1991 (**RMA**) with infrastructure planning and funding decisions.

The FDS includes comment on three waters servicing, through analysis of capacity of existing infrastructure and upgrades and / or service extensions that may be required to provide for growth.

The FDS for Dunedin, which is a requirement under the National Policy Statement for Urban Development 2020, was jointly developed by the DCC and Otago Regional Council (**ORC**) with input from mana whenua. The FDS is available on the DCC website: https://www.dunedin.govt.nz/council/strategic-framework/future-development-strategy-for-dunedin.

Residents Opinion Survey

The Residents Opinion Survey 2024/25 (**ROS**) indicates residents within the DCC territorial area are generally satisfied with DCC's three waters services. As part of the ROS, residents were asked how satisfied they were with water-related infrastructure and services. Figure 3 illustrates that just less than two thirds of the respondents (59%) were satisfied with water-related infrastructure and services overall. Individual satisfaction ratings were higher for water pressure and quality at 71% and the sewerage system at 66%, and lower for the stormwater system at 53%.

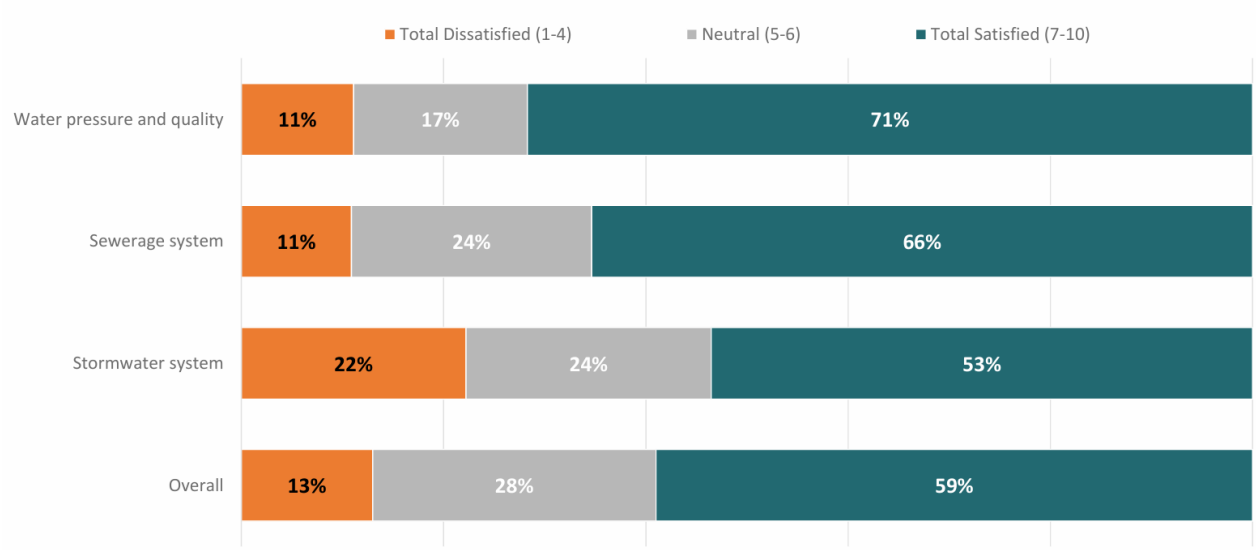


Figure 3: Residents opinion survey 2024/25

2.2 Communities identified for the Servicing Assessment

Sections 69 and 71 of the LGWSA requires the DCC to assess three waters services available to 'communities' in its district. The LGWSA requirements exclude assessments of services provided by departments of the Crown and assessments in relation to individual domestic self-supplies (for assessments of drinking water services) and assessments related to individual properties (for assessments of wastewater and stormwater services).

The definition of 'communities' used for the purposes of this assessment was developed based on the definition used in the WSSA, the communities identified in the DCC's 3 Waters Integrated System Planning (**ISP**) Programme and zoning in Dunedin's Second Generation District Plan (**2GP**).

In the WSSA, a community was defined as having 25 persons resident for more than 60 days per year. However, for the purposes of this Servicing Assessment, settlements with fewer than 25 persons resident for more than 60 days per year have been included as communities where they are zoned for urban land uses and do not receive all three of the three waters services (drinking water, wastewater and stormwater) from the DCC.

For the purposes of this assessment, areas zoned for urban land uses include those areas covered by residential zones (including General Residential, Inner City Residential, Township and Settlement, Large-Lot Residential and Low-Density Residential zones), as well as commercial, mixed-use, industrial and major facility zones. By contrast, areas zoned for rural land uses are those areas covered by rural zones and rural residential zones. In general, Dunedin's planning framework anticipates self-servicing for drinking water, wastewater and stormwater in rural and rural residential zones.

For the purposes of this assessment, communities have been categorised as follows:

1. **Category A:** The community of settlements zoned for urban land uses that are fully serviced by the DCC for the three waters - drinking water, wastewater and stormwater (Figures 4, 5 & 6). The assessment of drinking water, wastewater and stormwater services available in the communities covered by category A is provided in Section 4 of this document.

2. **Category B:** Communities zoned for urban land uses and that receive two or fewer of the DCC three waters services. There are 22 communities in this category, as follows:

    - Aramoana (including Tayler Point, Te Ngaru)
    - Ōtākou (including Harrington Point, Harwood and Lower Portobello)
    - Pukehiki
    - Challis Point
    - Kuri Bush
    - Berwick
    - Allanton
    - Momona / Airport
    - Outram
    - Woodside
    - Middlemarch
    - Hyde
    - Evansdale
    - Hawksbury Village
    - Osborne
    - Purakaunui
    - Waitati / Doctors Point
    - Coast Road, Warrington
    - Long Beach
    - Seacliff
    - Greenlaw Street, Waikouaiti
    - Reynoldstown Road

    Please refer to Appendix A for community profiles and maps. The assessment of drinking water, wastewater and stormwater services available in the communities covered by category B is provided in Section 5 of this document.

3. **Category C**: Communities identified as being of particular significance of mana whenua. These communities have been grouped by mana whenua into three for the purposes of this assessment:

    - Ōtākou Native Reserve
    - North Coast Native Reserves (including Brinns Point Native Reserve and Waikouaiti Native Reserve)
    - Blueskin Bay

    Please refer to Section 6 of this document for further information on the category C communities, and for the mana whenua assessment of drinking water, wastewater and stormwater services available in the communities covered by category C.

4. **Category D:** the rural community (all other areas not included in categories A, B and C).

    All properties in the rural community (i.e. the areas covered by rural residential and rural zones under the 2GP) have been assessed as one community – the assessment of drinking water, wastewater and stormwater services available in the rural community is provided in Section 5 of this document.

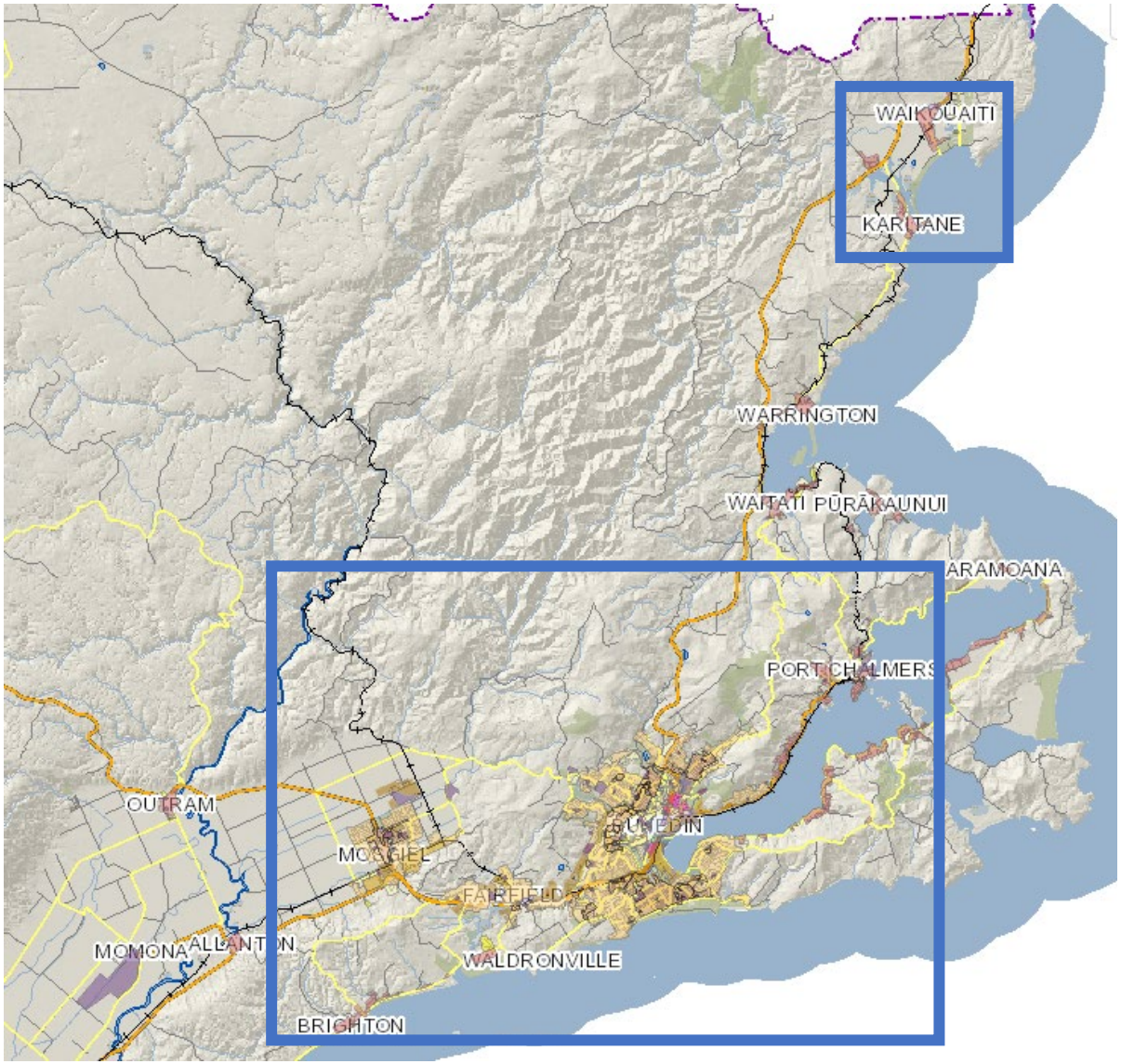


Figure 4: DCC Fully Serviced Areas

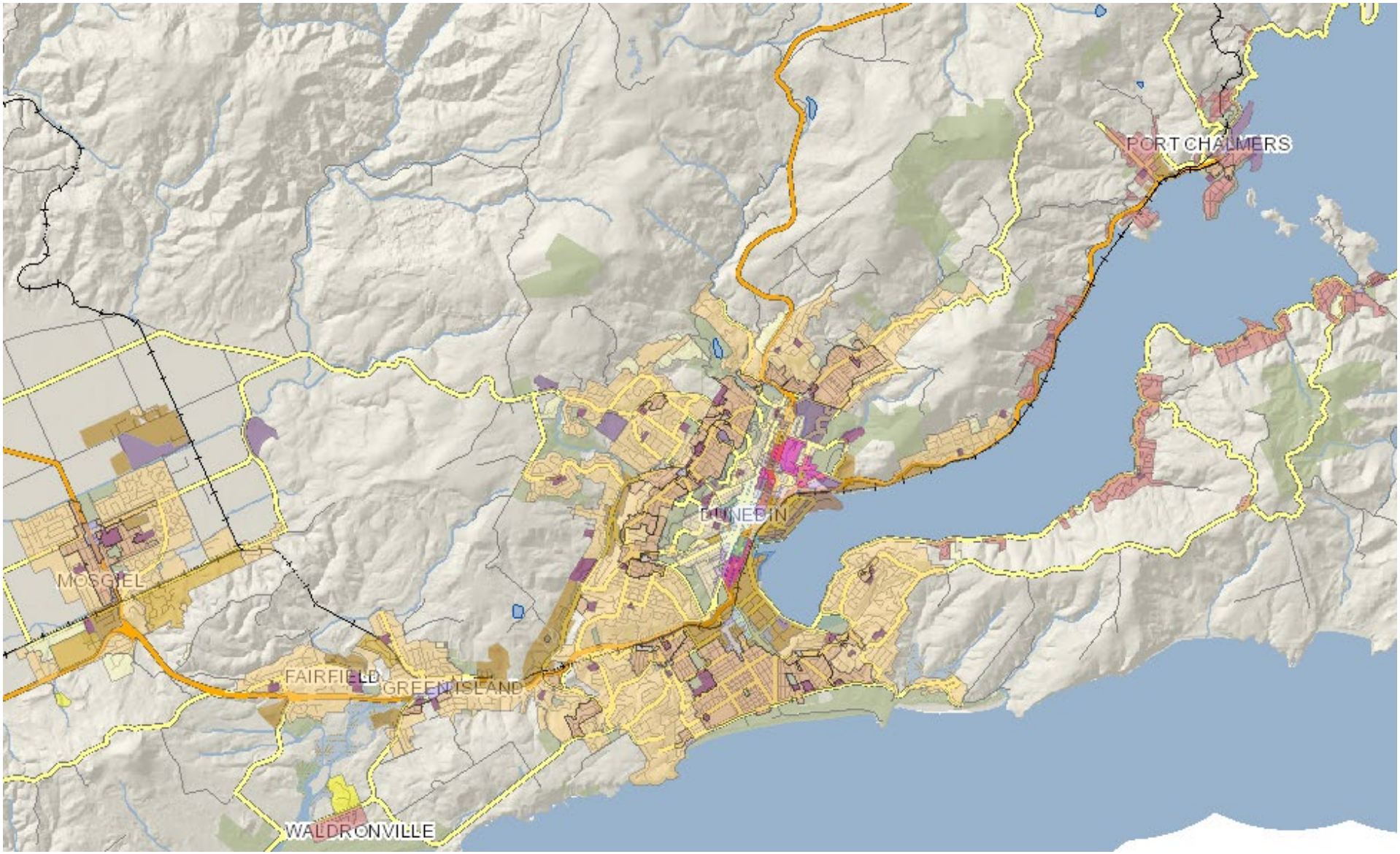
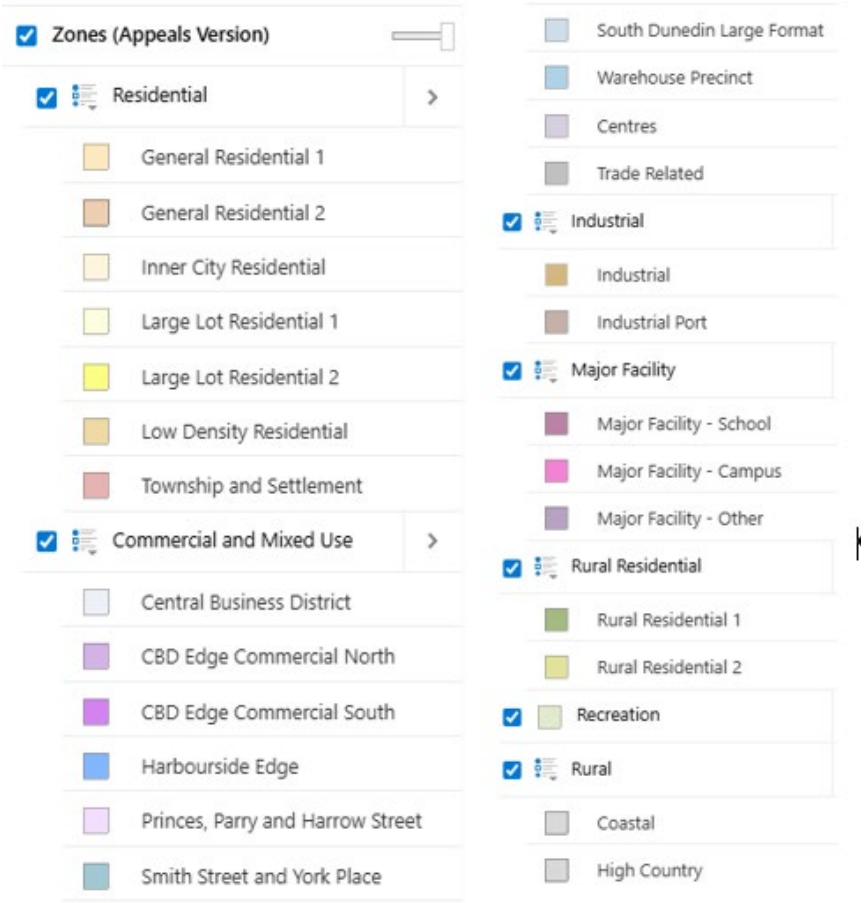


Figure 5: DCC fully serviced areas - Dunedin

Key



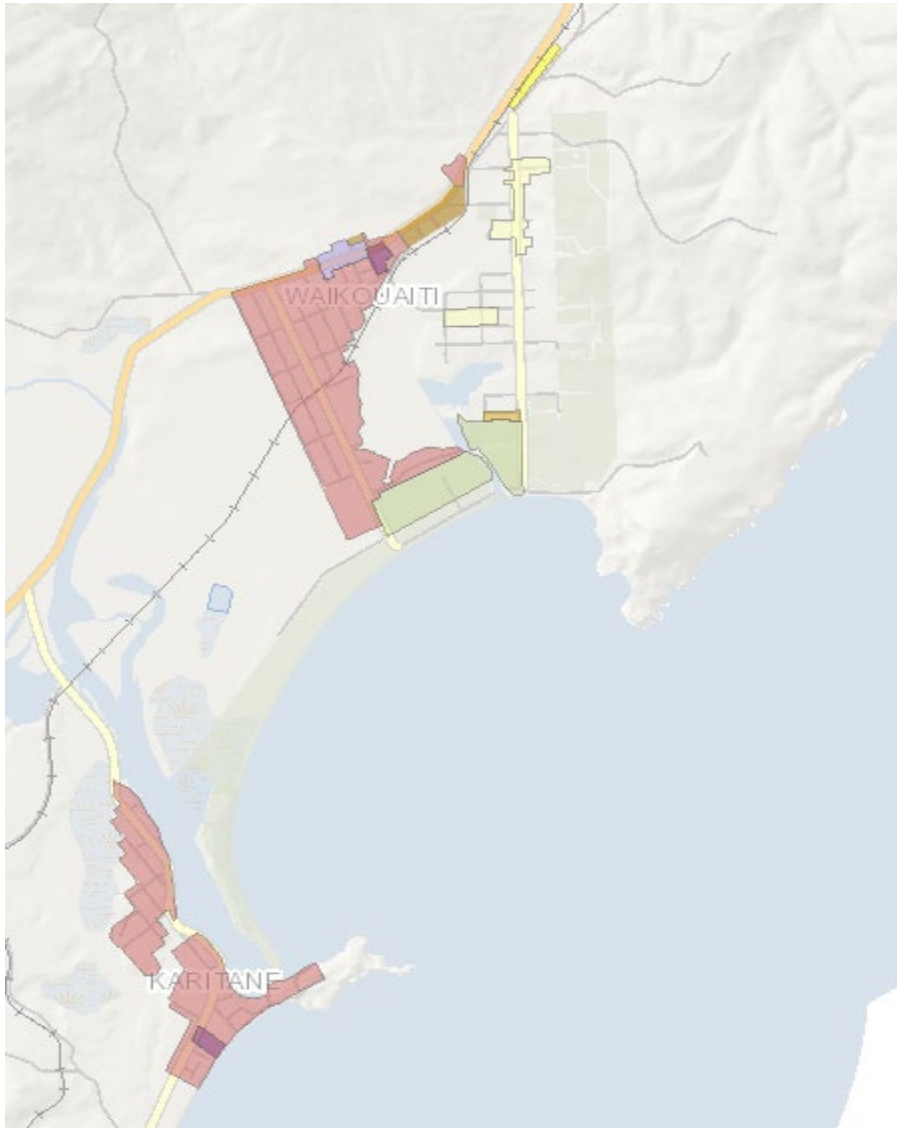


Figure 6: Fully serviced areas in Karitane and Waikouaiti

3 Services assessed and assessment criteria

3.1 Statutory Requirements

Sections 69 and 71 of the LGWSA outline the requirements for a territorial authority to assess drinking water, wastewater and stormwater services available to communities within its district. The assessments must consider, from a public health perspective, the adequacy and access that communities have to three waters services both now and in the future.

Assessments must be conducted at least once every three years after the completion of the first assessment. The first assessment for drinking water services must be conducted by 1 July 2026. The first assessment for wastewater and stormwater services must be conducted by 1 July 2029.

Assessment of drinking water services

Definitions of 'assessment' and 'drinking water services' are provided in Section 68 of the LGWSA. These LGWSA definitions are applied in this Servicing Assessment document.

Section 68 of the LGWSA defines 'drinking water services' as "*the supply of drinking water to communities to the point of supply of each dwelling house and commercial premises to which drinking water is supplied.*"

The LGWSA requires the DCC (as the territorial authority) to assess drinking water services available to communities in Dunedin regardless of any role of the DCC as a water service provider, and including private drinking water supplies and community-owned or community-operated drinking water supplies. This means the DCC is required to assess the drinking water services the DCC provides as well as drinking water services provided by others.

Domestic self-supplies are stand-alone domestic dwellings that have their own supply of drinking water, e.g. from rainwater collection or groundwater bore. The LGWSA specifically excludes individual domestic self-supplies from the scope of the assessment of drinking water services but still anticipates that drinking water services available in communities where domestic self-supply is the primary or sole drinking water supply arrangement will be assessed at a general, aggregated level. This document does not include specific assessments of individual domestic self-supplies in Dunedin. However, in accordance with the intent of the LGWSA, general descriptions and assessments of drinking water services available in Dunedin communities where domestic self-supply is the primary or sole supply arrangement are included.

Drinking water services that are owned or operated by Government departments (which includes drinking water services at rural schools) are specifically excluded from the scope of the assessment by Section 69(5)(b) of the LGWSA and are not described or assessed in this document.

The requirements of Section 69 (assessment of communities' access to drinking water) of the LGWSA are listed in Table 1. Table 1 also identifies the parts of this document that relate to the specific requirements of Section 69.

Table 1: Local Government (Water Services) Act 2025 Requirements – Drinking Water (section 69)

Local Government (Water Services) Act 2025 requirement – drinking water (Section 69)			Relevant sections of this document
Provision number		Provision	
69		**Assessment of communities' access to drinking water**	
69	(1)	A territorial authority must inform itself about the access that each community in its district has to drinking water services by conducting an assessment of drinking water services in accordance with this section.	Section 4.3 describes and assesses DCC drinking water services available to communities in Dunedin. Sections 5.2 and 5.3 describe and assess non-DCC drinking water services available to communities in Dunedin.
69	(2)	An assessment of drinking water services must—	
69	(2)(a)	identify each community that receives a drinking water service; and	Communities assessed are set out in Section 2.2. Section 4.3 describes and assesses DCC drinking water services available to communities in Dunedin. Sections 5.2 and 5.3 describe and assess non-DCC drinking water services available to communities in Dunedin.
69	(2)(b)	describe the nature of existing drinking water services to the community; and	
69	(2)(c)	describe the characteristics of the community; and	
69	(2)(d)	assess the extent to which the community is currently receiving, and will continue to receive, a sufficient quantity of drinking water, including a consideration of—	
69	(2)(d)(i)	the community's existing access to drinking water services; and	
69	(2)(d)(ii)	any reasonably foreseeable risks to the community's access to drinking water services in the future; and	
69	(2)(d)(iii)	the current and estimated future demands for drinking water services within the community; and	
69	(2)(e)	describe the safety and quality of drinking water currently being supplied to the community, using information collected and made available by the Water Services Authority and any other organisations that the territorial authority considers relevant; and	
69	(2)(f)	identify and assess any other public health risks relating to the drinking water services supplied to the community; and	
69	(2)(g)	based on the assessment under paragraphs (b) to (f),—	Section 4.3 describes and assesses the potential consequences for communities

Local Government (Water Services) Act 2025 requirement – drinking water (Section 69)			Relevant sections of this document
Provision number		Provision	
69	(2)(g)(i)	assess the consequences if the community loses access to drinking water services in the future, or is provided with drinking water services that are deficient in any way, including the implications for that community's public health; and	of loss of DCC drinking water services and outlines a plan for ongoing access. Section 5.2 describes and assesses the potential consequences for communities of loss of non-DCC drinking water services and outlines a plan for ongoing access.
69	(2)(g)(ii)	outline a plan to provide for the community's ongoing access to drinking water services.	
69	(3)	A territorial authority must—	
69	(3)(a)	conduct its first assessment by 1 July 2026; and	This document, dated July 2026, records the assessment completed by DCC staff by 1 July 2026.
69	(3)(b)	conduct later assessments—	The next DCC three waters Servicing Assessment is due to be completed no later than 30 June 2029.
69	(3)(b)(i)	at least once every 3 years after the completion of the first assessment; or	
69	(3)(b)(ii)	at an earlier date, if the authority is made aware of concerns about a community's access to drinking water services.	
69	(4)	A territorial authority must provide opportunities for any person to alert the territorial authority at any time to concerns about a community's access to drinking water services.	Section 7.3 identifies an action for the DCC to establish a specific online mechanism (via a form on the DCC website) for community members to raise concerns about access to drinking water services and establish a business process for assessing and responding to concerns raised (DCC ACTION 3).
69	(5)	For the purposes of this section,—	
69	(5)(a)	the scope of each assessment must include—	
69	(5)(a)(i)	communities that receive drinking water services from the territorial authority or another water service provider; and	Section 4.3 describes and assesses DCC drinking water services available to communities in Dunedin.
69	(5)(a)(ii)	communities that do not receive drinking water services from the territorial authority or another water service provider; and	Sections 5.2 and 5.3 describe and assess drinking water services available to communities in Dunedin where drinking water services are not provided by the DCC.
69	(5)(a)(iii)	all types of water supply arrangements, including communities (and households within those communities) that do not receive water supply services supplied by network reticulation; and	The descriptions and assessments of drinking water services at Sections 4.3, 5.2 and 5.3 include all types of water supply arrangements.

Local Government (Water Services) Act 2025 requirement – drinking water (Section 69)			Relevant sections of this document
Provision number		Provision	
69	(5)(b)	territorial authorities need not assess drinking water services that are owned or operated by a department within the meaning of Section 5 of the Water Services Act 2021; and	Descriptions and assessments of drinking water supplies owned or operated by Crown departments have been excluded from this document (e.g. drinking water supplies at rural schools).
69	(5)(c)	an assessment may be carried out —	
69	(5)(c)(i)	by the territorial authority; or	DCC staff completed the assessment recorded in this document.
69	(5)(c)(ii)	on the authority's behalf by another appropriate organisation in the authority's district, including another water service provider or an iwi, hapū, or other Māori organisation.	Aukaha provided the mana whenua assessment included as Section 6 of this document.

Assessment of wastewater and stormwater services

Section 4 of the LGWSA defines 'stormwater services' as "*the collection, treatment, drainage, reuse, or discharge of stormwater in an urban area or any stormwater service zone*." However, the definition of stormwater services excludes any of the aforementioned services relating to a transport corridor. For the purposes of this assessment document, stormwater services are the systems and activities used to collect, manage, convey, treat, and discharge rainwater runoff, including Council-managed stormwater pipes, drains, channels, outfalls, and those overland flow paths and watercourses that form part of the stormwater drainage system.

Section 4 of LGWSA defines 'wastewater services' as "*the collection, treatment, storage, transmission (including metering), or discharge of wastewater from consumers*."

The LGWSA requires the DCC (as the territorial authority) to assess stormwater and wastewater services available to communities in Dunedin regardless of any role of the DCC as a water service provider. This means the DCC is required to assess the stormwater and wastewater services the DCC provides as well as the stormwater and wastewater services provided by others.

The LGWSA specifically excludes assessments in relation to specific individual properties from the scope of the assessments of stormwater and wastewater services. This document does not include assessments of specific wastewater and stormwater servicing systems at individual properties in Dunedin. However, in accordance with the intent of the LGWSA, general descriptions and assessments of services available in Dunedin communities where individual on-site self-servicing is the primary or sole supply arrangement are included.

The requirements of section 71 of the LGWSA (assessment of communities' stormwater and wastewater services) are listed in table 2. The table also identifies the parts of this document that relate to the specific requirements of section 71.

Table 2: Local Government (Water Services) Act 2025 Requirements - Wastewater and Stormwater (section 71)

Local Government (Water Services) Act 2025 requirement – wastewater and stormwater (section 71)			Relevant sections of this document
Provision number		**Provision**	
71		**Assessment of communities' stormwater and wastewater services**	
71	(1)	A territorial authority must assess the provision within its district of—	
71	(1)(a)	stormwater services; and	Section 4.5 describes and assesses DCC stormwater services available to communities in Dunedin. Sections 5.2 and 5.5 describe non-DCC stormwater services available to communities in Dunedin.
71	(1)(a)	wastewater services.	Section 4.4 describes and assesses DCC wastewater services available to communities in Dunedin. Sections 5.2 and 5.4 describe non-DCC wastewater services available to communities in Dunedin.
71	(2)	The purpose of an assessment is to assess, from a public health perspective, the adequacy of stormwater services and wastewater services available to communities throughout a territorial authority's district, taking into consideration—	Section 4.5 describes and assesses DCC stormwater services available to communities in Dunedin. Sections 5.2 and 5.5 describe non-DCC stormwater services available to communities in Dunedin. Section 4.4 describes and assesses DCC wastewater services available to communities in Dunedin. Sections 5.2 and 5.4 describe non-DCC wastewater services available to communities in Dunedin.
71	(2)(a)	the health risks to communities arising from any absence of, or deficiency in, the services; and	
71	(2)(b)	the quality of the services currently available to communities within the district; and	
71	(2)(c)	the current and estimated future demands for any of those services; and	
71	(2)(d)	the actual or potential consequences of stormwater and wastewater discharges within the district.	
71	(3)	One type of service may be assessed in conjunction with the other.	Drinking water, wastewater and stormwater services are included in this Servicing Assessment.
71	(4)	An assessment may be conducted—	
71	(4)(a)	by the territorial authority; or	DCC staff completed the assessment recorded in this document.

Local Government (Water Services) Act 2025 requirement – wastewater and stormwater (section 71)			Relevant sections of this document
Provision number		**Provision**	
71	(4)(b)	on the authority's behalf by another appropriate organisation in the authority's district, including another water service provider or an iwi, hapū, or other Māori organisation.	Aukaha provided the mana whenua assessment included as section 6 of this document.
71	(5)	A territorial authority (or other organisation under subsection (4)(b)) must—	
71	(5)(a)	conduct its first assessment by 1 July 2029; and	This document, dated July 2026, records the assessment completed by DCC staff by 1 July 2026.
71	(5)(b)	conduct later assessments at least once every 3 years after the completion of the first assessment.	The next DCC three waters Servicing Assessment is due to be completed no later than 30 June 2029.
71	(6)	On completing an assessment, a territorial authority must make the assessment publicly available.	This Servicing Assessment document will be made available on the DCC website.
71	(7)	A territorial authority must also consider the findings and implications of the assessment in relation to—	Section 7.3 sets out DCC actions to give effect to these requirements, including through the development of the Water Services Strategy 2027-37 and the implementation of Dunedin's Future Development Strategy 2024 and Dunedin's 9-Year Plan 2025-34.
71	(7)(a)	the territorial authority's water services strategy under section 230; and	
71	(7)(b)	if the territorial authority is a shareholder in a water organisation that is a water service provider, the authority's statement of expectations under section 224; and	
71	(7)(c)	the territorial authority's district plan prepared under the Resource Management Act 1991; and	
71	(7)(d)	the territorial authority's broader duty to improve, promote, and protect public health within its district in accordance with section 23 of the Health Act 1956.	

3.2 Assessment Criteria and Scoring Methodology

As can be seen from the tables in Section 3.1, the LGWSA identifies a broad range of information a territorial must collect and consider as part of its assessments. To focus the assessment and enable the determination of assessment findings that could be tracked and compared over subsequent assessments, DCC staff developed a set of assessment criteria with an associated scoring system. The assessment criteria are based upon the considerations set out in the LGWSA, which focus on public health adequacy and ability of services to meet current and future demand.

The assessment criteria developed for each service are shown below:

Drinking water assessment criteria

1. The extent to which the community is currently receiving a sufficient quantity[1] of drinking water including consideration of the community's existing access to drinking water services – section 69(2)(d) of the LGWSA

2. The extent to which the community will continue to receive a sufficient quantity of drinking water – section 69(2)(d) of the LGWSA

3. The service is able to meet current demand – section 69(2)(d) of the LGWSA

4. The service is able to meet future demand – section 69(2)(d) of the LGWSA

5. The service is adequate from a public health perspective, in terms of health risks to communities, drinking water safety and quality – section 69(2)(e) and (f) of the LGWSA

Wastewater assessment criteria

1. The service is adequate from a public health perspective, in terms of health risks to communities – section 71(2)(a) of the LGWSA

2. The service is adequate from a public health perspective, in terms of the quality of the service – section 71(2)(b) of the LGWSA

3. The service is adequate from a public health perspective, in terms of ability to meet current demand[2] – section 71(2)(c) of the LGWSA

4. The service is adequate from a public health perspective, in terms of ability to meet future demand[3] – section 71(2)(c) of the LGWSA

Stormwater assessment criteria

1. The service is adequate from a public health perspective, in terms of health risks to communities – section 71(2)(a) of the LGWSA

2. The service is adequate from a public health perspective, in terms of the quality of the service – section 71(2)(b) of the LGWSA

[1] For the purposes of drinking water services criteria 1 and 2, **sufficient quantity** has the same meaning as in section 25(2) of the Water Services Act 2021. In summary, this means the quantity of drinking water that is sufficient to support the ordinary drinking water and sanitary needs of consumers at the point of supply.
[2] For the purposes of wastewater services criteria 3 and 4, **demand** refers to dry weather conditions and rainfall / wet weather events up to one-in-10 year events.
[3] For the purposes of wastewater services criterion 4, **future demand** relates to projected **demand** over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

3. The service is adequate from a public health perspective, in terms of ability to meet current demand[4] – section 71(2)(c) of the LGWSA

4. The service is adequate from a public health perspective, in terms of ability to meet future demand[5] – section 71(2)(c) of the LGWSA

Each service in each community was assessed and scored against each criteria, according to the Red / Amber / Green system shown in Table 3.

Table 3: Red, Amber and Green Scoring System

Assessment finding / score	Explanation
DID NOT MEET	• Material adequacy issues affecting service quality, public health or service capacity during the assessment period.
PARTIALLY MET	• Service had some constraints or indications of adequacy issues during the assessment period; manageable with mitigation.
MET EXPECTATIONS	• Service performance as intended with no material adequacy risks or issues.

Staff developed a set of indicators for each criterion to enable consistent, repeatable assessment and scoring of services. The indicators are specific data points or pieces of quantifiable information, often based on existing performance measures or compliance requirements applicable to services provide by the DCC. For each assessment criterion, staff then developed scoring guides for each of the three scoring categories (did not meet, partially met and met expectations) linked directly back to the indicators. The full assessment criteria – including indicators and associated scoring guides – are set out in Appendix B.

Assessments were generally conducted across the three-year period 1 July 2022-30 June 2025, to align with performance reporting and compliance periods applicable to much of the information that informed the assessment. However, significant changes that have occurred since 30 June 2025 are noted where relevant.

[4] For the purposes of stormwater services criterion 3, **demand** refers to rainfall / wet weather events up to one-in-10 year events.

[5] For the purposes of stormwater services criterion 4, **future demand** is defined in terms of ability to meet technical levels of service (design standards) and the assumption that Second Generation District Plan (2GP) rules relating to impervious surfaces are enforced. 'Future demand' relates to projected demand over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

Aukaha, on behalf of mana whenua, developed a different assessment and scoring system for the assessments of locations of significance to mana whenua. This system is explained and set out in Section 6 of this document.

3.3 Information Gathering

The DCC continuously monitors the condition and performance of the three waters systems that deliver DCC's three water services, as well as planning for the future operation, maintenance, renewal and upgrade of those systems.

A number of DCC sources contain information about DCC three waters services that corresponds to the indicators used in the assessment criteria, and these were used as sources of information for the servicing assessment. These sources included outputs of the DCC's recently-completed ISP programme; the 9YP (including the Infrastructure Strategy); DCC annual plans and annual reports; and the DCC's Water Services Delivery Plan (2025).

The data collected for DCC services was assessed against the criteria to determine if the service met, partially met or did not meet expectations as defined in Table 3. This was done for each individual service: drinking water, wastewater and stormwater.

DCC staff engaged with several key parties outside of the DCC to seek information to contribute to assessments of three waters services available in communities where services are not currently provided by the DCC. These included the Water Services Authority-Taumata Arowai, ORC and Health New Zealand/Te Whatu Ora. The information provided from these sources included information on consent compliance, drinking water regulatory compliance, and public health incidents. Submissions on previous Long Term Plans, Annual Plans and the FDS, the WSSA and results of previous ROS were also reviewed.

To gain a better understanding of three waters services available in communities that do not receive those services from the DCC, the DCC conducted a 'Water Services Survey' in 2024 and 2025. Targeted communications about the survey were sent to 2,448 properties in the communities that form part of category B. The survey asked for basic details about drinking water, wastewater and/or stormwater services available and for comments on any servicing issues experienced. Community Boards were provided with information about the survey to promote engagement with the survey. Overall, 284 responses to the survey were received. This equated to a response rate of 11.6%. The results are reflected in the assessment of non-DCC drinking water, wastewater and stormwater services in section 5 of this document.

In addition, the DCC engaged Aukaha to provide a cultural assessment of the adequacy of three waters services available in three locations of significance to mana whenua. The mana whenua assessment is provided in Section 6 of this document.

4 DCC three waters services

4.1 3 Waters Integrated System Planning Programme

In 2025, the DCC completed a five year programme of strategic planning work for the DCC's three waters infrastructure and services known as the 3 Waters Integrated System Planning (**ISP**) programme. Developed in partnership with mana whenua, the ISP programme created a comprehensive and robust adaptive plan to keep the DCC's drinking water, wastewater and stormwater services reliable, safe, and affordable for the next 50 years and beyond.

The ISP programme considered the costs of extending DCC three waters services to communities that do not currently receive those services but did not make any recommendations as to whether service extensions should occur.

The ISP programme identified a number of response actions to maintain and improve current DCC three waters services in a core investment pathway, including capital works projects. Funding for key actions identified by the ISP programme were included in in the 9YP and associated Infrastructure Strategy, and the DCC's Water Services Delivery Plan adopted in 2025. Key response actions in the core pathway include:

- improving the efficiency of drinking water use while diversifying water sources and adding storage.
- reducing wet weather overflows in DCC's wastewater networks, biosolids reuse and upgrades to wastewater treatment plants as part of obtaining new consents.
- improving the management of stormwater quantity and quality in key catchments through the implementation of green infrastructure, targeted treatment devices in high traffic areas and reducing the risk of flooding in private property.

More detail about the ISP programme and the response actions identified in the core pathway as part of the 50-year adaptive plan for DCC's three waters infrastructure and services can be found in the ISP summary report, which is available on the DCC website.[6]

4.2 Performance reporting and planning for the future

Detailed information about the compliance of DCC drinking water, wastewater and stormwater systems with regulatory requirements, as well as compliance improvement actions, is provided in the 'Statement of regulatory compliance' that forms part of the DCC's Water Services Delivery Plan (2025). The Water Services Delivery Plan is available on the DCC website. The 'Statement of regulatory compliance' is at pages 28-41. In addition, annual reporting against levels of service and associated performance measures and targets is provided in the DCC's annual reports, which are also available on the DCC website.

The DCC has identified improvement actions to address regulatory non-compliances and improve the performance and resilience of its three waters systems and services. The actions include operational improvements and capital improvements. The capital and operating expenditure

[6] Please visit: https://www.dunedin.govt.nz/services/water-supply/integrated-system-plan.

budgets set out in the Water Services Delivery Plan and the 9YP include funding for improvement actions.

Further information about the DCC's plans for the future of its three waters system and services is available in the 9YP, the Infrastructure Strategy that forms part of the 9YP, the Water Services Delivery Plan and the ISP summary report. These are available on the DCC website.

4.3 DCC drinking water services

Description of DCC drinking water services

Overview of the DCC water supply system

The DCC water supply system collects, conveys, and treats raw water to a safe, drinkable standards, then distributes drinking water to over 45,000 properties. This supports the health, safety and well-being of consumers, as well as economic activities in Dunedin.

The DCC owns and operates four registered drinking water supplies:

- Dunedin City (public register code: DUN001)
- Outram (public register code: OUT002)
- Waikouaiti (public register code: WAI015)
- West Taieri (public register code: WES002)

The DCC-owned and operated systems making up these supplies comprises around 210 km^2 of catchment area, 21 consented surface water (i.e. water from rivers and streams) abstraction points, nine water supply dams, 62 treated water reservoirs, over 1,700km of pipeline, 21 pumping stations and six water treatment plants (**WTP**).

These supplies are regulated under the Water Services Act 2021. The DCC monitors compliance with the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and the Drinking Water Quality Assurance Rules (**DWQAR**) and regularly reports on compliance to the Water Services Authority-Taumata Arowai.

The DCC has a duty as a drinking water supplier to supply a sufficient quantity of safe drinking water through to the customer's point of supply.

All DCC drinking water supplies include bacterial treatment barriers (chlorine disinfection) and protozoal treatment barriers (filtration and/or UV disinfection). Residual disinfection (via chlorination) is used to maintain the safety of drinking water in the distribution network between the treatment plant and the customer's point of supply. Drinking water produced at the two largest DCC WTPs – Mount Grand and Southern – is fluoridated. Drinking water safety plans, prepared and implemented in accordance with the requirements of the Water Services Act 2021, are in place for all DCC supplies.

Table 4 provides a summary of the key features of the four DCC drinking water supplies.

Table 4: Key features of the four DCC drinking water supplies

Supply Name	Water Source	WTP	Registered population	Number of connections (as at 30 June 2024)
Dunedin City DUN001	Deep Creek, Deep Stream, Powder Creek, Sligos Creek, McQuilkans Creek, McKenzies Creek, Taieri River Wells, Rossville Reservoir, Mount Grand Reservoir, Southern Reservoir	Mount Grand	112,515	47,554
		Southern		
		Port Chalmers		
Outram OUT001	Taieri River Wells	Outram	750	434
Waikouaiti WAI015	Waikouaiti River	Waikouaiti	1642	1,105
West Taieri WES002	Waipori River, West Taieri Reservoir	West Taieri	450 (plus Dunedin Airport)	155

Further information on the extent of the DCC water supply system and the condition of DCC water supply assets can be found in the Infrastructure Strategy that forms part of the 9YP, and in the DCC's Water Services Delivery Plan (2025). These are available on the DCC website.

Communities that receive drinking water services from the DCC

The community of settlements zone for urban land uses that receive drinking water services from the DCC includes the areas listed below. The applicable DCC drinking water supply is noted in the brackets:

- Dunedin City (DUN001)
- Fairfield (DUN001)
- Mosgiel (DUN001)
- East Coast to Brighton (DUN001)
- Port Chalmers (DUN001)
- Portobello (DUN001)
- Waikouaiti / Karitane (WAI015)
- Waitati and Doctors Point (DUN001)
- Warrington (DUN001)
- Seacliff (DUN001)
- Evansdale (DUN001)
- Hawksbury (WAI015)
- Outram (OUT001)
- Berwick (WES002)
- Dunedin Airport / Momona (WES002)

Most properties within these communities receive an 'on-demand' supply of drinking water from the DCC system. However, properties in Karitane, Warrington, Seacliff, Berwick, Momona (including Dunedin Airport), Waitati and Doctors Point receive a 'restricted flow' supply, where the DCC system provides a continuous flow of water to the customer's private storage tank(s). The flow rate is controlled by a restriction device so that the agreed volume is supplied progressively over a 24 -hour period. The customer's private storage tank(s) provides for the customer's pressure needs.

Some areas within the rural community also receive drinking water services from a DCC supply. These include North Taieri (on-demand supply, DUN001), East Taieri (restricted flow supply, DUN001), West Taieri (restricted flow supply, WES002) and Merton (restricted flow supply, DUN001).

Restricted flow supplies are a commonly used drinking water supply arrangement for rural or semi-rural communities across New Zealand. They are typically used in circumstances where water must be piped long distances to low-density users. From a consumer health perspective, restricted flow supplies may be considered higher risk than on-demand supplies due to:

- Water quantity factors: while set up to supply a sufficient quantity of drinking water to each point of supply, the network may not have capacity for firefighting, and customers must use their own private storage tanks to manage their pressure and demand needs. In some areas, the supply may have limited capacity to meet additional demand from growth.
- Water quality factors: while the DCC provides safe drinking water to the point of supply, subsequent storage of drinking water by customers in private storage tanks provides additional opportunities for the introduction of contaminants that are beyond the control of the DCC as the drinking water supplier.

In several cases, the DCC supplies drinking water to a single customer's point of supply and that customer then on-distributes that water on to other users via a large private network. Examples of this type of supply arrangement include Dunedin Airport and Hawksbury Village. The DCC is not involved in the operation of the private network and does not monitor water quantity and quality in the private network beyond the single customer's point of supply. The Water Services Authority-Taumata Arowai is currently developing a policy position on 'downstream supplies' and, in late-2025, conducted a public engagement exercise on proposed roles and responsibilities for 'upstream suppliers' (such as the DCC) and potential 'downstream suppliers' (which could include entities such as the Dunedin Airport). Outcomes of the engagement and a final policy position on 'downstream supplies' are expected to be published in mid-2026.

Assessment of DCC drinking water services

All DCC drinking water services have been assessed against the five assessment criteria for drinking water services as set out in table 5 and in full in Appendix B. The five assessment criteria for drinking water services and the findings of the assessment for communities that receive a drinking water service from the DCC are summarised in Table 5. Assessments relating to drinking water quantity have been completed against legislative minimums, rather than DCC's own levels of service targets.

Overall, the drinking water services available to communities that receive drinking water services from the DCC are assessed as PARTIALLY MET. This is because the assessment against several criteria found the service experienced some constraints or indications of adequacy issues during the assessment period, but that these are manageable with mitigation.

Actions identified to improve the adequacy of drinking water services available to communities that receive drinking water services from the DCC are provided in Section 4.3.

Table 5: Assessment findings for DCC drinking water services

Assessment criterion	Indicators	Result
1. The extent to which the **community** is **currently receiving a sufficient quantity**[7] of drinking water including consideration of the community's existing access to drinking water services - Section 69(2)(d) of the LGWSA	a) Notifications to Taumata Arowai and/or consumers of restriction or interruption of the supply of drinking water, and/or imminent risk to sufficient quantity of drinking water (e.g. any notifications and/or consumer advisories issued under Sections 25 and 26 of the Water Services Act 2021). b) Imposition of water restrictions.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.
2. The extent to which the **community** will **continue to receive a sufficient quantity** of drinking water – Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet projected future demand[8]. b) There is sufficient treatment capacity to meet projected future demand. c) There is sufficient treated water storage available to meet projected future demand. d) There is sufficient network capacity to meet projected future demand.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.
3. The **service** is able to **meet current demand –** Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet current demand. b) There is sufficient treatment capacity to meet current demand. c) There is sufficient treated water storage to meet current demand. d) There is sufficient network capacity to meet current demand.	MET EXPECTATIONS – service performed as intended with no material adequacy risks or issues.
4. The **service** is able to **meet future demand** – Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet projected future demand. b) There is sufficient treatment capacity to meet projected future demand. c) There is sufficient treated water storage available to meet projected future demand.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.

[7] For the purposes of drinking water services criteria 1 and 2, **sufficient quantity** has the same meaning as in Section 25(2) of the Water Services Act 2021. In summary, this means the quantity of drinking water that is sufficient to support the ordinary drinking water and sanitary needs of consumers at the point of supply.
[8] For the purposes of drinking water services criteria 2 and 4, **future demand** relates to projected demand over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

Assessment criterion	Indicators	Result
	d) There is sufficient network capacity to meet projected future demand.	
5. The **service** is **adequate from a public health perspective**, in terms of health risks to communities, drinking water safety and quality - LGWSA 2025 Section 69(2)(e) and (f) of the LGWSA	a) Notifications to Taumata Arowai and/or consumers of unsafe drinking water (e.g. any notifications and/or consumer advisories issued under Section 21 of the Water Services Act 2021). b) Notifications to Taumata Arowai and/or consumers of non-compliant drinking water (e.g. any notifications and/or consumer advisories issued under Section 22 of the Water Services Act 2021). c) Evidence of water-borne illness caused by drinking water d) For all drinking water supplies: i. Whether the drinking water supply is registered ii. whether there is a drinking water safety plan in place iii. Whether there is a treatment barrier for bacteria in place iv. Whether there is a treatment barrier for protozoa in place v. Whether residual disinfection is used vi. Whether adequate boundary backflow prevention measures are in place. e) Does DCC have business continuity plans in place to avoid and/or manage disruptions to drinking water services from unanticipated events? (e.g. disaster, sickness, pandemic, asset failure or scheduled maintenance.)	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.

The following explanations apply only to indicators that contributed to criteria assessed as PARTIALLY MET.

Drinking water assessment criterion 1 (*The extent to which the community is currently receiving a sufficient quantity of drinking water*)

The assessment against criterion 1 generated a result of PARTIALLY MET because:

- **Indicator (a):** The DCC made six notifications to the Water Services Authority – Taumata Arowai in relation to water quantity issues during the 2022-2025 assessment period:
  - Two of the six notifications related to water supply interruptions that exceeded the 8 hour threshold set out in Section 25 of the Water Services Act 2021. These interruptions related to shut-downs for physical works on parts of the water supply system that

extended beyond planned timeframes. In both instances, the DCC informed affected consumers. In one instance, the DCC provided an alternative water source for consumers.

- The remaining four notifications related to an imminent risk to the DCC's ability to maintain a sufficient quantity of drinking water. This risk arose in October 2024, when a severe heavy rain event damaged critical water pipelines supplying communities in parts of West Harbour and the Otago Peninsula. Ultimately, the DCC was able to maintain a sufficient supply through a combination of emergency pipeline repairs and by use of the (then dormant) Port Chalmers WTP. The DCC issued a boil water notice to consumers supplied from the Port Chalmers WTP (part of the DUN001 supply) for approximately four days, which helped to safeguard public health while the situation was being managed.

Drinking water assessment criterion 2 (*the extent to which the community will continue to receive a sufficient quantity of drinking water*) and criterion 4 (*the service is able to meet future demand*)

The assessment against criteria 2 and 4 generated a result of PARTIALLY MET because:

- **Indicator (a):** analysis completed as part of the ISP programme, including a catchment yield assessment and a consenting strategy, found that DCC's current raw water sources are unlikely to be able to meet projected future demand at all times. This is due to anticipated regulatory restrictions on water abstraction during periods of low river flows. The majority of the raw water abstracted for the DCC's water supply systems comes from surface water sources in the Taiari / Taieri catchment. The DCC's analysis indicated the DCC's ability to take water from these sources could be restricted for periods of days to weeks during peak demand periods in summer. The analysis also indicated that the DCC's current raw water storage capacity would be insufficient to maintain supply during these anticipated periods of restrictions on water abstraction from the environment.

- **Indicator (b):** analysis completed as part of the ISP programme found that treatment capacity is adequate to meet projected future demand at four of the six DCC WTPs. The analysis found that upgrades are required at the Outram WTP to ensure treatment capability and capacity is sufficient to meet projected future demand. The analysis also found that Port Chalmers WTP has insufficient capacity to meet projected future demand. The DCC intends to discontinue use of the Port Chalmers WTP and supply drinking water to Port Chalmers and surrounding settlements year-round from the Mount Grand WTP, as the Mount Grand WTP has sufficient capacity to supply the community serviced by the Port Chalmers WTP now and into the future.

Drinking water assessment criterion 5 (*the service is adequate from a public health perspective, in terms of health risks to communities, drinking water safety and quality*)

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** The DCC experienced impacts of a severe heavy rain event, which resulted in the DCC issuing a boil water notice to consumers supplied from the Port Chalmers WTP (part of the DUN001 supply) for approximately four days in early-October 2024. During this period, there were instances of non-compliance with bacterial treatment rules at the Port Chalmers

WTP. The boil water notice helped to safeguard public health while the situation was being managed.

- **Indicator (b):** The DUN001 supply recorded two exceedances of the Maximum Acceptable Value (**MAV)** for bromate (a disinfection by-product) in February 2023 and the DCC notified the regulator under Section 22 of the Water Services Act 2021. The DCC investigation identified the likely cause of the exceedances as a temporary change to normal disinfection procedures at one water treatment plant. The WAI015 supply recorded an exceedance of the MAV for lead in July 2023 and the DCC notified the regulator under Section 22 of the Water Services Act 2021. The DCC investigation found sampling error was the likely cause of the exceedance.

- **Indicator (d)(vi):** The DCC has an established boundary backflow prevention programme designed to reduce the risk of drinking water contamination through backflow. However, the DCC's programme does not currently meet all the requirements of the boundary backflow prevention rules in the DWQAR and, as a result, cannot be considered fully adequate. As part of its commitment to continuous improvement and full compliance with the Water Services Act 2021 and DWQAR requirements, the DCC has identified opportunities to strengthen the programme. Key areas for enhancement include:
  - Conducting periodic surveys of the network to identify high and medium backflow risks, at least once every five years;
  - Implementing procedures to ensure appropriate backflow prevention measures are installed where current protections are found to be inadequate; and
  - Ensuring sufficient resourcing and robust procedures are in place to support annual testing of all boundary backflow prevention devices protecting the DCC network.

  The DCC has undertaken initial scoping work on backflow programme gaps and resourcing needs. The next step is for the DCC to develop, resource and implement a boundary backflow prevention programme improvement plan to enable the DCC to demonstrate compliance with all of the backflow prevention rules in the DWQAR by 30 June 2028.

- **Indicator (e)**: The DCC has business continuity plans in place for drinking water services but there are gaps still to be filled before the suite of business continuity plans for DCC drinking water services can be considered complete.

Actions for DCC drinking water services

Table 6 sets out actions identified to improve the adequacy of drinking water services available to communities that receive drinking water services from the DCC. The actions are specific responses to the adequacy risks or issues identified in the assessment set out in Section 4.3. They are not a comprehensive set of recommended improvement actions for all aspects of the DCC's drinking water services.

Table 6: Actions for DCC drinking water services

Assessment criterion	Result	Action(s)
1. The extent to which the community is **currently receiving a sufficient quantity of drinking water** including consideration of the communities existing access to drinking water services - Section 69(2)(d)(i) of the LGWSA	PARTIALLY MET	• **Indicator (a):** the DCC has updated internal procedures to ensure that an alternative water source is made available for consumers in cases where water shut-downs for works are prolonged and / or exceed expected timeframes.
2. The extent to which the community will **continue to receive a sufficient quantity** of drinking water - LGWSA 2025 Section 69(2)(d)(ii)	PARTIALLY MET	• **Indicator (a):** the ISP programme recommended three responses to address anticipated future raw water supply constraints: investigation and development of groundwater supply as an alternative raw water source; investigation and development of new raw water storage; and water efficiency initiatives. These responses, including timeframes and funding allocated, are detailed in the 9YP. • **Indicator (b):** improvements to address future treatment capacity and capability issues identified in the supply from Port Chalmers WTP and Outram WTP have been identified and funding is included in the 9YP.
4. The service is able to **meet future demand** – Section 69(2)(d)(iii) of the LGWSA	PARTIALLY MET	
5. The service is **adequate from a public health perspective**, in terms of health risks to communities, drinking water safety and quality - LGWSA 2025 Section 69(2)(e) and (f) of the LGWSA	PARTIALLY MET	• **Indicator (d)(vi):** the DCC has identified the need to develop, resource and implement a boundary backflow prevention programme improvement plan that would enable the DCC to demonstrate full compliance with all of the backflow prevention rules in the DWQAR by 30 June 2028. • **Indicator (e):** the DCC has identified the need to complete the suite of business continuity plans for DCC drinking water services by developing additional plans to close gaps and to establish a programme of regular reviews and updates for business continuity plans.

Potential consequences of loss of drinking water services and plan for ongoing access

In addition to assessing the adequacy of drinking water services available to the communities, the LGWSA requires territorial authorities to:

- assess the consequences if the community loses access to drinking water services in the future, or is provided with drinking water services that are deficient in any way, including the implications for that community's public health; and
- outline a plan to provide for the community's ongoing access to drinking water services.

This section outlines – at a high level – the potential consequences for the community if its access to the DCC's drinking water services was lost in the future, or if the DCC provided deficient drinking water services. This outline is followed by a summary of how the DCC will maintain access to drinking water services for the community that currently receives those services from the DCC.

Potential consequences of loss of access to safe drinking water services provided by the DCC

A safe and sufficient supply of drinking water is fundamental to public health, economic activity, and community wellbeing. Loss of access to a drinking water service – or the delivery of unsafe or an insufficient quantity of water – could have significant and cascading impacts for the community in terms of:

- Public health consequences
- Social and community well-being consequences
- Economic and business consequences

These impacts could affect both those that receive a DCC drinking water supply directly (i.e. those customers with connections to the DCC water supply system) and those that may indirectly rely on the DCC drinking water supply system (e.g. residents of rural areas who may use the DCC water supply system while at work, or who may rely on tanker deliveries of drinking water drawn from the DCC system to supplement their own private systems when private supply cannot keep up with demand).

Public health consequences

A failure in DCC drinking water services could expose communities to microbiological contaminants such as *E. coli* and protozoa (e.g. *Cryptosporidium*), which can cause waterborne disease outbreaks.

Loss of water supply altogether can also increase transmission of other infectious diseases because handwashing, cleaning, food preparation, and sanitation become compromised. In addition, insufficient water may be available for emergency response such as firefighting.

When drinking water supply systems degrade or fail, monitoring and treatment of chemical contaminants may lapse. Although these risks are typically well controlled under normal operations, a deficient service increases the likelihood that exceedances go undetected.

Certain groups have a greater potential to be harmed when drinking water becomes unsafe or unavailable, including infants, pregnant people, elderly people, dialysis patients, immune-compromised people and members of low-income households with limited capacity for alternative water storage or transport.

Social and community well-being consequences

Long-term or repeated drinking water advisories (e.g. boil water notices or water restrictions) are likely to reduce trust in the drinking water supplier.

Loss of drinking water supply is likely to adversely affect:

- Household hygiene
- Food preparation
- Infant feeding (formula mixing)
- Home dialysis
- Ability to remain safely at home during outages.

For some residents, especially those without vehicles or with mobility challenges, sourcing an alternative supply of drinking water could become a significant burden.

Economic and business consequences

Many businesses rely on a continuous drinking water supply for safe operation. Loss of DCC supply could:

- Force temporary closure of cafes, restaurants, accommodation providers, and food-related industries due to public health, food safety or building compliance requirements.
- Disrupt manufacturing processes that require drinking water inputs.
- Increase production costs if businesses must purchase, transport, and store alternative drinking water supplies.

These disruptions could be economically significant, even for short-term outages.

Broader economic impacts could arise from:

- Worker absenteeism due to waterborne illness or caregiving responsibilities.
- Reduced consumer activity if public spaces or facilities (schools, pools, sports venues) must close due to unsafe drinking water.
- Increased council expenditure for emergency response, bottled water distribution, and infrastructure repair.

Plan for ongoing access

The LGWSA includes provisions that require territorial authorities to provide and maintain water services. These provisions evolved from prior requirements in the LGA councils to maintain water services.

In accordance with these and various other legislative duties and requirements, the DCC operates, maintains, renews, upgrades and plans for the future of its water supply system. To date, the formal expression of the DCC's plans, including the asset management approach and the related operational and capital expenditure budgets, are contained in the DCC's long-term plans and the associated infrastructure strategies, prepared in accordance with the requirements of the LGA. From 2027, a Water Services Strategy – prepared under the LGWSA – will take the place of the Long-Term Plan for water services.

At present, the DCC's plans (and associated budgets) to operate, maintain, renew and upgrade its existing water supply system in a manner that preserves ongoing access to a safe and sufficient supply of drinking

water for the serviced community are set out in the 9YP and associated 30-year Infrastructure Strategy. The projects and budgets included in the 9YP were informed by the outputs of the ISP programme.

4.4 DCC wastewater services

Description of DCC wastewater services

Overview of the DCC wastewater system

The DCC wastewater system collects, conveys, and treats wastewater from domestic and non-domestic customers. Treated wastewater is disposed to the ocean, land and freshwater. The DCC-owned and operated wastewater system is made up of five schemes, comprised of approximately 927 kilometres of pipeline, 78 pumping stations and seven wastewater treatment plants (WWTP). As at 30 June 2024, there were 48,033 connections to the DCC wastewater system.

The environmental effects of wastewater discharges are regulated under the RMA. Operation of the DCC wastewater system is enabled by 18 discharge consents, authorising discharges from WWTPs and the network to the coastal marine area, freshwater, air and land. The DCC monitors compliance with consent conditions and regularly reports on compliance to the ORC, which is the consent authority. Compliance with consent conditions is also regularly audited by the ORC.

Table 7 provides a summary of the DCC wastewater system, organised by scheme.

Table 7: DCC wastewater system, organised by scheme

Scheme	Treatment Plant	Treatment process summary	Treated wastewater discharge location	Key consents
Metropolitan	Tahuna	Screening, High Rate Activated Sludge, biological trickling filters and UV disinfection.	Discharge to coastal marine area via ocean outfall, approximately 1.1km offshore from St Kilda Beach.	• Discharge to coast (expires 2032). • Discharge to air (expires 2042). • Four network discharge consents (discharges to freshwater and coast) in the catchment (expire 2032-2042) • Discharge to air consent for Musselburgh Pumping Station (expires 2032).
	Green Island	Screening, High Rate Activated Sludge, clarification and UV disinfection.	Discharge to coastal marine area via ocean outfall, approximately 800m offshore from Waldronville Beach.	• Discharge to coast (expires 2032). • Discharge to air (expires 2032).
	Mosgiel	Screening, clarification and biological trickling filters at Mosgiel, then UV disinfection at Green Island WWTP.	Discharge to coastal marine area via Green Island WWTP ocean outfall.	None – discharge authorised under Green Island WWTP discharge consents.
Waikouaiti	Waikouaiti	Two-stage oxidation pond system.	Discharge to land adjacent to Waikouaiti Beach.	• Discharge to land (expires 2028). • Discharge to air (expires 2028).

Scheme	Treatment Plant	Treatment process summary	Treated wastewater discharge location	Key consents
Warrington	Warrington	Single oxidation pond with side-stream Moving Bed Biofilm Reactor.	Discharge to land on Warrington Spit.	• Discharge to land (expires 2027). • Discharge to air (expires 2027).
Seacliff	Seacliff	Septic tank and sand filtration.	Discharge to land in a manner that may enter water approximately 290 metres east southeast of the terminus of Kilgour Street, Seacliff.	• Discharge to land (expires 2041).
Middlemarch	Middlemarch	Two-stage oxidation pond system and constructed wetland.	Discharge to land where it may enter water approximately 982 metres east of the intersection of Aberafon Street and Olive Avenue, Middlemarch.	• Discharge to land where it may enter water (expires 2029).

In addition to direct property drainage connections to the DCC wastewater system, there are a number of effluent disposal facilities within the Dunedin territorial area that are connected to the DCC wastewater network. Effluent disposal facilities enable the safe disposal of sewage and other domestic wastewater (e.g. wastewater from the kitchen and bathroom) from self-contained vehicles and portable toilets to the DCC wastewater system, where it is treated at a DCC wastewater treatment plant before disposal to the environment.

Several effluent disposal facilities are operated and maintained by the DCC.

Other privately-owned and managed effluent disposal facilities are located at sites such as campgrounds / holiday parks and petrol stations.

Further information on the extent of the DCC wastewater system and the condition of DCC wastewater assets can be found in the Infrastructure Strategy that forms part of the 9YP, and in the DCC's Water Services Delivery Plan (2025). These are available on the DCC website.

Assessment of DCC wastewater services

All DCC wastewater services have been assessed against the four assessment criteria for wastewater services set out in the Assessment Criteria in Section 3.2 and at Appendix B. The four assessment criteria for wastewater services and the findings of the assessment for communities that receive wastewater services from the DCC are summarised in Table 8.

Overall, the wastewater services available to communities that receive wastewater services from the DCC are assessed as PARTIALLY MET. This is because the assessment against several criteria found the service experienced some constraints or indications of adequacy issues during the assessment period, but that these are manageable with mitigation.

Actions identified to improve the adequacy of wastewater services available to communities that receive wastewater services from the DCC are provided in Section 4.4.

Table 8: Assessment findings for DCC wastewater services

Assessment criterion	Indicators	Result
1. The service is adequate from a public health perspective, in terms of health risks to communities – Section 71(2)(a) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 1 for sewerage and sewage? **Performance Measure #1**: The number of dry weather sewerage overflows from the sewerage system, expressed per 1,000 sewerage connections to that system. (*DCC Performance Target*: zero overflows) b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 2 for sewerage and sewage? **Performance Measure #2:** Compliance with DCC resource consents for discharge from its sewerage system measured by the number of abatement notices, infringement notices, enforcement orders and convictions. (*DCC Performance Target*: zero non-compliance). c) Number of beach closure notifications due to faecal alert levels being reached in recreational water. d) Does DCC have business continuity plans in place to avoid and/or manage disruptions to wastewater services from unanticipated events? (e.g. disaster, sickness, pandemic, asset failure or scheduled maintenance.)	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.
2. The service is adequate from a public health perspective, in terms of the quality of the service – Section 71(2)(b) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 3 for sewerage and sewage? **Performance Measure #3**: Where the DCC attends to sewerage overflows resulting from a blockage or other fault in the sewerage system, the following median response times are measured: (i) Attendance time from the time the notification is received to the time that the service personnel reach the site; (*DCC Performance Target*: attendance in under 60 minutes) (ii) Resolution time from the time the notification is received to the time that the service personnel confirm resolution of the blockage or other fault. (*DCC*	MET EXPECTATIONS – service performed as intended with no material adequacy risks or issues.

Assessment criterion	Indicators	Result
	Performance Target: resolution in under 240 minutes). b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 4 for sewerage and sewage? **Performance Measure #4:** Percentage of residents satisfied with the sewerage system (*DCC Performance Target*: 65% or more residents are satisfied) c) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 5 for sewerage and sewage? **Performance Measure #5:** The total number of complaints received about any of the following: (*DCC Performance Target*: < 5 complaints per 1000 connections) (i) Sewage odour (ii) Sewerage system faults (iii) Sewerage system blockages *All of the complaints expressed per 1000 connections to the sewerage system.	
3. The service is adequate from a public health perspective, in terms of ability to meet current demand[9] – Section 71(2)(c) of the LGWSA	a) The wastewater network has sufficient capacity to convey current demand from connected users to the wastewater treatment plant / system. b) The wastewater treatment plant / system has sufficient capacity to treat current demand so that the system complies with any applicable regulatory limits on discharge volume, discharge quality, and quality of receiving environment.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.
4. The service is adequate from a public health perspective, in terms of ability to meet future demand[10] – Section 71(2)(c) of the LGWSA	a) The wastewater network has sufficient capacity to convey future demand from connected users to the wastewater treatment plant / system. b) The wastewater treatment plant / system has sufficient capacity to treat future demand so that the system complies with any applicable	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.

[9] For the purposes of wastewater services criteria 3 and 4, **demand** refers to dry weather conditions and rainfall / wet weather events up to 1-in-10-year events.

[10] For the purposes of wastewater services criterion 4, **future demand** relates to projected **demand** over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

Assessment criterion	Indicators	Result
	regulatory limits on discharge volume, discharge quality, and quality of receiving environment.	

The following explanations apply only to indicators that contributed to criteria assessed as PARTIALLY MET.

Wastewater assessment criterion 1 (*the service is adequate from a public health perspective, in terms of health risks to communities*)

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicators (a):** The DCC did not meet the performance target of zero dry weather overflows per 1,000 connections in 2022/23 (2.56 reported), 2023/24 (3.58 reported) and 2024/25 (1.91 reported). Dry weather wastewater overflows are generally caused by network blockages or asset failure (e.g. pipe breakage). Wastewater overflows, particularly in locations where people may come into contact with wastewater (e.g. when wastewater overflows to roads), present an inherent risk to public health due to the potential for human contact with contaminants. When overflows occur, the risk level is managed through DCC response actions, including isolation of the area, clean up actions and use of public health warning signs or other communications to warn of contamination risks.

- **Indicator (b):** On 22 February 2024, ORC issued Abatement Notice EN.RMA.24.0003 for exceeding the Oxides of Nitrogen limit specified in condition 3 of the consent RM12.139.01, which authorises the discharge of contaminants into the air from Tahuna WWTP. The DCC sought a variation to the conditions of the consent based on a technical review of treatment process, discharge characteristics and resulting environmental effects. The variation, which included a revised discharge quality limit for Oxides of Nitrogen, was issued in October 2025. The ORC cancelled the abatement notice in February 2026, after the 2025 results of DCC's annual emissions monitoring at Tahuna WWTP demonstrated compliance with the revised Oxides of Nitrogen limit.

- **Indicator (c):** During the 2022-2025 assessment period, there were two instances when 'beach closure' notifications were issued due to faecal contamination alert levels being reached:
  - In July 2022, Lawyers Head, Tomahawk and Smaills Beaches were 'closed' for several days. This action was taken following the discharge of partially treated wastewater from the Tahuna WWTP due to the effects of a severe wet weather event and a mechanical failure at the plant. During this period faecal bacteria results in beach water were above the alert levels in the recreational guidelines for marine waters on several occasions.
  - In October 2024, the DCC issued proactive warnings to the community and undertook additional beach water quality monitoring due to the effects of a significant wet weather event on discharges from Tahuna WWTP. Although there were several elevated results for faecal contaminants in beach water during this period, the formal conditions for 'beach closure' set out in the recreational guidelines for marine waters were not met during this event.

- **Indicator (d):** The DCC has business continuity plans in place for wastewater services but there are gaps still to be filled before the suite of business continuity plans for DCC wastewater services can be considered complete.

Wastewater assessment criterion 3 (*the service is adequate from a public health perspective, in terms of ability to meet current demand*):

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** performance of the wastewater network indicates there is adequate capacity in the network to accommodate current dry weather wastewater flows without resulting in wastewater overflows. However, the network capacity consumed by dry weather flows is higher than normal design standards. In the 1-in-10-year wet weather event, there are overflows from the network, indicating that there are capacity constraints in some parts of the network.

- **Indicator (b):** during the 2022-2025 assessment period, the DCC received significant non-compliance grades as the result of ORC audits of compliance with the air and coastal discharge consents for Tahuna WWTP and the land discharge consent for Warrington WWTP. In addition, the DCC received a moderate non-compliance grade for audits relating to compliance with discharge to land consent for the Waikouaiti WWTP. The reasons for the significant and moderate non-compliance grades, which related to non-compliances with limits on discharge quantity and/or discharge quality, have since been resolved through a combination of capital/asset, operational and administrative actions. Specific details covering the period up to 30 June 2025 are available in the DCC's annual reports and the Water Services Delivery Plan (2025). The most recent ORC compliance audit grades and further progress updates relating to the 2025/26 compliance period are summarised below:
  - *Tahuna WWTP (discharge to coast) 2025 compliance audit*: Moderate Non-Compliance. This was due to exceedances of the discharge quality limits for Oil & Grease and Copper during the 2024/25 compliance period. The Tahuna WWTP discharge has been compliant with the consent limits for Oil & Grease since 24 June 2025 and Copper from 29 April 2025. The DCC expects to achieve a Full Compliance grade for the Tahuna WWTP discharge to coast at the 2026 audit.
  - *Tahuna WWTP (discharge to air) 2025 compliance audit*: Significant Non-Compliance. As outlined above in relation to assessment criterion 1, the DCC addressed the non-compliance via a variation to the conditions of the consent. The variation, which included a revised discharge quality limit for Oxides of Nitrogen, was issued in October 2025. In February 2026, the ORC cancelled an abatement notice previously issued in relation to this non-compliance, after the 2025 results of DCC's annual emissions monitoring at Tahuna WWTP demonstrated compliance with the revised Oxides of Nitrogen limit. The DCC expects to achieve a Full Compliance grade for the Tahuna WWTP discharge to air at the 2026 audit.
  - *Warrington WWTP (discharge to land) 2025 compliance audit*: Low-Risk Non-Compliance. This was due to infrequent exceedances of the discharge quantity limits as a result of high rainfall and one instance of missed monthly environmental monitoring samples during the 2024/25 compliance period. The DCC has made improvements to address these non-compliances during the 2025/26 compliance period and expects to achieve a Full Compliance grade for the Warrington WWTP discharge to land at the 2026 audit.
  - *Waikouaiti WWTP (discharge to land) 2025 compliance audit*: Low-Risk Non-Compliance. This was due to an exceedance of the discharge quantity limits as a result of high rainfall and exceedances of the discharge quality limits for Total Suspended Solids. The Waikouaiti WWTP discharge has been compliant with the consent limits for Total Suspended Solids since 10 July 2025. Although this non-compliance has now been resolved, the Waikouaiti WWTP discharge

to land may receive another non-compliance grade at the 2026 audit due to the non-compliance extending into the 2025/26 compliance period.

Wastewater assessment criterion 4 (*the service is adequate from a public health perspective, in terms of ability to meet future demand*)

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** performance of the wastewater network indicates that there is adequate capacity in the network to accommodate future dry weather wastewater flows without resulting in wastewater overflows. However, the network capacity consumed by dry weather flows is higher than normal design standards. In the 1-in-10-year wet weather event, there overflows from the network, indicating that there are capacity constraints in some parts of the network.

- **Indicator (b):** future capacity assessments indicate that Dunedin's WWTPs have adequate capacity to meet future demand in dry weather. In the 1-in-10-year wet weather event, certain process steps in existing WWTPs do not have adequate capacity and non-compliance with applicable regulatory limits is possible.

Actions for DCC wastewater services

Table 9 sets out actions identified to improve the adequacy of wastewater services available to communities that receive wastewater services from the DCC. The actions are specific responses to the adequacy risks or issues identified in the assessment set out in Section 4.4. They are not a comprehensive set of recommended improvement actions for all aspects of the DCC's wastewater services.

Table 9: Actions for DCC wastewater services

Assessment criterion	Result	Action(s)
1. The service is adequate from a public health perspective, in terms of health risks to communities – Section 71(2)(a) of the LGWSA	PARTIALLY MET	• **Indicator (c):** the 9YP includes funding for projects designed to improve wastewater system resilience during wet weather events. Implementation of these projects should reduce the likelihood that discharges from the Tahuna and Green Island WWTPs during wet weather events create the need for beach closures to manage impacts on public health. • **Indicator (d):** the DCC has identified the need to complete the suite of business continuity plans for DCC wastewater services by developing additional plans to close gaps and to establish a programme of regular reviews and updates for business continuity plans.
3. The service is adequate from a public health perspective, in terms of ability to meet current demand – Section 71(2)(c) of the LGWSA	PARTIALLY MET	• **Indicator (a):** please see actions identified in relation to assessment criterion 4 (below). • **Indicator (b):** while the specific issues that caused significant and moderate non-compliance with discharge consents during the assessment period have now been resolved, the DCC needs to continue to invest in the operation, maintenance and upgrade of its wastewater system – in accordance with

Assessment criterion	Result	Action(s)
		the 9YP – to reduce the likelihood of future non-compliances.
4. The service is adequate from a public health perspective, in terms of ability to meet future demand – Section 71(2)(c) of the LGWSA	PARTIALLY MET	• **Indicators (a) and (b):** as the service is adequate to meet future demand in dry weather but not in wet weather, the 9YP includes funding for the following actions that will improve the adequacy of the service: - $49M for replacement of the Musselburgh wastewater pump station and rising mains to Tahuna WWTP, which will also improve wet weather performance of the wastewater network. - $26M for renewal of approximately 4km of the Main Interceptor Sewer (**MIS**), increasing capacity where necessary to cater for growth and improve wet weather performance of the wastewater network. - $61M for wet weather flow management. An investigation study is currently in progress to identify the most cost-effective interventions in the wastewater network so that projects can then be scoped and implemented. - Operational funding for an inflow and infiltration monitoring programme to identify and resolve cross-connections in private property from the stormwater to the wastewater system, which can increase wet weather flows in the wastewater network. This programme has already commenced.

4.5 DCC stormwater services

Description of DCC stormwater services

Overview of the DCC stormwater system

The DCC stormwater system collects rainwater and conveys it away from properties and roads to prevent flooding. Stormwater is discharged from the DCC stormwater system to coastal waters and to a variety of rivers, streams, creeks and privately-owned watercourses. The DCC-owned and operated stormwater system is comprised of approximately 393 kilometres of pipeline and 11 pumping stations. As at 30 June 2024, 49,488 properties in the DCC territorial area were rated for stormwater services.

Stormwater is generally not extensively treated to remove contaminants prior to discharge to the receiving environment, other than rudimentary solids and hydrocarbon capture in mud tanks (the 'catch pits' that stormwater from roads drains into before reaching the piped stormwater network).

The environmental effects of stormwater discharges are regulated under the RMA. Operation of the DCC system is enabled by 11 discharge consents, authorising discharges to the Otago Harbour (nine consents), the coastal marine area of St Clair and Seconds Beach (one consent) and Tomahawk Lagoon (one consent). The DCC monitors stormwater discharges and the receiving environment in accordance with consent conditions and regularly reports on compliance to the ORC, which is the consent authority. Compliance with consent conditions is also regularly audited by the ORC.

Other stormwater network discharges to freshwater are managed as permitted activities under the regional plans for water and coast – these include discharges to waterways in the Leith / Lindsay, Kaikorai Stream, Silverstream and March Creek catchments, and to estuaries and coastal waters in Brighton / Waldronville, Green Island, Waikouaiti / Karitane and Warrington.

Further information on the extent of the DCC stormwater system and the condition of DCC stormwater assets can be found in the Infrastructure Strategy that forms part of the 9YP, and in the DCC's Water Services Delivery Plan (2025). These are available on the DCC website.

Assessment of DCC stormwater services

All DCC stormwater services have been assessed against the four assessment criteria for stormwater services set out in the Assessment Criteria in Section 3.2 and at Appendix B. The four assessment criteria for stormwater services and the findings of the assessment for communities that receive stormwater services from the DCC are summarised in Table 10.

Overall, the stormwater services available to communities that receive stormwater services from the DCC are assessed as PARTIALLY MET. This is because the assessment against all criteria found the service experienced some constraints or indications of adequacy issues during the assessment period, but that these are manageable with mitigation.

Actions identified to improve the adequacy of stormwater services available to communities that receive stormwater services from the DCC are provided in Section 4.5.

Table 10: Assessment findings for DCC stormwater services

Assessment criterion	Indicators	Result
1. The service is adequate from a public health perspective, in terms of health risks to communities	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 2 for stormwater?	PARTIALLY MET – service has some constraints or indications of

Assessment criterion	Indicators	Result
– Section 71(2)(a) of the LGWSA	**Performance Measure #2**: The number of flooding events that occurred in the DCC district, and for each flooding event, the number of habitable floors affected (expressed per 1,000 properties connected to the stormwater system). (*DCC Performance Target*: 0 flooding events, and 0 habitable floors affected). b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 3 for stormwater? **Performance Measure #3:** Compliance with DCC resource consents for discharge from its stormwater system measured by the number of abatement notices, infringement notices, enforcement orders and convictions. (*DCC Performance Target*: zero non-compliance) c) Number of public notifications due to faecal alert levels being reached in recreational water. d) Does DCC have business continuity plans in place to avoid and/or manage disruptions to stormwater services from unanticipated events? (e.g. disaster, sickness, pandemic, asset failure or scheduled maintenance.)	adequacy issues, manageable with mitigation.
2. The service is adequate from a public health perspective, in terms of the quality of the service – Section 71(2)(b) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 1 for stormwater? **Performance Measure #1**: Percentage of residents satisfied with the stormwater system. (*DCC Performance Target*: 50% or more of residents are satisfied) b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 4 for stormwater? **Performance Measure #4:** The median response time to attend a flooding event, measured from the time that notification is received to the time that service personnel reach the site. (*DCC Performance Target*: <60 minutes)	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.

Assessment criterion	Indicators	Result
3. The service is adequate from a public health perspective, in terms of ability to meet current demand[11] – Section 71(2)(c) of the LGWSA	a) The stormwater system has sufficient capacity to convey current demand from connected users to the environment.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.
4. The service is adequate from a public health perspective, in terms of ability to meet future demand[12] – Section 71(2)(c) of the LGWSA	a) The stormwater system has sufficient capacity to convey future demand from connected users to the environment.	PARTIALLY MET – service has some constraints or indications of adequacy issues, manageable with mitigation.

The following explanations apply only to indicators that contributed to criteria assessed as PARTIALLY MET.

Stormwater assessment criterion 1 (*the service is adequate from a public health perspective, in terms of health risks to communities*)

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** Habitable floor flooding presents an inherent risk to public health due to the potential for human contact with contaminants carried by stormwater (which can include wastewater). The DCC did not meet the performance target of 0 flooding events with 0 habitable floors per 1000 properties affected in 2022/23 (1 event, 3 habitable floors per 1000 properties reported). The DCC met the performance target in 2023/24. In 2024/25, the DCC also reported that it did not meet the performance target (1 event, 0.5 habitable floors per 1000 properties affected reported). However, the DCC's reporting noted that a heavy rainfall event in October 2024 resulted in a state of emergency being declared in Dunedin and evacuations from homes in South Dunedin. This was a 1-in-80-year flooding event and resulted in habitable floor flooding in 25 residential properties. Activation of a Civil Defence response, declaration of a state of emergency in Dunedin and evacuation of homes affected the recording of flooding events and response times in DCC systems.

- **Indicator (d):** The DCC has business continuity plans in place for stormwater services but there are gaps still to be filled before the suite of business continuity plans for DCC stormwater services can be considered complete.

Stormwater assessment criterion 2 (*the service is adequate from a public health perspective, in terms of health risks to communities*)

The assessment against this criterion generated a result of PARTIALLY MET because:

[11] For the purposes of stormwater services criterion 3, **demand** refers to dry weather conditions and rainfall / wet weather events up to 1-in-10-year events.

[12] For the purposes of stormwater services criterion 4, **future demand** is defined in terms of ability to meet technical levels of service (design standards) and the assumption that Second Generation District Plan (2GP) rules relating to impervious surfaces are enforced. 'Future demand' relates to projected demand over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

- **Indicator (b):** The DCC did not meet its performance target for the median response time to attend a flooding event during the 2022-2025 assessment period. In 2022/23 the median response time to a flooding event was 62 minutes (the target is <60 minutes). The DCC met the target in 2023/24. In 2024/25 the DCC was unable to report against this performance measure due to as activation of a Civil Defence response, declaration of a state of emergency in Dunedin and evacuation of homes during the October 2024 event affected the recording of response times in DCC systems.

Stormwater assessment criterion 3 (*the service is adequate from a public health perspective, in terms of ability to meet current demand*)

The assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** System performance assessments completed during the ISP programme and earlier projects indicate that in some areas of the city there is insufficient system capacity to meet current demand in the 1-in-10-year wet weather event.

Stormwater assessment criterion 4 (*the service is adequate from a public health perspective, in terms of ability to meet future demand*)

This assessment against this criterion generated a result of PARTIALLY MET because:

- **Indicator (a):** System performance assessments of future demand completed during the ISP programme and earlier projects indicate that in some areas of the city there is insufficient system capacity to meet future demand in the 1-in-10-year wet weather event.

Actions for DCC stormwater services

Table 11 sets out actions identified to improve the adequacy of stormwater services available to communities that receive stormwater services from the DCC. The actions are specific responses to the adequacy risks or issues identified in the assessment set out in Section 4.5. They are not a comprehensive set of recommended improvement actions for all aspects of the DCC's stormwater services.

Table 11: Actions for stormwater services

Assessment criterion	Result	Action(s)
1. The service is adequate from a public health perspective, in terms of health risks to communities - Section 71(2)(a) of the LGWSA	PARTIALLY MET	• **Indicator (a):** the 9YP includes funding for the following initiatives that will improve the adequacy of the service: - $29M for South Dunedin Short-Term projects to reduce flood risks. - $15M for further stormwater intervention projects that will result from the South Dunedin Future climate adaptation plan. - $10M for Mosgiel stormwater upgrades. - When stormwater assets are renewed due to age/condition, their capacity is increased to meet the

Assessment criterion	Result	Action(s)
		assessment criterion of a 1-in-10-year wet weather event. • **Indicator (d):** the DCC has identified the need to complete the suite of business continuity plans for DCC stormwater services by developing additional plans to close gaps and to establish a programme of regular reviews and updates for business continuity plans.
2. The service is adequate from a public health perspective, in terms of the quality of the service - Section 71(2)(b) of the LGWSA	PARTIALLY MET	• **Indicator (b):** the 9YP includes funding for the following initiatives that will improve the adequacy of the service: - $29M for South Dunedin Short-Term projects to reduce flood risks. - $15M for further stormwater intervention projects that will result from the South Dunedin Future climate adaptation plan. - $10M for Mosgiel stormwater upgrades. - When stormwater assets are renewed due to age/condition their capacity is increased to meet the assessment criterion of a 1-in-10-year wet weather event.
3. The service is adequate from a public health perspective, in terms of ability to meet current demand - Section 71(2)(c) of the LGWSA	PARTIALLY MET	• **Indicator (a):** DCC's 9-Year Plan 2025-34 includes funding for the following initiatives that will improve the adequacy of the service: - $29M for South Dunedin Short-Term projects that will reduce flood risks. - $15M for further stormwater intervention projects that will result from the South Dunedin Future climate adaptation plan. - $10M for Mosgiel stormwater upgrades. - When stormwater assets are renewed due to age/condition their capacity is increased to meet the assessment criterion of a 1-in-10-year wet weather event.
4. The service is adequate from a public health perspective, in terms of ability to meet future demand - Section 71(2)(c) of the LGWSA	PARTIALLY MET	• **Indicator (a):** DCC's 9-Year Plan 2025-34 includes funding for the following initiatives that will improve the adequacy of the service: - $29M for South Dunedin Short-Term projects that will reduce flood risks.

Assessment criterion	Result	Action(s)
		- $15M for further stormwater intervention projects that will result from the South Dunedin Future climate adaptation plan. - $10M for Mosgiel stormwater upgrades. - When stormwater assets are renewed due to age/condition their capacity is increased to meet the assessment criterion of a 1-in-10-year wet weather event.

5 Non-DCC three waters services available to communities

5.1 Communities assessed and structure of this section

This section assesses three waters (drinking water, wastewater and stormwater) services available to communities where those services are not provided by the DCC. The communities assessed in Section 5 include the following, as per the definition of communities set out in Section 2 of this document:

- **Category B**: Communities zoned for urban land uses that do not receive one or more of:
  - drinking water services from the DCC (13 out of 22 Category B communities[13])
  - wastewater services from the DCC (18 out of 22 Category B communities[14])
  - stormwater services from the DCC (20 out of 22 Category B communities[15])
- **Category D**: the rural community.

Section 5.2 provides an overview of the three waters services used in those communities that do not receive those services from the DCC and generic assessments for communities where services include individual or small-scale private self-servicing arrangements.

Sections 5.3-5.5 provide specific descriptions and assessments in relation to communities where additional information has been made available about non-DCC drinking water, wastewater or stormwater services available in those communities.

5.2 Three waters services used in communities that do not receive those services from the DCC: overview

Non-DCC drinking water services

Information available to the DCC indicates the majority of properties within the communities assessed are supplied with drinking water via domestic self-supplies. Domestic self-supply arrangements include rainwater tank supply, groundwater supply and – to a lesser extent – surface water supply.

Some domestic self-suppliers may use deliveries of drinking water from a DCC supply via a registered water carrier to supplement domestic self-supplies. There are currently seven water carriers in the DCC territorial area listed on the public register of drinking water supplies.[16] All registered water carriers have drinking water safety plans and must comply with relevant drinking water compliance rules and standards.

During this assessment, the DCC did not collect specific information about the performance and adequacy of individual domestic self-supplies in these communities. Where no specific information has been made available to suggest specific public health or other access and adequacy issues occurring due to use of

[13] The remaining nine Category B communities receive drinking water services from the DCC: Momona – Dunedin Airport; Outram; Evansdale; Waitati / Doctors Point; Coast Road, Warrington; Seacliff; Challis Point and Greenlaw St, Waikouaiti. DCC drinking water services are assessed in Section 4.2 of this report.
[14] The remaining four Category B communities receive wastewater services from the DCC: Allanton; Middlemarch; Seacliff and Challis Point. DCC wastewater services are assessed in Section 4.3 of this report.
[15] The remaining two Category B communities receive stormwater services from the DCC: Middlemarch and Outram. DCC stormwater services are assessed in Section 4.4 of this report.
[16] The public register of drinking water supplies can be viewed on the Water Services Authority-Taumata Arowai website: https://hinekorako.taumataarowai.govt.nz/publicregister/supplies/

domestic self-supplies in these communities, the adequacy of drinking water services available in these communities has been assessed as PARTIALLY MET. This finding was reached based on a broad consideration of the five assessment criteria for drinking water services and associated indicators, as well as the inherent risks associated with the various forms of domestic self-supply.

Table 12 summarises the reasons for assessing domestic self-supplies as PARTIALLY MET:

Table 12: Reasons for assessing domestic self-supplies as partially met

Supply type	Reasons for assessing as PARTIALLY MET
Domestic self-supply - rainwater collection	**Drinking water quality:** rainwater may be contaminated by microorganisms, chemicals, and other pollutants, depending on the methods used for collection and storage. While end-point treatment devices (that may include filtration and / or UV disinfection) are available for use on rainwater self-supplies and may reduce the health risks arising from some contaminants, the DCC does not currently hold information of the use of end-point treatment devices in these communities. **Drinking water quantity:** domestic self-supplies that rely on rainwater are subject to variable rainfall rates. Under forecast climate change scenarios, rainfall is predicted to become less frequent but more intense in future. This is likely to mean domestic self-suppliers will need either increased rainwater storage or to increase reliance on importation of drinking water by water carrier in instances when supply of water from the environment is low for prolonged periods and existing storage is unable to provide for demand.
Domestic self-supply - groundwater	**Drinking water quality:** groundwater may be contaminated by microorganisms, chemicals, and other pollutants such as heavy metals, depending on local geology and surrounding land uses. While end-point treatment devices (that may include filtration and / or UV disinfection) are available for use on groundwater self-supplies and may reduce the health risks arising from some contaminants, the DCC does not currently hold information of the use of end-point treatment devices in these communities. **Drinking water quantity:** domestic self-supplies that rely on groundwater sources such as wells or bores may face reduced security of supply where recharge rates decline during prolonged dry periods or drought conditions. Increased demand on aquifers, including cumulative abstraction from nearby users, can result in lowering of groundwater levels and reduced well yields, particularly for shallow or poorly connected aquifers. Longer-term changes in recharge driven by climate variability may require actions such as deepening of bores, well redevelopment, demand management, or the importation of drinking water by water carrier where groundwater levels are insufficient to sustain household supply over extended periods.
Domestic self-supply - surface water	**Drinking water quality:** surface water may be contaminated by microorganisms, chemicals, and other pollutants, depending on factors such as land uses in the catchment. While end-point treatment devices (that may include filtration and / or UV disinfection) are available for use on surface water self-supplies and may reduce the health risks arising from some contaminants, the DCC does not currently hold information of the use of end-point treatment devices in these communities.

Supply type	Reasons for assessing as PARTIALLY MET
	Drinking water quantity: domestic self-supplies that rely on surface water sources such as rivers and streams are vulnerable to reduced reliability during extended dry periods, as lower catchment rainfall and increased evapotranspiration can significantly diminish baseflows. Greater seasonal variability in stream flows, coupled with competing upstream abstractions and environmental flow requirements, may result in insufficient water being available to meet household demand, necessitating the development of alternative abstraction points, supplementary storage, demand management, or the importation of drinking water by water carrier when surface water availability is constrained for prolonged periods.

The following table shows the general assessment findings applicable to communities where drinking water services are provided by domestic self-supply.

Table 13: General assessment findings of communities where drinking was provided by domestic self-supply

Assessment criterion	Result	Comment
1. The extent to which the community is **currently receiving a sufficient quantity**[17] of drinking water including consideration of the communities existing access to drinking water services - Section 69(2)(d)(i) of the LGWSA	PARTIALLY MET	Sufficiency of current drinking water supply quantity for domestic self-supplies is likely to be susceptible to local factors such as variable rainfall and size of storage available at the property.
2. The extent to which the community will **continue to receive a sufficient quantity** of drinking water - LGWSA 2025 Section 69(2)(d)(ii)	PARTIALLY MET	Sufficiency of future drinking water supply quantity for domestic self-supplies is likely to be susceptible to local factors such as variable rainfall and size of storage available at the property.
3. The service is able to **meet current demand –** Section 69(2)(d)(ii) of the LGWSA	PARTIALLY MET	The ability of domestic self-supplies to meet current demand for drinking water is likely to be susceptible to local factors such as variable rainfall and size of storage available at the property.
4. The service is able to **meet future demand** – Section 69(2)(d)(iii) of the LGWSA	PARTIALLY MET	The ability of domestic self-supplies to meet future demand for drinking water is likely to be susceptible to local factors such as variable rainfall and size of storage available at the property.
5. The service is **adequate from a public health perspective**, in terms of health risks to communities, drinking water safety and quality - LGWSA	PARTIALLY MET	Domestic self-supplies have inherent public health adequacy risks due to the potential for contamination of drinking water, especially where water is consumed without treatment. Use of end-point treatment devices such as household water filtration and UV disinfection units may reduce the

[17] For the purposes of drinking water services criteria 1 and 2, **sufficient quantity** has the same meaning as in Section 25(2) of the Water Services Act 2021. In summary, this means the quantity of drinking water that is sufficient to support the ordinary drinking water and sanitary needs of consumers at the point of supply.

Assessment criterion	Result	Comment
2025 Section 69(2)(e) and (f) of the LGWSA		level of risk, particularly in relation to microbiological contaminants. Other methods such as boiling drinking water can reduce health risks associated with potential microbiological contamination but may not be a suitable long-term management approach for consumers.

Potential consequences of loss of access to drinking water services and plan for future access

In addition to assessing the adequacy of drinking water services available to the communities, the LGWSA requires territorial authorities to:

- assess the consequences for the community if it loses access to drinking water services in the future, or is provided with drinking water services that are deficient in any way, including the implications for that community's public health; and
- outline a plan to provide for the community's ongoing access to drinking water services.

Section 4.3 of this document outlines – at a high level – the potential consequences for the community serviced by DCC drinking water supplies if its access to DCC drinking water services was lost in the future, or if the DCC provided deficient drinking water services. This outline was followed by a summary of the DCC's plan to maintain access to drinking water services for the community that currently receives those services from the DCC.

As set out in Section 4.3, loss of access to a drinking water service – or the delivery of unsafe or an insufficient quantity of water – could have significant and compounding impacts for the community in terms of:

- Public health consequences
- Social and community well-being consequences
- Economic and business consequences.

The consequences of loss of supply drinking water supply services in the communities that do not receive these services from the DCC are likely to be the same but at a lower scale based on smaller community sizes. In addition, in communities where land use is residential only (i.e. no commercial use) the loss of access to drinking water supply services may not have direct consequences for economic and business activity.

At present, the DCC's plans to provide for ongoing access to drinking water services in communities that do not currently receive drinking water services from the DCC is limited to the ongoing operation, maintenance, renewal, upgrade and planning for the future of the DCC's own water supply system. This means the DCC's water supply system is available to members of the community as a backup supply (e.g. through the transport and delivery of drinking water from the DCC supply by registered water carriers) in circumstances where they are unable to use their own supplies due to water quality and/or quantity issues. Further opportunities for the DCC to support the future resilience of drinking water supplies in communities that do not currently receive drinking water services from the DCC are set out in the Conclusions and Next Steps section of this document (Section 7).

Non-DCC wastewater services

Information available to the DCC indicates the majority of properties within the communities assessed use private, individual on-site wastewater self-servicing systems to collect, treat and dispose of wastewater. The most common system is the septic tank and associated disposal field, with other less-common systems including composting toilets, chemical toilets and long drops.

During this assessment, the DCC did not collect specific information about the performance and adequacy of on-site wastewater self-servicing systems in these communities.

Where no specific information has been available to suggest specific public health or other access and adequacy issues associated with on-site wastewater self-servicing systems occurring, the adequacy of wastewater services available in these communities has been assessed as PARTIALLY MET. This finding was reached based on a broad consideration of the four assessment criteria for wastewater services and associated indicators applied to DCC wastewater services, as well as the inherent public health risks associated with use of individual on-site wastewater self-servicing systems.

Table 14 summarises the reasons for assessing individual on-site wastewater self-servicing systems as PARTIALLY MET:

Table 14: Reasons for assessing individual on-site wastewater self-servicing as partially met

Service type	Reasons for assessing as PARTIALLY MET
Individual on-site self-servicing system – septic tank with land drainage field	Septic tanks with land drainage fields are a common on-site wastewater management method but present inherent risks to environmental quality and public health when not appropriately designed, located, or maintained. These systems discharge partially treated effluent directly to land, but contaminants could enter groundwater and surface waters where soil conditions are inadequate or where overloading or system failure occurs. Wastewater contains pathogens (e.g. bacteria, viruses and protozoa) and nutrients such as nitrogen and phosphorus, which can contaminate drinking water supplies and recreational waters, leading to illness and ecological degradation. Contamination of groundwater and nearby water bodies is a risk where systems are poorly maintained or located in sensitive environments, potentially affecting human health, ecosystems, and potable water sources. Events such as heavy rainfall or flooding could exacerbate these risks by mobilising effluent and increasing the likelihood of overflows into surrounding land and waterways. There are tanker operators in Dunedin that will remove wastewater and solids from individual on-site wastewater treatment systems, including septic tank systems, and dispose of it at an approved facility (e.g. a DCC wastewater treatment plant). The Regional Plan: Water for Otago (ORC) contains rules to manage the environmental effects of discharges of human sewage to the environment from individual on-site wastewater treatment systems, including septic tank systems.
Individual on-site self-servicing system – chemical toilet	Chemical (portable) toilets are usually used as a temporary wastewater collection and containment method for individual sites and events. However, they present inherent risks to environmental quality and public health if not appropriately managed, handled, and disposed of. These systems store untreated human waste in holding tanks together with

Service type	Reasons for assessing as PARTIALLY MET
	chemical additives, meaning the contents contain both pathogenic microorganisms and potentially harmful chemical contaminants. Environmental risks arise where containment fails, or waste is inappropriately discharged. In these circumstances, portable toilet effluent could contaminate soil, groundwater and surface water, introducing pathogens, nutrients and chemical substances that may degrade water quality and impact ecosystems. In addition, chemical additives used for odour control and disinfection may be toxic to biological treatment processes, potentially inhibiting wastewater treatment systems and reducing treatment effectiveness. There are tanker operators in Dunedin that will remove wastewater and solids from individual on-site wastewater treatment systems, including chemical toilets, and dispose of it at an approved facility (e.g. a DCC wastewater treatment plant). The Regional Plan: Water for Otago (ORC) contains rules to manage the environmental effects of discharges of human sewage to the environment from individual on-site wastewater treatment systems, including any discharges from chemical toilet systems.
Individual on-site self-servicing system –composting toilet	Composting toilets can be used as an on-site, waterless wastewater treatment and disposal method for individual properties. However, they present inherent risks to environmental quality and public health if not appropriately designed, operated, and maintained. These systems rely on controlled biological processes to break down human waste, but untreated or partially treated material can contain pathogens, nutrients and other contaminants that require effective management. Composting toilets must be designed to contain, reduce, or destroy pathogens and minimise human contact. However, pathogen reduction is dependent on factors such as temperature, moisture, and retention time, and incomplete or poorly managed composting can allow pathogens to persist in the material, creating potential exposure risks to users and those handling or reusing the compost. Environmental risks could arise where compost or liquid by-products are not adequately treated or are inappropriately discharged. Improperly treated compost applied to land could contaminate soil and crops, while inadequate setbacks or site conditions could increase the risk of contamination of groundwater and surface water. As with other on-site sanitation systems, poor maintenance, overloading, or system failure could result in odour, attraction of vectors (e.g. flies), and increased likelihood of human exposure to untreated waste. There are tanker operators in Dunedin that will remove wastewater and solids from individual on-site wastewater treatment systems, including composting toilets, and dispose of it at an approved facility (e.g. a DCC wastewater treatment plant). The Regional Plan: Water for Otago (ORC) contains rules to manage the environmental effects of discharges of human sewage to the environment from individual on-site wastewater treatment systems, including any discharges from composting toilet systems.

Service type	Reasons for assessing as PARTIALLY MET
Individual on-site self-servicing system – long drop toilet	Long drop toilets are a basic on-site wastewater collection and disposal method. However, they present inherent risks to environmental quality and public health if not appropriately sited, designed, and managed. These systems involve the direct deposition of untreated human waste into a pit in the ground, where partial decomposition occurs but without engineered treatment or containment. Wastewater contains pathogens that can cause illness where exposure occurs. Poorly designed or maintained long drop toilets could allow pathogens to contaminate surrounding soil and water, facilitating the transmission of disease. Accordingly, exposure pathways may include direct contact, contamination of drinking water supplies, and indirect transmission via vectors such as flies. Environmental risks are primarily associated with the migration of contaminants from the pit into surrounding land and water. Long drop toilets could contribute to groundwater and surface water contamination by pathogens and nutrients (e.g. nitrate), particularly where located in unsuitable soils, close to water bodies, or with insufficient separation from the water table. Additional risks could arise from poor maintenance, overfilling, and exposure of waste, which could lead to odour, attraction of vermin and insects, and the release of untreated waste to the surrounding environment. The Regional Plan: Water for Otago (ORC) contains rules to manage the environmental effects of discharges of human sewage to the environment from long drop toilets.

Table 15 shows the general assessment findings applicable to communities where wastewater services are provided by individual on-site wastewater self-servicing systems.

Table 15: General assessment findings applicable to communities where wastewater services are provided by individual on-site wastewater self-servicing as partially met

Assessment criterion	Result	Comment
1. The service is adequate from a public health perspective, in terms of **health risks to communities** - Section 71(2)(a) of the LGWSA	PARTIALLY MET	Individual on-site wastewater self-servicing systems have inherent public health and environmental adequacy risks due to the potential release of pathogenic contaminants into the environment if not appropriately designed, operated or maintained.
2. The service is adequate from a public health perspective, in terms of the **quality of the service** - Section 71(2)(b) of the LGWSA	PARTIALLY MET	Individual on-site wastewater self-servicing systems typically require active management by the user.
3. The service is adequate from a public health perspective, in terms of **ability to meet**	PARTIALLY MET	The ability of individual on-site self-servicing systems to meet current demand is likely to be susceptible to local factors at the property, including occupancy, type of water supply used / quantity of water supply available, size of system,

Assessment criterion	Result	Comment
current demand[18] - Section 71(2)(c) of the LGWSA		and environmental conditions (including soil permeability and rainfall).
4. The service is adequate from a public health perspective, in terms of **ability to meet future demand**[19] - Section 71(2)(c) of the LGWSA	PARTIALLY MET	The ability of individual on-site self-servicing systems to meet future demand is likely to be susceptible to local factors at the property, including occupancy, type of water supply used / quantity of water supply available, size of system, and environmental conditions (including soil permeability and rainfall).

Non-DCC stormwater services

In communities where there are no DCC reticulated stormwater services, the primary pathways for stormwater drainage away from developed areas are via roads and associated ditches, channels and culverts, via natural drainage pathways (e.g. watercourses / streams / rivers) and / or via soakage into impervious surfaces. In addition to the DCC as the local road controlling authority, other entities that may have stormwater management functions in communities that do not have DCC reticulated stormwater services include:

- The New Zealand Transport Agency / Waka Kotahi – in relation to management of stormwater drainage on the state highway network
- KiwiRail – in relation to management of stormwater drainage in the rail corridor
- The ORC – in relation to river management and operation of flood control and rural drainage schemes (including, for example, the Lower Taieri Flood Protection Scheme, the East Taieri Drainage Scheme and the West Taieri Drainage Scheme)
- Private property owners – in relation to the management of watercourses on private land.

During this assessment, the DCC did not collect specific information about the performance and public health adequacy of stormwater drainage services in these communities.

Due to the low level of information available at this time, no assessment findings have been made about the adequacy of stormwater services available in these communities in this assessment.

5.3 Non-DCC drinking water services – specific assessments

Aramoana (including Te Ngaru and Tayler Point)

Aramoana (including Te Ngaru and Tayler Point) includes 151 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. However, the WSSA also indicated there are a small

[18] For the purposes of wastewater services criteria 3 and 4, **demand** refers to dry weather conditions and rainfall / wet weather events up to 1-in-10-year events.
[19] For the purposes of wastewater services criterion 4, **future demand** relates to projected **demand** over a 30-year period. This aligns with the 30-year planning horizon of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

number of properties where rainwater supply may be supplemented either by spring water or by water tanker deliveries.

The Aramoana community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Ōtākou (including Harwood, Harington Point and Lower Portobello)

Ōtākou (including Harwood, Harington Point and Lower Portobello) includes 341 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The survey responses also indicated there are some properties where rainwater supply is supplemented either by spring water or by water tanker deliveries.

Registered drinking water supplies

In addition to registered water carriers, there is one registered drinking water supply operating in the Ōtākou community: the Ōtākou Marae supply. The Ōtākou Marae supply provides drinking water services to consumers at the marae complex only. It does not extend beyond the marae complex to neighbouring properties.

Information provided by Te Rūnanga o Ōtākou about the drinking water supply system at the marae complex is summarised as follows:

- **Drinking water safety plan:** there is a drinking water safety plan in place for the Ōtākou Marae drinking water supply.
- **Source**: The system uses groundwater as the source of drinking water.
- **Treatment:** Water is treated using iron and nitrate softeners, UV disinfection, three filters ranging from 5 to 20-micron and sodium hypochlorite – these treatment processes provide barriers against both bacteria and protozoa.
- **Distribution:** Treated water is stored in three 25m^3 tanks and is generally sufficient to meet demand. Additional drinking water from the DCC supply may be imported by water carrier service in preparation for a large event when treated water storage levels are low.
- **Monitoring:** Drinking water quality monitoring is undertaken quarterly.
- **Source water quality:** Monitoring undertaken for Te Rūnanga o Ōtākou has indicated there can be elevated levels of nitrate-nitrogen in the groundwater used as the source for the marae supply. Te Rūnanga o Ōtākou, in conjunction with external specialists, undertook a project to investigate the source of contamination and potential mitigations in 2024 and 2025. The findings of the project are not yet publicly available.

Since late-2021, laboratories have been legally required to notify the drinking water regulator of any analytical results for drinking water samples that show an exceedance of any Maximum Acceptable Values (**MAV**) in the Drinking Water Standards for New Zealand. There have been no laboratory notifications of MAV exceedances from Ōtākou Marae drinking water samples during the period late-2021 to the present.

Findings

Overall, taking into account the general assessments relating to domestic self-supplies in Section 5.2 and the information available about the Ōtākou Marae drinking water supply (including treatment used, and monitoring undertaken), the DCC has assessed access to drinking water services available to communities in Ōtākou (including Harwood, Harington Point and Lower Portobello) against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Drinking water services available to communities at Ōtākou have also been assessed as part of the cultural assessment (as part of the Ōtākou Native Reserve) in Section 6 of this document. Te Rūnanga o Ōtākou has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC three waters services to be extended to Ōtākou.

Pukehiki

Pukehiki includes 18 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The Pukehiki community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Kuri Bush

Kuri Bush includes 12 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The Kuri Bush community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Berwick

Berwick includes seven properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection, but with at least one property indicating the use of surface (river) water as a drinking water source. The Berwick community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Allanton

Allanton includes 156 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. However, the WSSA and the survey responses indicated there are some proprieties where rainwater supply may be supplemented either by spring water or by water tanker deliveries. The Allanton community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Woodside

Woodside includes 26 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The Woodside community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Middlemarch

Middlemarch includes 173 properties for the purposes of this assessment. Zoning is Township and Settlement and Rural Centre (a commercial and mixed use zone).

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using groundwater and/or rainwater collection.

In addition, the DCC notes Middlemarch has previously had flooding issues when very heavy rain has meant stormwater overloaded the township's wastewater pipes, causing wastewater to overflow on to the road. Flooding can affect the quality of groundwater used as a source of drinking water quality. The risks to public health are elevated when floodwaters are contaminated by wastewater. The DCC is currently undertaking a study looking at methods to reduce the risk of the wastewater system negatively impacting on drinking water.

Other than Strath Taieri School supply and registered water carriers,[20] the DCC is not aware of any other registered drinking water supplies operating in the Middlemarch community. There are, however, several facilities in the community where drinking water may be supplied to the wider community and that would trigger duties and other requirements under the Water Services Act 2021, including the requirement to apply to register the supply by November 2028. These could include, for example, the drinking water supplies at:

- hospitality businesses (e.g. cafes, restaurants, bars)
- community halls
- churches
- recreational facilities (e.g. golf club and bowling club)
- emergency services depots (e.g. fire station, police station).

DCC staff assessment is that these supplies are unlikely to meet the definitions of 'domestic self-supply' and 'shared domestic supply' under the Water Services Act 2021.

No specific information is currently available to the DCC about drinking water services available at the above facilities in Middlemarch.

In the absence of specific information about public health issues arising in relation to non-registered drinking water supplies, the Middlemarch community's access to drinking water services – including both domestic-self supply and other community supply arrangements – have been assessed as part of the general assessments in Section 5.2.

Hyde

Hyde includes 20 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection, as well as some use of a local creek as a drinking water source. Other than registered water carriers, the DCC is not aware of any other registered drinking water supplies operating in the Hyde community. There are, however, several facilities in the community where drinking water may be supplied to the wider community and that would trigger duties and other requirements under the Water Services Act 2021, including the requirement to apply to register the supply by November 2028. These could include, for example, the drinking water supplies at hospitality businesses (e.g. cafes, restaurants, bars), community halls and churches.

DCC staff assessment is that these supplies are unlikely to meet the definitions of 'domestic self-supply' and 'shared domestic supply' under the Water Services Act 2021.

No specific information is currently available to the DCC about drinking water services available at the above facilities in Hyde.

[20] The drinking water supply at Strath Taieri School is registered as a self-supplied building (public register supply code: STR002). As a drinking water supply owned and operated by a Crown department (Ministry of Education), the STR002 supply is out of scope of this assessment per Section 69(5)(b) of the Local Government (Water Services) Act 2025.

In the absence of specific information about public health issues arising in relation to non-registered drinking water supplies, the Hyde community's access to drinking water services – including both domestic-self supply and other community supply arrangements – have been assessed as part of the general assessments in Section 5.2.

Osborne

Osborne includes 50 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection.

There are currently no registered drinking water supplies in the Osborne community. However, the WSSA and a response to the 2024/25 survey information indicated there is a small, networked supply in use in the community in addition to domestic self-supplies. The DCC currently holds no additional information on the source of the supply, whether any treatment processes are used, and the extent of the distribution system. A survey respondent told the DCC the purpose of the supply is to provide water for firefighting, but that some members of the community may also use the supply as a source of water for regular household use (e.g. for drinking and sanitation).

In the absence of further specific information about the networked community water supply possibly in use in Osborne, the Osborne community's access to drinking water services – including both domestic-self supply and any other community supply arrangements – have been assessed as part of the general assessments in Section 5.2.

Pūrākaunui

Pūrākaunui includes 160 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection, with some residents using deliveries of drinking water by water carrier to supplement rainwater supplies. The Pūrākaunui community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Long Beach

Long Beach includes 125 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The Long Beach community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

Reynoldstown Road

Reynoldstown Road includes 13 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated most drinking water services are provided by domestic self-supplies using rainwater collection. The Reynoldstown Road community's access to drinking water services has been assessed as part of the general assessments in Section 5.2.

The rural community

Drinking water services in the rural community are assumed to be provided, primarily, by domestic self-supplies using rainwater collection, groundwater or surface water as the drinking water source. Other drinking water services available in the rural community are summarised below.

Registered drinking water supplies

Other than two school supplies[21] and registered water carriers, the DCC is aware of one other registered drinking water supply operating in Dunedin's rural community. The Orokonui Reticulated Water Supply (public register supply code: ORO002) provides drinking water services to a registered population of 80 in the Orokonui community located in the rural zone between Waitati and Doctors Point.

The following information about the ORO002 drinking water supply was made available to the DCC:

- **Drinking Water Safety Plan:** a drinking water safety plan has been lodged with the Water Services Authority-Taumata Arowai.
- **Source**: The system uses surface water as a source – the source is the Orokonui Stream.
- **Treatment:** The system includes treatment barriers for bacterial and protozoa.
- **Drinking water quality:** Since late-2021, laboratories have been legally required to notify the drinking water regulator of any analytical results for drinking water samples that show an exceedance of any MAV in the Drinking Water Standards for New Zealand. There have been no laboratory notifications of MAV exceedances from ORO002 drinking water samples during the period late-2021 to the present.

Other (non-registered) potential community drinking water supplies

There are multiple facilities in Dunedin's rural community where drinking water may be supplied to the wider community and would trigger duties and other requirements under the Water Services Act 2021, including the requirement to apply to register the supply by November 2028.

These could include, for example, the drinking water supplies at:

- hospitality businesses (e.g. cafes, restaurants and bars)
- tourist destinations
- community halls
- churches
- rural workplaces
- recreational facilities (e.g. sports clubs, camps / outdoor education facilities)
- emergency services depots (e.g. fire station, police station).

DCC staff assessment is that these supplies are unlikely to meet the definitions of 'domestic self-supply' and 'shared domestic supply' under the Water Services Act 2021.

Since late-2021, laboratories have been legally required to notify the drinking water regulator of any analytical results for drinking water samples that show an exceedance of any MAV in the Drinking Water Standards for New Zealand.

There have been three laboratory notifications of exceedances of the MAV for *E.coli* in drinking water samples taken at a recreational facility in Dunedin's rural community during the period late-2021 to the

[21] The drinking water supplies at Lee Stream School and Pūrākaunui School are registered as self-supplied buildings (public register supply codes: LEE002 and PUR005, respectively). As drinking water supplies owned and operated by a Crown department (Ministry of Education), the LEE002 and PUR005 supplies are out of scope of this assessment per Section 69(5)(b) of the Local Government (Water Services) Act 2025.

present. Any *E.coli* result above the MAV has the potential to cause serious and immediate public health issues. The DCC is not aware of any confirmed outbreaks of water-borne disease that followed these elevated *E.coli* results.

Beyond the laboratory notification information above, no further specific information is currently available to the DCC about drinking water services available at these sorts of community facilities in Dunedin's rural community.

Finding

In the absence of further specific information about public health issues arising in relation to drinking water services available to the rural community, the rural community's access to drinking water services – including domestic-self supply, registered supply, and other community supply arrangements – have been assessed as part of the general assessments in Section 5.2.

5.4 Non-DCC wastewater services – specific assessments

Aramoana (including Te Ngaru and Tayler Point)

Aramoana (including Te Ngaru and Tayler Point) includes 151 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems, most commonly septic tanks. However, there are also reports of long drops and chemical toilets being used for sewage collection.

Wastewater services available to the community in Aramoana have been assessed as part of the general assessments in Section 5.2.

Ōtākou (including Harwood, Harington Point and Lower Portobello)

Ōtākou (including Harwood, Harington Point and Lower Portobello) includes 341 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems, most commonly septic tanks.

Wastewater from the Ōtākou Marae complex is treated via a large, septic tank-based system and the treated wastewater is discharged to land near the Marae. Te Rūnanga o Ōtākou holds a discharge permit that authorises the discharge of treated wastewater to land from Ōtākou Marae. The permit was issued by the ORC in 2013 for a period of 35 years, expiring in 2048.

Information available to the DCC shows a compliance audit conducted by the ORC in 2023 resulted in a low-risk non-compliance grade. The low-risk non-compliance related to data collection and reporting issues. Te Runāka o Ōtākou has a quarterly servicing plan for wastewater system maintenance and the most recent results indicate the system is working effectively.

Findings

Overall, taking into account the general assessments of individual on-site wastewater self-servicing systems in Section 5.2 and the information available about the Ōtākou Marae wastewater treatment and disposal system, the DCC has assessed wastewater services available to communities across Ōtākou (including Harwood, Harington Point and Lower Portobello) against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Wastewater services available to communities at Ōtākou have also been assessed as part of the cultural assessment (as part of the Ōtākou Native Reserve) in Section 6 of this document. Te Rūnanga o Ōtākou has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC three waters services to be extended to Ōtākou.

Pukehiki

Pukehiki includes 18 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Pukehiki have been assessed as part of the general assessments in Section 5.2.

Kuri Bush

Kuri Bush includes 12 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Kuri Bush have been assessed as part of the general assessments in Section 5.2.

Berwick

Berwick includes seven properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Berwick have been assessed as part of the general assessments in Section 5.2.

Momona – Dunedin Airport

Momona – Dunedin Airport includes the Dunedin Airport and 34 residential properties for the purposes of this assessment. The airport is zoned as a major facility and the residential properties are zoned Township and Settlement.

Wastewater from the airport complex and adjacent residences is treated at a WWTP and discharged to the Main Drain, West Taieri. This WWTP is owned and operated by Dunedin International Airport Limited (Dunedin Airport). The WWTP comprises an Imhoff tank, aerated oxidation pond, trickling filter, sand- and bag pre-filtration, membrane filtration, and an acid-dosing system. Dunedin Airport holds a discharge permit that authorises the discharge of treated wastewater to water from the airport's WWTP. The permit was issued by the ORC in 2006 and expires on 31 December 2027.

An application for an interim discharge permit (RM26.248.01) was accepted by the ORC (on 29 April 2026). The application seeks consent to continue the operation of the existing WWTP for a period of no more than five years, while the design, construction, and commissioning of a new WWTP is carried out. This application secures the ability of the airport to continue exercising existing discharge permits under Section 124 of the Resource Management Act 1991 in the event the interim permit sought through application RM26.248.01 has not been granted when the existing permits expire.

Information available to the DCC shows a compliance audit conducted by the ORC in 2023 resulted in a significant non-compliance grade. The significant non-compliance related to exceedances of the permitted discharge quality limits for ammoniacal nitrogen, pH and total phosphorus. An ORC abatement notice related to non-compliance with discharge quality limits was in place at that time.

Dunedin Airport advises that significant process and operational changes were implemented at the WWTP following the 2023 audit, bringing total Phosphorus into compliance, with Ammoniacal Nitrogen and pH trending towards compliance. During June 2024, an end-of-process acid dosing plant was installed, controlling discharge pH, and Dunedin Airport requested an extension to the abatement notice to allow commissioning of this plant, and discharge quality to stabilise.

Ongoing work by Dunedin Airport saw upgrades to the trickling filter system, desludging of the oxidation pond, and installation of pre-treatment to manage algal blooms impacting the plants de-nitrification performance. A further extension of the abatement notice was requested during July 2025, to allow these further changes to take effect.

Dunedin Airport advises that at the time of writing (June 2026), the WWTP discharge is fully compliant from both a rolling 12-month geometric mean perspective and a point discharge limit perspective for all analytes. Further operational improvements are underway, alongside a scheme to relocate a clean water discharge from the airport's ground-source heating system so that it can be used to enable greater mixing and dilution of the WWTP discharge into the Main Drain. Dunedin Airport has requested the extension of the current abatement notice until discharge permit RM26.248.01 is granted to facilitate these improvements, and continues to work collaboratively with Iwi, the Otago Regional Council, Fish and Game, and other stakeholders on improvements to the existing plant alongside development of the replacement WWTP project.

Finding

Overall, taking into account the information available about Dunedin Airport's wastewater treatment and disposal system the DCC has assessed wastewater services available to communities at Momona – Dunedin Airport against the assessment criteria set out in Section 3 of this document as PARTIALLY MET. The 'significant non-compliance' audit finding during the 2022-25 assessment period caused the 'partially met' finding for assessment criterion 3, with the discharge quality non-compliances suggesting the service has recently experienced some constraints or indications of adequacy issues in terms of ability to treat current demand within the constraints set by the current discharge permit. As set out above, Dunedin Airport is progressing a programme of work to improve the performance of the WWTP and advises that the WWTP is now able to treat current demand within the constraints of the current discharge permit.

Outram

Outram includes 396 properties for the purposes of this assessment. Outram is primarily zoned Township and Settlement with a small area of Large Lot Residential 2 zoning and a Rural Centre (commercial and mixed use) zone.

The WSSA and responses to the 2024/25 survey indicated wastewater services are primarily provided by individual on-site self-servicing systems such as septic tanks. ORC online mapping shows a small proportion of septic tank discharges are subject to discharge permits. Discharges from other septic tanks are assumed to be managed under the permitted activity rules in the Regional Plan: Water for Otago. Outram is classified as a 'groundwater protection area' in the ORC's Regional Plan: Water for Otago, meaning groundwater is vulnerable to contamination leaching through the soil. An ORC technical report dated 2015 noted Outram as an area of very high septic tank density with medium risk of groundwater contamination by septic tank discharges.[22]

Outram receives an on-demand drinking water supply service from the DCC. The presence of a reliable, unrestricted, water supply may mean average water usage at properties in Outram is higher than at

[22] Otago Regional Council (2015), Groundwater Contamination Risk, Septic Tank Density and Distribution within Otago. Available online at: https://www.orc.govt.nz/media/1654/groundwater-contamination-risk.pdf

properties in communities where drinking water supply services are provided by domestic self-supplies. Higher water usage may increase the quantity of wastewater to be treated and disposed of by septic tank systems, which could adversely impact the performance of the systems.

Thirty-nine responses to the 2024/25 survey were received from the Outram community. Six respondents indicated, via the 'other comments' field on the survey, that they wanted Outram to be serviced by a DCC reticulated wastewater service and/or that the DCC should not allow further development in Outram until a DCC reticulated wastewater service is introduced. Several respondents indicated concerns over wastewater self-servicing and the potential impacts on the environment, particularly on groundwater and the Taiari / Taieri River due to its proximity and high water table.

Willowfield is a small retirement village in Outram with a private community wastewater collection, treatment and disposal system servicing 20 lots. The treatment system includes a septic tank, filtration systems, a UV disinfection system and constructed wetland. Treated wastewater is discharged to a remnant oxbow lake of the Taieri / Taiari River adjacent to the Willowfield settlement. The system operator held a discharge permit to discharge treated wastewater from the system to water. The permit was issued in 2000 for a period of 25 years, expiring in 2025. A new discharge to water permit was issued in 2025 for a 25-year period expiring in 2050.

Information available to the DCC shows a compliance audit conducted by the ORC in 2023 resulted in a low-risk non-compliance grade. The low-risk non-compliance related to incomplete data reporting, which the consent holder explained was the result of a late submission of data to the ORC in 2023 following a change of laboratory services providers. The consent holder has advised the DCC that there have been no further compliance issues since this time and the discharge is compliant with the conditions of the new permit issued in 2025.

Finding

Overall, taking into account the general assessments of individual on-site wastewater self-servicing systems in Section 5.2, the DCC has assessed wastewater services available to communities in Outram against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Woodside

Woodside includes 26 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and a response to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Woodside have been assessed as part of the general assessments in Section 5.2.

Hyde

Hyde includes 20 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Hyde have been assessed as part of the general assessments in Section 5.2.

Evansdale

Evansdale includes 21 properties for the purposes of this assessment. Zoning is Township and Settlement with a small Rural Centre (commercial and mixed use) zone.

The WSSA and a response to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Properties at Evansdale receive a restricted flow drinking water supply service from the DCC. The presence of a reliable, albeit limited, water supply may mean average water usage at properties in Evansdale is higher than at properties in communities where drinking water supply services are provided by domestic self-supplies. Higher water usage is likely to increase the quantity of wastewater to be treated and disposed of by septic tank systems, which could adversely impact the performance of the systems.

Findings

Taking into account the general assessments in Section 5.2 the DCC has assessed wastewater services available to communities in Evansdale against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Wastewater services available to communities Evansdale have also been assessed as part of the cultural assessment (as part of Blueskin Bay) in Section 6 of this document. Kāti Huirapa Rūnaka ki Puketeraki has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC wastewater services to be extended to self-serviced settlements in the Blueskin Bay area and for existing DCC wastewater services at Warrington to be improved.

Hawksbury Village

Hawksbury Village includes 88 properties for the purposes of this assessment. Zoning is Township and Settlement.

There is a private community wastewater collection, treatment and disposal system that provides services to Hawksbury Village. The treatment system includes Imhoff tanks, trickling filters and clarifiers. Treated wastewater is discharged to land by sprinkler irrigators. The system was originally installed for the Cherry Farm Hospital complex.

The system operator holds a discharge to land permit to discharge treated wastewater to land. The permit was issued in 2010 for a period of 25 years, expiring in 2025. The expiry date of the permit was recently extended to 31 December 2027 by the Resource Management (Duration of Consents) Act 2025.

Information available to the DCC shows a compliance audit conducted by the ORC in 2024 resulted in a moderate non-compliance grade. The moderate non-compliance related to exceedances of the discharge quality limit for Total Nitrogen. Exceedances of discharge quantity limits were also noted as low-risk non-compliance.

The system operator has advised DCC it is actively pursuing improvements to its wastewater treatment and land discharge systems as part of a current wastewater discharge consent renewal process. The 2024 ORC audit report noted the operator's investment in significant maintenance of system infrastructure.

Finding

Overall, taking into account the information available about the Hawksbury Village wastewater treatment and disposal system the DCC has assessed wastewater services available to communities at Hawksbury Village against the assessment criteria set out in Section 3 of this document as PARTIALLY MET. The 'moderate non-compliance' audit finding during the 2022-25 assessment period caused the 'partially met' finding for assessment criterion 3, with the discharge quality non-compliances suggesting the service has recently experienced some constraints or indications of adequacy issues in terms of ability to treat demand within the constraints set by the current discharge permit. As set out above, the system operator is progressing a programme of investment in the system.

Osborne

Osborne includes 50 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Osborne have been assessed as part of the general assessments in Section 5.2.

Pūrākaunui

Pūrākaunui includes 160 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks, long drops, composting toilets and chemical toilets. Wastewater services available to the community in Pūrākaunui have been assessed as part of the general assessments in Section 5.2.

One respondent to the 2024/25 survey commented that more information or support on the use of septic tanks would be beneficial.

Waitati and Doctors Point

Waitati and Doctors Point includes 317 properties for the purposes of this assessment. Waitati and Doctors Point are primarily zoned Township and Settlement with a Rural Centre (commercial and mixed use) zone in Waitati and some areas of large lot residential zoning in Doctors Point.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. The WSSA also indicated long drops, composting toilets and buckets were in use for sewage collection. ORC online mapping shows a small proportion of septic tank discharges are subject to discharge permits. Discharges from other septic tanks are assumed to be managed under the permitted activity rules in the Regional Plan: Water for Otago.

Waitati and Doctors Point receive a restricted flow drinking water supply service from the DCC. The presence of a reliable, albeit limited, water supply may mean average water usage at properties in Waitati and Doctors Point is higher than at properties in communities where drinking water supply services are provided by domestic self-supplies. Higher water usage is likely to increase the quantity of wastewater to be treated and disposed of by septic tank systems, which could adversely impact the performance of the systems.

Twenty-nine responses to the 2024/25 survey were received from the Waitati and Doctors Point community. Four respondents indicated, via the 'other comments' field on the survey, that they wanted Waitati and Doctors Point to be serviced by a DCC reticulated wastewater service. Several respondents also indicated they were concerned about the lack of maintenance of septic tank systems in the community and the associated risks to the environment if systems perform poorly.

Findings

Taking into account the general assessments in Section 5.2 the DCC has assessed wastewater services available to communities in Waitati and Doctors Point against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Wastewater services available to communities at Waitati and Doctors Point have also been assessed as part of the cultural assessment (as part of Blueskin Bay) in Section 6 of this document. Kāti Huirapa Rūnaka ki

Puketeraki has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC reticulated wastewater services to be extended to self-serviced settlements in the Blueskin Bay area and for existing DCC wastewater services at Warrington to be improved.

Coast Road, Warrington

Coast Road, Warrington includes 27 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks.

Properties at Coast Road, Warrington receive a restricted flow drinking water supply service from the DCC. The presence of a reliable, albeit limited, water supply may mean average water usage at properties in Coast Road, Warrington is higher than at properties in communities where drinking water supply services are provided by domestic self-supplies. Higher water usage is likely to increase the quantity of wastewater to be treated and disposed of by septic tank systems, which could adversely impact the performance of the systems.

Findings

Taking into account the general assessments in Section 5.2 the DCC has assessed wastewater services available to communities in Coast Road, Warrington against the assessment criteria set out in Section 3 of this document as PARTIALLY MET.

Wastewater services available to communities at Coast Road, Warrington have also been assessed as part of the cultural assessment (as part of Blueskin Bay) in Section 6 of this document. Kāti Huirapa Rūnaka ki Puketeraki has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC reticulated wastewater services to be extended to self-serviced settlements in the Blueskin Bay area and for existing DCC wastewater services at Warrington to be improved.

Long Beach

Long Beach includes 125 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks, as well as some use of long drops and chemical toilets. Wastewater services available to the community in Long Beach have been assessed as part of the general assessments in Section 5.2.

Greenlaw Street, Waikouaiti

Greenlaw Street includes 11 properties for the purposes of this assessment. Zoning is Large Lot Residential.

Greenlaw Street was not assessed as a community in the WSSA and no responses to the 2024/25 survey were received from this community. The desktop study indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks.

Greenlaw Street receives an on-demand drinking water supply service from the DCC. The presence of a reliable, unrestricted, water supply may mean average water usage at properties in Greenlaw Street is higher than at properties in communities where drinking water supply services are provided by domestic self-supplies. Higher water usage is likely to increase the quantity of wastewater to be treated and disposed of by septic tank systems, which could adversely impact the performance of the systems.

Wastewater services available to the community in Greenlaw Street have been assessed as part of the general assessments in Section 5.2.

Reynoldstown Road

Reynoldstown Road includes 13 properties for the purposes of this assessment. Zoning is Township and Settlement.

The WSSA and responses to the 2024/25 survey indicated wastewater services are provided by individual on-site self-servicing systems such as septic tanks. Wastewater services available to the community in Reynoldstown Road have been assessed as part of the general assessments in Section 5.2.

The rural community

Wastewater services in the rural community are assumed to be provided, primarily, by individual on-site wastewater self-servicing systems.

However, there are multiple properties / facilities in Dunedin's rural community where wastewater collection, treatment and disposal systems are likely to be larger in scale and services may be made available to the wider community. These include the wastewater services available at properties / facilities such as:

- hospitality businesses (e.g. cafes, restaurants and bars)
- tourist destinations
- community halls
- churches
- rural workplaces
- recreational facilities (e.g. sports clubs, camps / outdoor education facilities)
- emergency services depots (e.g. fire station, police station).

Discharges from these systems may be subject to discharge permits issued by the ORC. The DCC has not conducted a review of discharge permits held for wastewater systems in the rural community as part of this servicing assessment.

Private wastewater treatment plant at Orokonui

There is a private wastewater collection, treatment and disposal system that provides services to the Orokonui community, located in the rural zone between Waitati and Doctors Point at Blueskin Bay. The treatment system was originally installed in 1965 for the Orokonui Hospital. The treatment system includes multiple tanks with different functions and filtration systems. Treated wastewater is discharged to land.

The system operator holds a discharge permit to discharge treated wastewater to land. The permit was issued by the ORC in 2022 for a period of 15 years, expiring in 2037. Information available to the DCC shows a compliance audit conducted by the ORC in 2024 resulted in a significant non-compliance grade. The significant non-compliance grade related to exceedances of the discharge quantity limits and issues with provision of discharge quantity data. An abatement notice was issued by the ORC in 2024 in relation to the non-compliance.

As discussed in Sections 5.4 and 5.4 above, wastewater services available to communities at in the Blueskin Bay area have also been assessed as part of the cultural assessment in Section 6 of this document. Kāti Huirapa Rūnaka ki Puketeraki has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC reticulated wastewater services to be extended to currently unserviced settlements in the Blueskin Bay area and for existing DCC wastewater services at Warrington to be improved.

Finding

Notwithstanding the non-compliance issues identified at the private Orokonui wastewater treatment plant, wastewater services available to the rural community have broadly been assessed as part of the general assessments in Section 5.2.

5.5 Non-DCC stormwater services – specific assessments

Aramoana (including Te Ngaru and Tayler Point)

The Aramoana community includes 151 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Several respondents to the 2024/25 survey indicated there are flooding issues due to lack of stormwater infrastructure. Previous community group submissions to DCC long-term plans and annual plans have raised similar concerns.

Ōtākou (including Harwood and Harington Point)

Ōtākou (including Harwood, Harington Point and Lower Portobello) includes 341 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Respondents to the 2024/25 survey recorded concerns about the potential for stormwater to be contaminated by wastewater if septic tank systems are performing poorly, and that this contamination could reach coastal waters. Respondents also highlighted a desire for the DCC to improve stormwater system maintenance in the community. As there is no reticulated stormwater system in the community, these comments are assumed to relate to DCC maintenance of the roading network and associated stormwater drainage infrastructure (e.g. roadside ditches and culverts).

Stormwater services available to communities at Ōtākou have been assessed as part of the cultural assessment (as part of the Ōtākou Native Reserve) in Section 6 of this document. Te Rūnanga o Ōtākou has previously stated an intention, via submissions on DCC planning documents including the FDS, for DCC three waters services to be extended to Ōtākou.

Pukehiki

The Pukehiki community includes 18 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Challis Point

The Challis Point community includes 15 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces. However, new stormwater drainage infrastructure, including piped systems, is planned to be installed by a developer as part of a new subdivision at Challis Point. The new piped stormwater infrastructure will be vested in the DCC.

Kuri Bush

The Kuri Bush community includes 12 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Berwick

The Berwick community includes seven properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Allanton

The Allanton community includes 156 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Momona – Dunedin Airport

Momona – Dunedin Airport includes the Dunedin Airport and 34 residential properties for the purposes of this assessment. The airport is zoned as a major facility and the residential properties are zoned Township and Settlement. The community does not have a DCC reticulated stormwater system and other stormwater drainage arrangements at the airport have not been investigated by the DCC for this assessment.

Woodside

The Woodside community includes 26 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Hyde

The Hyde community includes 20 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Evansdale

The Evansdale community includes 21 properties for the purposes of this assessment. Zoning is Township and Settlement with a small Rural Centre (commercial and mixed use) zone. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Stormwater services available to the community in Evansdale have been assessed as part of the cultural assessment (as part of the Blueskin Bay area) in Section 6 of this document.

Hawksbury Village

The Hawksbury community includes 88 properties for the purposes of this assessment. Zoning is Township and Settlement. This community has a reticulated stormwater system owned and operated by Hawksbury Village Management Limited. Stormwater from the system is discharged to land and/or watercourses at multiple points around the perimeter of the village.

Osborne

The Osborne community includes 50 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Pūrākaunui

The Pūrākaunui community includes 160 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Waitati and Doctors Point

The Waitati and Doctors Point Community includes 317 properties for the purposes of this assessment. Waitati and Doctors Point are primarily zoned Township and Settlement with a Rural Centre (commercial and mixed use) zone in Waitati and some areas of large lot residential zoning in Doctors Point. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

One respondent to the 2024/25 survey highlighted a desire for the DCC to improve stormwater system maintenance in the community. As there is no reticulated stormwater system in the community, these comments are assumed to relate to roading network and associated stormwater drainage infrastructure (e.g. roadside ditches and culverts).

Stormwater services available to the community in Waitati and Doctors Point have been assessed as part of the cultural assessment (as part of the Blueskin Bay area) in Section 6 of this document.

Coast Road, Warrington

The Coast Road, Warrington community includes 27 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Stormwater services available to the community at Coast Road, Warrington have been assessed as part of the cultural assessment (as part of the Blueskin Bay area) in Section 6 of this document.

Long Beach

The Long Beach community includes 125 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Several respondents to the 2024/25 survey indicated there are flooding issues due to lack of stormwater infrastructure.

Seacliff

The Seacliff community includes 36 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Reynoldstown Road

The Reynoldstown Road community includes 13 properties for the purposes of this assessment. Zoning is Township and Settlement. The community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

Greenlaw Street, Waikouaiti

The Greenlaw Street, Waikouaiti community includes 11 properties for the purposes of this assessment. Zoning is Large Lot Residential. The community does not have a reticulated stormwater system. Stormwater is likely to be drained away from developed areas via roads and associated non-piped drainage

infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

The rural community

The rural community does not have a reticulated stormwater system. In most cases, rainwater from roofs is likely to be collected and stored as the source of drinking water for domestic self-supplies. Rainwater that falls on other surfaces is likely to be drained away from developed areas via roads and associated non-piped drainage infrastructure, via natural drainage pathways (e.g. watercourses / streams / rivers), and / or via soakage into pervious surfaces.

6 Areas of Significance to Mana Whenua / Native Reserves

6.1 Native Reserves

There are a number of historical native reserves with the DCC territorial area. Three native reserves have been identified by Aukaha as of significance to mana whenua in relation to the Servicing Assessment: Ōtākou, Brinns Point and Waikouaiti. The native reserves being assessed are mapped in Figures 7 and 8.

Brinns Point and Waikouaiti Native Reserves have been assessed together as North Coast Native Reserves (including Puketeraki and Karitane) by Aukaha in Section 6.2. During the process of the cultural assessment Aukaha also identified Blueskin Bay as an area of cultural significance and this area has also been included in Aukaha's cultural assessment.

Aukaha has consulted with mana whenua and has determined that these native reserves are of particular significance for the purposes of the servicing assessment due to the location, topography and size of the reserves, proximity to existing three waters infrastructure and the potential for future development.

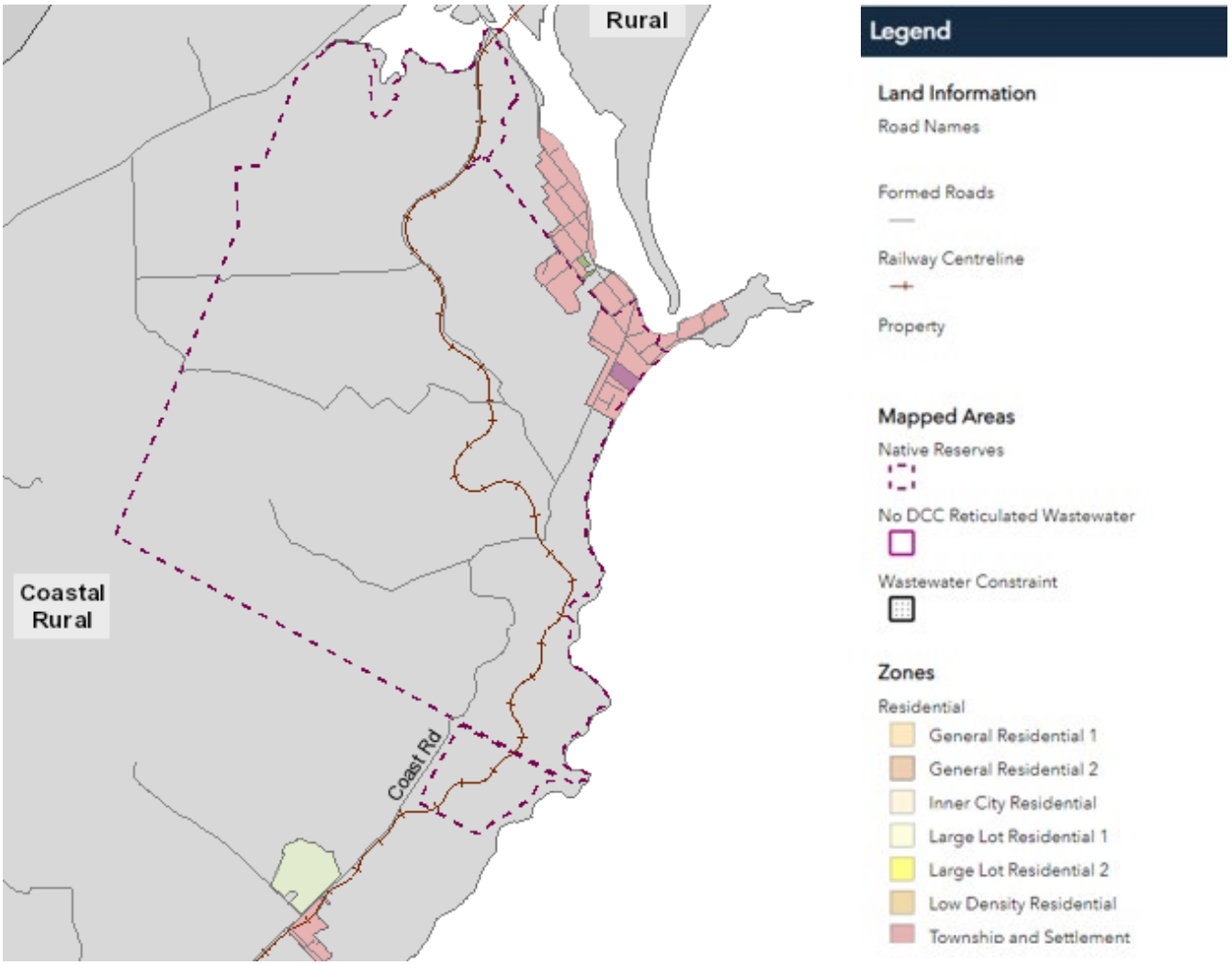


Figure 7: North Coast Native Reserves

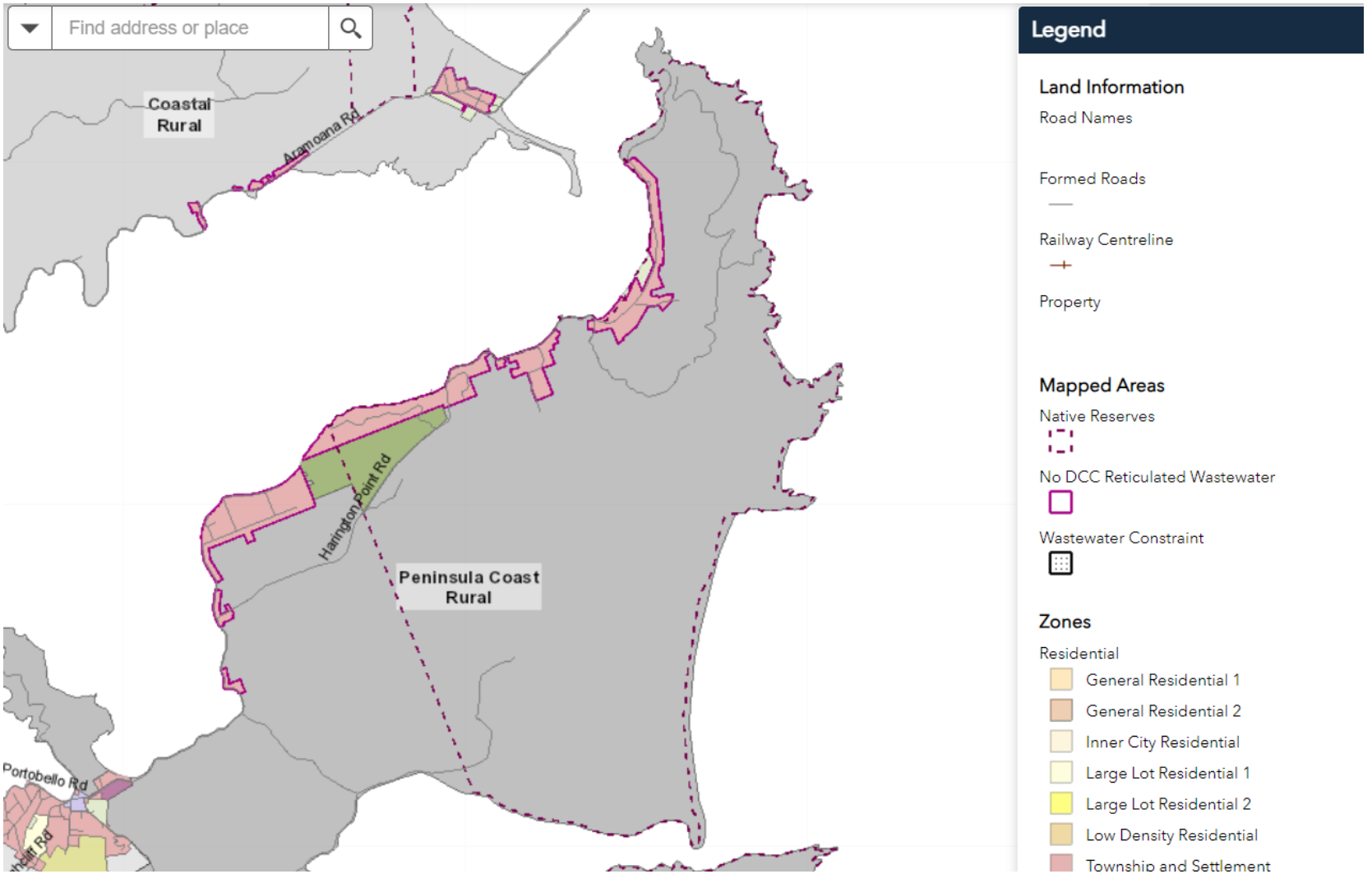


Figure 8: Ōtākou Native Reserve

6.2 Kāi Tahu Mana Whenua Assessment

Sections 6.2 and 6.3 of this document have been prepared by Aukaha and have been endorsed by papatipu rūnaka. Sections 69(5)(c) and 71(4) of the Local Government (Water Services) Act 2025 enable assessments to be carried out by the territorial authority and/or another appropriate organisation in the authority's district (including an iwi, hapū or other Māori organisation).

Introduction

This Kāi Tahu mana whenua assessment contributes to the Servicing Assessment being undertaken by DCC as part of meeting its functions under the LGWSA and the Local Government Act 2002. It builds on other processes that Kāi Tahu mana whenua, represented by Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou (**kā rūnaka**), have been participating in with DCC – most notably the 3 Waters Integrated System Planning (**ISP**) programme and the Dunedin Future Development Strategy 2024-2054 (**FDS**).
This assessment utilises Te Taki Haruru – the DCC's Māori Strategic Framework[23] – to provide a Kāi Tahu lens on servicing provision. Due to capacity constraints, this is not a full assessment across all communities and all services covered by the wider DCC Servicing Assessment. The intent is that a fuller Kāi Tahu assessment can be provided for the next 3-yearly servicing assessment. In the meantime, lack of inclusion should not be taken as an indication that kā rūnaka hold no concerns with services or communities not assessed here.

The limitations of this assessment are as follows:

a) Only a select number of communities are included, largely based on areas of most concern identified through the FDS process.
b) Assessment is limited to 3 Waters services, particularly drinking water and wastewater services.
c) The methodological approach employed here is relatively high level, based on engagement with kā rūnaka through the development of the FDS and the ISP, along with results from DCC, private and rūnaka 3 Waters monitoring sources. For the next iteration of the Servicing Assessment, it is anticipated that a fuller Te Taki Haruru scored-criteria methodology will be employed.
d) There was only limited engagement with Māori landowners as part of FDS – on that basis, this assessment does not in any way represent the views of Māori landowners.

Mana Whenua

Kāi Tahu are the mana whenua who hold tribal authority over most of Te Waipounamu. Mana whenua (or customary authority) is hapū-centred, with the hapū located in the greater Dunedin area managing their functions through two papatipu rūnaka.

Te Rūnanga o Ōtākou has a takiwā (area of authority) extending from Pūrehurehu Point (west of Heyward Point) south to the Mata-au (Clutha River), taking in Otago Harbour and urban Dunedin.

Kāti Huirapa Rūnaka ki Puketeraki has a takiwā extending from Pūrehurehu Point north to the Waihemo (Shag River). Kāti Huirapa Rūnaka ki Puketeraki also hold an interest in Ōtepoti (central Dunedin) and the Otago Harbour.

[23] www.dunedin.govt.nz/council/strategic-framework/te-taki-haruru-maori-strategic-framework

Te Taki Haruru

Te Taki Haruru is the DCC's Māori Strategic Framework, a values-based framework developed in a partnership approach with mana whenua to support the Council to meet commitments and responsibilities under Te Tiriti o Waitangi. The key principles and values of Te Taki Haruru are as follows:

Autūroa	refers to **mana** (authority) – tūroa is about longevity, ongoing influence and leadership in our community.
Auora	refers to the **mauri** of Ōtepoti – ora is about health and wellbeing, not only in people but also in the land and waterways.
Autikaka	refers to **tapu** (restricted) and **noa** (unrestricted) – this is about the protection of resources, people and particular areas, enabling us to look forward sustainably.
Autakata	refers to **whakapapa** – tākata is people, and whakapapa is about genealogy. In a Māori world, we take the past with us and whakapapa is forever generative.

Future Development Strategy

Several FDS strategic directions are of relevance to the outcomes kā rūnaka wish to see from 3 Waters provision, in particular:

4.1 Ōtepoti Dunedin has a resilient natural environment, where we protect and enhance te mauri o te taiao, with clean air, healthy land-based ecosystems and thriving indigenous biodiversity.

4.2 Ōtepoti Dunedin protects and prioritises the mauri and health of water bodies and their ecosystems, including coastal waters, with mana whenua exercising their role as kaitiaki.

4.3 Ōtepoti Dunedin protects its landscapes, natural features and wāhi tūpuna from harmful development.

4.4 Kāi Tahu mana whenua can occupy and use land within Ōtepoti's native reserves in accordance with tikaka to provide for their economic, cultural and social wellbeing.

4.11 Ōtepoti Dunedin has high-quality, safe, sustainable, efficient and resilient infrastructure and supports renewable energy.

Policy 3 of the FDS states:

In delivering infrastructure projects for native reserves which may not be urban in nature or identified for significant growth, the following should be considered:

a. The obligation to enable mana whenua to live and sustain themselves on native reserves set aside for this purpose.
b. Te Tiriti obligations.
c. Addressing historical inequities in the provision of key infrastructure servicing to native reserves.

The FDS contains a statement of mana whenua and hapū values and intent, which contains the following vision:

The management of urban development across Dunedin gives effect to Te Tiriti o Waitangi articles; promotes Kāi Tahu rakatirataka, kaitiakitaka and manaakitaka; protects and enhances the mauri of te

taiao; and provides for mana whenua settlement and use within native reserves set aside for that purpose.

The statement of hapū intent provides more detail about the meaning of this vision in terms of the Kāi Tahu perspective on management of urban development and three waters services (refer FDS Section 3.4). Further on in the FDS the mana whenua and hapū statement is expanded on for various communities (e.g. Otago Peninsula, North Coast).

Communities

The communities selected for this assessment are those identified by kā rūnaka involvement and input into both the ISP and the FDS processes as having concerns relating to 3 Waters provision. Parts of these communities have also been subject to rūnaka-led investigations into drinking water quality and supply and wastewater servicing.

Native reserves are areas that were set aside for Kāi Tahu settlement at, or subsequent to, the time of land sales in the 1840s[24]. The communities referred to in this assessment are largely based on those native reserves holding the largest amount of residential and other development, which tends to be those in proximity to the two marae and surrounding kāika.

The communities are as follows[25]:

Ōtākou Native Reserve	This community includes the following Servicing Assessment communities: Harington Point, Ōtākou and Harwood, including that part of Harwood located outside the native reserve, due to the presence of a large Māori land block. It also takes in households located in rural zoned areas within the wider Native Reserve.
North Coast Native Reserves	This includes the mostly undeveloped Brinns Point Native Reserve, along with the Waikouaiti Native Reserve. While named the Waikouaiti Reserve, it is located mainly in the Karitane/Puketeraki rural area but also takes in large extents of the Karitane urban area. This reserve is referred to as the Karitane Native Reserve in the assessment tables below to avoid confusion.
Blueskin Bay	This area takes in the communities of Waitati/Doctors Point, Evansdale and Warrington and is included due to the significance to rūnaka of Blueskin Bay and the East Otago Taiāpure.

[24] More information on Native Reserves is contained in the FDS (e.g. Section 6.1) or the Proposed Regional Policy Statement (pp64-65, with maps on p255, p260, p269) https://www.orc.govt.nz/media/qt0lk0fl/clean-appeals-version-porps-21-17-october-2025.pdf

[25] See reference in previous footnote for location of maps; the native reserve areas are also mapped in the Dunedin City Council's 2GP planning maps https://www.dunedin.govt.nz/council/district-plan/2nd-generation-district-plan/view-the-2gp-maps

Te Taki Haruru and Three Waters Servicing

The Te Taki Haruru principles and values provide a lens through which the delivery of three waters services to communities can be understood and interpreted from a Kāi Tahu perspective. The statements below represent best-case scenarios where three waters delivery is meeting Te Taki Haruru and FDS Hapū statement expectations.

Autūroa: Mana

Mana whenua have a decision-making role in three waters delivery and disposal, with a focus on healthy, equitable and culturally appropriate services, and the role of Kāi Tahu as kaitiaki.

Auora: Mauri

Upholding the mauri of te taiao (particularly of wai māori (freshwater) and wai tai (coastal water)) and the hauora of the community and sustaining mahika kai practices are central to the provision of three waters services.

Autikaka: Tapu and Noa

Tikaka and kawa are utilised in three waters service delivery with a focus on environmental restoration and balance, which ensures that resources are used in a way that enhances the mana of the wai, the whenua and the people.

Autakata: Whakapapa

The Kāi Tahu connections to wai Māori, the coast, ancestral whenua and other wāhi tūpuna are acknowledged and supported.

Kāi Tahu Assessment

The tables on the following pages provide an assessment of three waters services understood to be available in each community against these best-case Te Taki Haruru scenarios. These are then rated across all Te Taki Haruru values using a RAG (Red-Amber-Green-Grey) rating as follows:

RED: Lack of service or serious issues with existing services

AMBER: Service has some adequacy issues and creates risks from cultural perspective

GREEN: Adequate service with minimal risks from cultural perspective

GREY: Insufficient information, more monitoring and research required

In line with the wider assessment, these ratings lead to recommendations from a cultural perspective as follows:

RED: Further detailed investigation required – commence Options Analysis

AMBER: Continue with work already programmed to address issues and risks

GREEN: No further work required, re-do assessment in 3 years

GREY: Identify and address information gaps ahead of next 3 yearly assessment

Table 16: Kāi Tahu Assessment of Ōtākou Native Reserve

Ōtākou Native Reserve	Mana	Mauri	Tapu and Noa	Whakapapa	RAG Rating
Drinking water	No reticulated service; historic inequities in provision of city services to kāika; lack of leadership and kaitiaki role for rūnaka in wider community supply. Risk to marae function as Civil Defence and Emergency Management (**CDEM**) hub due to scarcity and nature of supply.	Elevated nitrate concentrations in ground water sources, as a result of farming activities in the catchment, can exceed NZ drinking water standards, placing whānau and community at risk. Alternative rooftop source water for individual households may pose an infectious disease risk to community due to the high seabird populations. Resilience issues – lack of supply in drought conditions.	Uncertain. Lack of reticulated delivery, with localised sources and variable level of treatment.	Risk to whakapapa connections to wai through contaminants in water sources. Impediment to whānau wanting to reconnect to their whenua because of constraints to development. Lack of supply an issue in drought conditions; future resilience at risk due to uneven rain events and potential sea level rise effects on some bores.	**RED** – Water supply in the areas is either from rainwater or groundwater (spring and bore) sources. Localised treatment methods are variable or absent. Some households choosing not to use existing water supply sources for drinking or cooking. Resilience of supply already an issue in drought conditions, will become more of an issue with changing climate and sea level rise.
Wastewater	No reticulated service; historic inequities in provision of city services to kāika; lack of leadership and kaitiaki role for rūnaka in community wastewater management. May be risk to marae function as CDEM hub due to on-site limitations, as system becomes overwhelmed by volume of wastewater to be treated.	From Te Awa Ōtakou report:[26] *Wastewater contamination of the awa still persists. There are unreticulated septic systems along the harbour coast, with a high groundwater table meaning that groundwater flowing into and out of unlined septic tanks is leading to freshwater and coastal pollution. This issue has persisted for some time, and will worsen as the sea level rises.*	Continuing reliance on systems that allow wastewater contamination of the harbour to occur is contrary to tikaka.	Risk to whakapapa connections to wai and moana (including Te Awa Ōtākou) through old treatment and disposal systems – noting lack of information on performance of septic systems. Impediment to whānau wanting to reconnect to their whenua because of constraints to development.	**RED** - Wastewater treatment and disposal is via private septic systems – system capacity and durability, along with treatment and disposal methods uncertain but likely variable in terms of quality and effectiveness. High level of risk to wai and Te Awa Ōtākou (Otago harbour) – a taoka and traditionally, a highly significant mahika kai source. Climate change effects such as sea level rise will likely place significant risk on many private treatment systems and dispersal fields.

[26] Source: Te Awa Ōtākou Issues & Opportunities 2025 (Morphum), p100. Available online at: https://www.orc.govt.nz/environment/enhancing-and-protecting/te-awa-otakou-otago-harbour-report/

Ōtākou Native Reserve	Mana	Mauri	Tapu and Noa	Whakapapa	RAG Rating
	Exercise of manaakitaka may be impacted by potential for contamination of harbour by poorly performing septic systems, as this inhibits the ability to provide kai for guests.				
Stormwater	No reticulated service	Likely some issues with run-off e.g. agrichemicals, heavy metals, microrubber and microplastics, and sediment.[27] This will impact on the water quality and aquatic ecosystem of the moana.	Uncertain, but little evidence of nature-based/ green water treatment solutions for stormwater. Some reuse of greywater in area due to overall water supply shortages.	Stormwater run-off from roads and rural areas likely to be having effects on Te Awa Ōtākou.	**GREY** – Little information currently available, recommend further monitoring and research to understand stormwater systems in the area, including capacity for storm events and other trends/events related to climate change.

[27] Ibid, various including pp 35, 94, 102

Table 17: Kāi Tahu Assessment of North Coast Reserves

North Coast Native Reserves[28]	Mana	Mauri	Tapu and Noa	Whakapapa	RAG Rating
Drinking water	No reticulated service to Brinns Point NR. Marae at Puketeraki on DCC drinking water supply. Restricted supply to some other parts of Karitane NR, including via Merton rural scheme. No direct supply to Coast Rd rūnaka property containing mara (garden), nursery and other cultural activities, restricts the ability to expand activities on this site. Historic inequities in provision of city services to kāika; lack of leadership and kaitiaki role for rūnaka in wider community supply. May be risk to marae function as CDEM hub due to scarcity of supply and storage.	Resilience issues with restricted supply and low storage may affect hauora of community. Reliance on secondary sources to augment water storage has potential to result in contamination issues. Waikouaiti River surface water quality is vulnerable to cyanobacterial blooms with no reliable treatment methods. A survey is needed to understand number in the community that are augmenting water supply and the potential risk. In areas without reticulated supply such as Brinns Point, may be issues with alternate supply and treatment methods. Use of Waikouaiti River as main source of supply impacts on mauri of awa and estuary because of effect in exacerbating low flow levels.	Use of Waikouaiti River as main source of supply is at odds with tapu and noa, due to over-reliance on this source and effects on flow levels and quality of the awa. This concern applies more widely to its use as a potable water source for Waikouaiti and Karitane urban areas.	Risk to whakapapa connection to wai through over-reliance and effects on Waikouaiti River, the tūpuna awa for Kāti Huirapa. May be an impediment to whānau wanting to reconnect to their whenua because of constraints to development in restricted or no-water supply areas.	**RED** – Variable methods of supply within the area, with some non-reticulated areas and some on restricted supply. May be supplementary sources used within reticulated areas, with risks relating to quality of supply and levels of treatment. Restricted supply creates onus to store water in tanks, which increases contaminant risks. Concerns about over-reliance on Waikouaiti River, the tūpuna awa for Kāti Huirapa ki Puketeraki. Resilience of supply already an issue in drought conditions, will likely become more of an issue with changing climate and increasing incidences of cyanobacteria blooms.
Wastewater	No reticulated service to Brinns Point NR or most of Karitane NR. Urban parts of Karitane reticulated to Waikouaiti Wastewater Treatment Plant.	Risk to te taiao from ageing on-site disposal systems. Uncertainty around performance of septic systems due to lack of monitoring and older systems not to specification of current standards.	Continuing reliance on systems that may allow wastewater contamination to waterways and the moana to occur is contrary to tikaka.	Risk to whakapapa connections to wai and moana (including customary fisheries) through old treatment and disposal systems –	**RED** - Wastewater treatment and disposal is largely via private septic systems – system capacity and durability, along with treatment and disposal methods uncertain but likely variable in terms of quality and effectiveness. Systems are

[28] Includes Brinns Point Native Reserve, Waikouaiti Native Reserve (referred to here as Karitane NR). While mostly located in the Karitane/Puketeraki rural area, the Waikouaiti NR overlaps with a large extent of urban Karitane township.

North Coast Native Reserves[28]	Mana	Mauri	Tapu and Noa	Whakapapa	RAG Rating
	Historic inequities in provision of city services to kāika; lack of leadership and kaitiaki role for rūnaka in wider community supply. May be risk to marae function as CDEM hub due to on-site limitations, as system becomes overwhelmed by volume of wastewater to be treated before being discharged to the DCC wastewater network. Exercise of manaakitaka may be impacted by potential for contamination of wai tai from dispersal of wastewater from the Waikouaiti treatment plant, as this inhibits the ability to provide kai for guests.	Land and soil stability issues along northern coast pose risk to on-site systems. Where wastewater is reticulated, disposal via the Waikouaiti treatment plant and its current dispersal field creates risks to the mauri of wai tai – which will be exacerbated by climate change and emerging contaminants.	Where wastewater is reticulated, treatment and disposal via the Waikouaiti treatment plant in its current location is contrary to tikaka.	noting lack of information on performance of septic systems. Ability to realise aspirations to develop as whānau papakāika limited by lack of wastewater servicing.	designed for nutrients and pathogen management but not emerging contaminants, such as pharmaceuticals. High level of risk to wai and Te Tai o Arai Te Uru (Otago coast) including customary fisheries areas – East Otago Taiāpure and Waikouaiti Mātaitai – both from reticulated and non-reticulated treatment and disposal methods.
Stormwater	No reticulated service, except in urban Karitane where limited DCC infrastructure available.	Unknown. May be issues with road or agricultural run-off or sediment transport, affecting mauri of waterways and the moana.	Uncertain due to lack of monitoring in area or knowledge about on-site treatments.	Stormwater run-off from roads and rural areas may be having effects on waterways and moana, including East Otago Taiāpure and Waikouaiti Mātaitai Reserve.	**GREY** – Little information currently available, recommend further monitoring and research to understand stormwater systems in the area, including capacity for storm events and other trends/events related to climate change.

Table 18: Kāi Tahu Assessment of Blueskin Bay

Blueskin Bay	Mana	Mauri	Tapu and Noa	Whakapapa	RAG Rating
Drinking water	Fully reticulated service via Mt Grand Water Treatment Plant. Rūnaka role in Integrated System Planning programme.	Resilience issues with restricted supply and low storage may affect hauora of community. May be some reliance on secondary sources where water quality and treatment methods unclear, increasing risk of contamination. A survey is needed to understand number in the community that are augmenting water supply and the potential risk.	Sourced from relatively stable supply (Deep Creek & Deep Stream) and fully treated – no significant concerns.	Fully reticulated and treated service helps maintain healthy community connections.	AMBER: No major concerns with service, need to continue on going works to address security and resilience of supply.
Wastewater	No reticulated service at Waitati or Evansdale. Lack of leadership and kaitiaki role for rūnaka in community wastewater management. Limited or no information on performance of septic systems. Exercise of manaakitaka may be impacted by potential for contamination of Blueskin Bay by poorly performing septic systems, as this inhibits the ability to provide kai for guests.	Major concerns with the age and performance of septic systems in catchment and effects on mauri of Blueskin Bay a significant mahika kai area. Location of the existing Warrington Wastewater Treatment Plant also affects the mauri of wai tai.	Continuing reliance on systems that allow wastewater contamination of Blueskin Bay and Warrington coastal waters to occur is contrary to tikaka.	Risk to whakapapa connection to Blueskin Bay through old treatment and disposal systems – noting lack of information on performance of septic systems.	RED - Wastewater treatment and disposal at Waitati/Evansdale via private septic systems – system age, capacity and durability, along with treatment and disposal methods uncertain but likely variable in terms of quality and effectiveness. High level of risk to Blueskin Bay - a highly significant mahika kai source and part of East Otago Taiāpure. This exacerbates existing concerns with the location and performance of Warrington Wastewater Treatment Plant and its effects on Blueskin Bay, the wāhi tūpuna Ōkahau (Warrington spit) and the moana. Climate change effects such as sea level rise may place significant risk on some private treatment systems and dispersal fields.
Stormwater	No reticulated service	May be some issues with road run-off, particularly from State Highway 1. Forestry within catchment may contribute to sediment transport during harvesting.	Uncertain, little evidence of nature-based/green water treatment solutions for stormwater.	Stormwater run-off from roads and rural areas may be having effects on Blueskin Bay/East Otago Taiāpure.	GREY – Little information currently available, recommend further monitoring and research to understand stormwater systems in the area, including capacity for storm events and other trends/events related to climate change.

6.3 Recommendations for Native Reserves

Based on the cultural assessment in the previous section, the following recommendations are made for further action.

Table 19: Recommendations for Native Reserves

Community	Service	Recommendation
Ōtākou Native Reserve	Drinking Water	Initiate Options Analysis project for extending DCC servicing to Harington Point.
Ōtākou Native Reserve	Wastewater	Initiate Options Analysis project for extending DCC servicing to Harington Point.
Ōtākou Native Reserve	Stormwater	Investigate and address gaps in information and monitoring ahead of next servicing assessment.
North Coast Native Reserves	Drinking Water	Initiate Options Analysis project for extending DCC servicing to Brinns Point and for alternate potable water sources throughout Waikouaiti Native Reserve, Karitane and Waikouaiti.
North Coast Native Reserves	Wastewater	Initiate Options Analysis project for extending DCC servicing to Brinns Point and unserviced parts of Waikouaiti Native Reserve. This should be in conjunction with on-going work to replace the Waikouaiti wastewater treatment plant.
North Coast Native Reserves	Stormwater	Investigate and address gaps in information and monitoring ahead of next servicing assessment.
Blueskin Bay	Drinking Water	Continue with work already programmed to address security of supply. A survey is needed to understand number in the community that are augmenting water supply and the potential risk.
Blueskin Bay	Wastewater	Initiate Options Analysis project for extending DCC servicing to Waitati and Evansdale. This should be in conjunction with on-going work to replace the Warrington wastewater treatment plant.
Blueskin Bay	Stormwater	Investigate and address gaps in information and monitoring ahead of next servicing assessment.

This assessment has broadly covered the same areas as the legislative requirements for the Servicing Assessment, particularly in relation to the mauri/hauora (public health) aspects of servicing, but also the mana and whakapapa (provision of reticulated supply, resilience of current supply arrangements). It has also utilised Te Taki Haruru to provide a wider Kāi Tahu lens on the effects of current servicing arrangements on the mana whenua relationship with wai, whenua and other taoka. This assessment has also considered strategic and policy considerations as set out in the FDS, e.g. the considerations within Policy 3 as described above.

These recommendations reiterate a need for further action in some communities, particularly relating to provision of drinking water and wastewater services in areas that were set aside for

Kāi Tahu settlement but have never had reticulated services provided. The recommendations to proceed to the next stage indicate that analysis of options and potential funding models should be started. They do not at this point indicate any rūnaka view around whether and how reticulated services should be provided to these communities, or the funding models to be utilised in any extended or enhanced provision.

DCC has committed to a review of the 2GP provisions relating to mana whenua use of native reserves and Māori land. This will require extensive engagement with rūnaka and Māori landowners. It may be both efficient and more effective to align any 2GP engagement with engagement required as part of Options Analysis projects.

7 Analysis and next steps

In Dunedin's FDS and 9YP, the DCC indicated work was programmed to deliver a 'servicing assessment' of drinking water, wastewater and stormwater services available to communities in accordance with the LGA requirements current at the time.

The FDS stated the 'servicing assessment' would determine whether existing three waters servicing arrangements in unserviced (or partially serviced areas) are adequate, and whether upgrades or extensions are required to address public health risks, adverse environmental effects or other significant issues. The FDS said that the DCC would determine priority areas for a more detailed analysis of servicing options based on the findings of the servicing assessment.

The 9YP clarified that the 'servicing assessment' must be completed by 1 July 2026. The 9YP stated that the purpose of the servicing assessment was to identify any adverse public health or environmental impacts arising from existing three waters services available to communities in Dunedin, including accounting for future demand. The 9YP stated that for those communities where issues were identified, the assessment would be followed by further detailed assessments of options for potential service extensions or upgrades needed to address the issues. These further assessments would occur between 2026 and 2028. Decisions on preferred options were expected to involve further consultation with impacted communities, and to inform infrastructure investment decisions through future planning cycles. Subject to those decisions and funding, implementation of any service extensions would begin in 2028/29.

The LGWSA came into force in August 2025 and carried over, with modifications, the LGA requirements for territorial authorities to assess drinking water, wastewater and stormwater services available to communities.

This Servicing Assessment document records an assessment of communities' access to drinking water services in Dunedin, conducted in accordance with the requirements of Section 69 of the LGWSA. Although an assessment of wastewater and stormwater services is not now required by the legislation until 2029, this document also records assessments of communities' stormwater and wastewater services conducted in accordance with the requirements of Section 71 of the LGWSA.

Drinking water, wastewater and stormwater services were assessed against a set of criteria developed by DCC staff, based on the specific requirements of LGWSA and with a focus on public health adequacy. Reporting back on the assessments in this document has been divided into assessments of services provided by the DCC (covered in Section 4), and services not provided by the DCC (covered in Section 5). Section 6 provides an additional mana whenua assessment of three waters services available to communities in three locations of significance identified by mana whenua.

7.1 DCC three waters services – analysis

The DCC continuously monitors and assesses the adequacy of the drinking water, wastewater and stormwater services it provides to communities in Dunedin. These services are regulated and subject to compliance and performance reporting requirements, as well as statutory long-term planning requirements. In addition, the DCC has recently undertaken a major, strategic planning work programme for the three waters, using a 50-year planning horizon: the ISP programme.

The assessments of DCC three waters services in Section 4 of this document drew on system and service performance information generated by the DCC in the course of its normal performance reporting and future planning work. For the purposes of this Servicing Assessment, DCC three waters services were assessed at a whole-of-system level.

The assessment of DCC drinking water, wastewater and stormwater services found that those services partially met the service-specific assessment criteria developed for this Servicing Assessment. DCC drinking water services partially met four out of five drinking water assessment criteria, DCC wastewater services partially met three out of four wastewater assessment criteria, and DCC stormwater services partially met all four stormwater assessment criteria. The PARTIALLY MET finding indicates the service has some constraints or indications of adequacy issues, but that these are manageable with mitigation. This was due to factors such as not meeting current performance targets, and anticipated issues with ability of existing systems to meet projected future demand and future regulatory requirements.

The DCC has identified improvement actions to address service adequacy risks and issues and funding for these actions is provided through the capital and operating budgets set out in the 9YP. Specific actions to address the adequacy risks or issues identified in the assessment are listed in Section 4. Substantial investment is planned over the coming years in:

- Actions to address anticipated future raw water supply constraints (drinking water services), including investigation and development of groundwater supply as an alternative raw water source; investigation and development of new raw water storage; and water efficiency initiatives.
- Actions to improve wastewater system performance and resilience during wet weather conditions, including replacement of the Musselburgh wastewater pump station and rising mains to Tahuna WWTP, renewal of approximately 4km of the Main Interceptor Sewer (MIS), and other infrastructure interventions to improve wet weather flow management.
- Actions to improve stormwater system performance, including specific interventions in South Dunedin and Mosgiel.

7.2 Non-DCC three waters services – analysis

The DCC holds little detailed information about the performance of non-DCC three waters services available to communities in Dunedin. Drawing on the information gathered for the WSSA and a through the 2024/25 Water Services Survey sent to 2,448 properties in communities with urban zoning that receive two or fewer of the three waters services from the DCC, the most common form of drinking water and wastewater service used in communities that do not receive drinking water or wastewater services from the DCC is individual self-servicing.

The LGWSA does not require specific assessments of individual domestic self-supplies (for assessments of drinking water services) and does not require assessments in relation to individual properties (for assessments of stormwater and wastewater services). However, Section 5 of this document has identified the inherent risks associated with individual self-servicing arrangements for drinking water and wastewater and control measures that may be employed to reduce those risks and made assessments of communities where individual self-servicing is the primary or sole servicing arrangement at a general, community level. For communities where individual self-servicing is the primary mode of servicing and there was otherwise no or limited information

available about public health or environmental issues arising, this assessment assigned a general finding of PARTIALLY MET for drinking water and wastewater services available in these communities.

There are several communal drinking water and wastewater systems owned and operated by private parties that provide services to communities in Dunedin. Drawing on information available to the DCC, including information made available by the Water Services Authority-Taumata Arowai and the ORC, Section 5 of this document identifies specific risks, issues and (where appropriate) findings related to those services and the communities where they are available. Due to a general lack of information about stormwater services available to communities outside the DCC's stormwater service areas, Section 5 does not provide any findings in relation to non-DCC stormwater services available to communities.

Overall, the following observations can be made about three waters services available to communities that do not receive those services from the DCC:

- **Drinking water services:**

    - All individual self-servicing (domestic self-supply) arrangements carry inherent public health risks in relation to both drinking water quality (safety) and drinking water quantity (sufficiency). While these risks can be reduced through the use of a variety of control measures, there is very limited information currently available to the DCC to enable the use and effectiveness of control measures to be assessed and, as a result, the actual (residual) level of risk determined.

    - There are a number of drinking water supplies providing drinking water services in Dunedin's outlying urban communities and in the rural community that are likely to be subject to duties and obligations under the Water Services Act 2021 but that are not currently registered. As a result, there is very limited information available to the DCC (and to the Water Services Authority-Taumata Arowai) about the performance of these supplies and the actual (residual) level of risk the use of their services poses to public health.

    - No information was made available to the DCC indicating there have been widespread public health issues arising from use of non-DCC drinking water supplies (including domestic self-supplies) in Dunedin during the 2022-2025 assessment period – e.g. there were no outbreaks of waterborne illness where drinking water was confirmed by public health authorities as the source of the outbreak.

- **Wastewater services:**

    - All individual on-site wastewater self-servicing arrangements carry inherent risks to public health and the environment. While these risks can be reduced through the use of a variety of control measures, there is very limited information available to the DCC to enable the use and effectiveness of control measures to be assessed and, as a result, the actual (residual) level of risk determined.

- There are several communal wastewater systems providing wastewater collection, treatment and disposal services in Dunedin's outlying urban communities and in the rural community. Discharges from these systems are regulated by discharge permits issued by the ORC under the RMA. Compliance audits conducted by the ORC during the 2022-2025 assessment period indicate these systems have not always achieved full compliance with all consent conditions. Audits have found significant non-compliance at two sites and the ORC has issued abatement notices in relation to these systems that were in place during the assessment period. According to the definition used by the ORC, significant non-compliance means "there are significant environmental consequences and/or a high risk of adverse environmental effects." However, the DCC does not currently hold any specific information about any actual adverse environmental effects that are occurring due to these non-compliances. System operators have provided information about improvement actions completed and in progress to address non-compliances and reduce the likelihood of adverse environmental effects.

- **Stormwater services**

  - In communities where there are no DCC reticulated stormwater services, the primary pathways for stormwater drainage away from developed areas are via roads and associated ditches, channels and culverts, via natural drainage pathways (e.g. watercourses / streams / rivers) and / or via soakage into pervious surfaces.

  - Some respondents to the 2024/25 survey mentioned localized flooding issues during rainfall events. The DCC holds limited specific information on the causes or extent of flooding issues.

7.3 Next steps

Actions to give effect to LGWSA requirements

The LGWSA requires territorial authorities to conduct further assessments of drinking water, wastewater and stormwater services at least every three years after the completion of the first assessment.[29]

[29] Refer to Sections 69(3) and 71(3) of the Local Government (Water Services) Act 2025.

- **DCC ACTION 1:** complete a second assessment of drinking water, wastewater and stormwater services available to communities in Dunedin by mid-2029.
- **SUGGESTED ADDITIONAL DCC ACTION 1a:** investigate and – where feasible – implement methods to collect more information about the performance of non-DCC drinking water, wastewater and stormwater services to enable a more detailed and effective assessment, including specific information about potential or actual public health and environmental issues arising from these services.
- **SUGGESTED ADDITIONAL DCC ACTION 1b:** investigate ways to tailor the assessment criteria for future servicing assessments to the information available about the performance of non-DCC three waters services.

The LGWSA requires territorial authorities to make assessments of drinking water services publicly available on completion.[30]

- **DCC ACTION 2:** publish this Servicing Assessment report on the DCC website in July 2026.
- **SUGGESTED ADDITIONAL DCC ACTION 2a:** include links to relevant educational information on the DCC website alongside the Servicing Assessment to support understanding of public health and environmental risk reduction measures that can be employed by operators and users of non-DCC drinking water and wastewater services. Examples could include links to Water Services Authority-Taumata Arowai information for domestic self-suppliers and small drinking water suppliers, links to ORC information about septic tanks systems, and links to public health service information about small-scale drinking water and wastewater systems.

The LGWSA requires territorial authorities to provide opportunities for any person to alert the territorial authority at any time to concerns about a community's access to drinking water services.[31]

- **DCC ACTION 3:** establish a specific online mechanism (via a form on the DCC website) for community members to raise concerns about access to drinking water services and establish a business process for assessing and responding to alerts received.

The LGWSA requires territorial authorities to provide the Water Services Authority-Taumata Arowai with a copy of the completed assessment of drinking water services and notify the Water Services Authority-Taumata Arowai about any specified matters of concern identified by the assessment.[32]

[30] Refer to Sections 70(1) and 71(6) of the Local Government (Water Services) Act 2025.
[31] Refer to Section 69(4) of the Local Government (Water Services) Act 2025.
[32] Refer to Section 70 of the Local Government (Water Services) Act 2025.

- **DCC ACTION 4:** provide an electronic copy of this Servicing Assessment to the Water Services Authority-Taumata Arowai in July 2026 and schedule a meeting with the staff of the Water Services Authority-Taumata Arowai to present and discuss the assessment's findings.

The LGWSA requires territorial authorities to consider the findings and implications of the assessment in relation to the territorial authority's water services strategy, district plan and broader duty to improve, promote and protect public health within its district.[33] DCC actions to give effect to these requirements are set out below under the next sub-heading.

Actions to give effect to Dunedin's FDS and 9YP

In both the FDS and 9YP, the DCC indicated that further detailed investigations of options for service extensions or upgrades in priority communities might follow completion of the Servicing Assessment, depending on the findings of the assessment.

The DCC's New Reticulated Utility Services (Water, Wastewater or Stormwater) Policy,[34] approved 2010, provides that:

- Reticulated three waters services will only be provided for areas which are zoned as requiring access to reticulated services, as detailed in rules in the District Plan relating to subdivisions.

- new reticulation services will not be installed in existed developed areas not already reticulated unless there is a clear and demonstrated need in terms of public health, environmental effects or other significant reason.

This Servicing Assessment has identified general, inherent risks relating to drinking water and wastewater servicing arrangements available to communities without DCC reticulated services, and some specific risks related to privately-operated communal services. However, this assessment has not determined there is an immediate 'clear and demonstrated need' for service extension in any particular community. Further work is needed to determine which, if any, communities should be prioritised for further detailed investigations.

- **DCC ACTION 5:** undertake further work, during 2026/27, to determine a methodology for prioritising communities for further detailed investigations of options for service extensions or upgrades.

This programme of work could include:

- Consideration of a range of prioritisation criteria
- Assignment of weightings to prioritisation criteria

[33] Refer to Sections 70(3) and 71(7) of the Local Government (Water Services) Act 2025.
[34] Available online at: https://www.dunedin.govt.nz/council/policies,-plans-and-strategies/policies/new-reticulated-utility-services-water,-wastewater-or-stormwater-policy

- Governance (i.e. elected member) input on prioritisation criteria to be used, weightings to be assigned and types of communities to apply the prioritisation methodology to
- Use of a variety of information sources (including this Servicing Assessment)
- Update to and/or replacement of the New Reticulated Utility Services (Water, Wastewater or Stormwater) Policy 2010.

Possible prioritisation criteria could include:

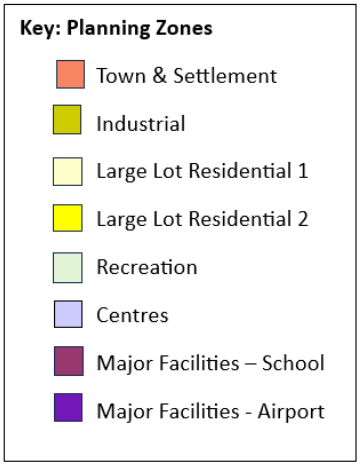
- mana whenua intent / findings of cultural impact assessment
- population size (as a potential proxy for level of public health and environmental risk)
- type and inherent risk profile of existing servicing available
- strategic importance in terms of projected future growth (as per the FDS and 2GP)
- zoning and current and future land uses
- proximity to existing DCC three waters systems (a potential proxy for cost and technical feasibility)
- existing availability of one or more of the DCC three waters services in the community
- age of housing stock (as a proxy for condition and performance of self-servicing systems like septic tanks)
- sensitivity of surrounding environment
- risk to existing servicing available due to climate change.

The prioritisation methodology, once completed, could be used to determine priority communities for further detailed investigations of options for service extensions or upgrades. These investigations and any resulting service extensions or upgrades could then be progressed, subject to funding made available through the 9YP or its successor, the Water Services Strategy 2027-37 (to be developed, and to be in place from 1 July 2027). As stated in the 9YP, any decisions on preferred options for service extensions or upgrades are expected to involve consultation with impacted communities that includes consideration of up-front and long-term financial / affordability implications for those communities.

- **DCC ACTION 6**: determine, through the development of the Water Services Strategy 2027-37, the funding available for undertaking any detailed investigations of options for service extensions or upgrade and any subsequent service extension or upgrade works.

Appendix A: communities with urban zoning that receive two or fewer of the three waters services from the DCC

Appendix A includes a brief description of the characteristics of each community that has been assessed during the Servicing Assessment. Each description includes a map of the relevant urban zoned areas in the community. The urban zones are provided in the following key:



Aramoana (including Tayler Point and Te Ngaru)

Aramoana, Tayler Point and Te Ngaru are small coastal settlements at the northern entrance to Otago Harbour, approximately 20km northeast of Dunedin's city centre, within the West Harbour Community Board area.

The community is physically constrained by its location on a narrow peninsula between the harbour and the open coast, surrounded by saltmarshes, dunes, and wildlife habitats of regional significance.

This community is characterised by low-density settlements, with Township and Settlement zoning. The Dunedin Second Generation District Plan (**2GP**) applies zoning and environmental overlays in and around Tayler Point, Te Ngaru, and Aramoana that support protection of natural and ecological values and management of coastal hazards, and limit scope for further development. Dunedin's Future Development Strategy 2024-2054 (**FDS**) does not identify any of these settlements as growth locations.

Aramoana, Tayler Point and Te Ngaru do not receive drinking water, wastewater or stormwater services from the DCC.

The location of the community is shown on the map in Appendix Figure 1.

Appendix Figure 1: Aramoana (including Taylor Point and Te Ngaru)

Ōtākou (Including Harington Point, Harwood and Lower Portobello)

Ōtākou, Harington Point, Harwood and Lower Portobello are small coastal settlements located on the Otago Peninsula, near the entrance to Otago Harbour and approximately 20km from Dunedin's city centre, within the Otago Peninsula Community Board area.

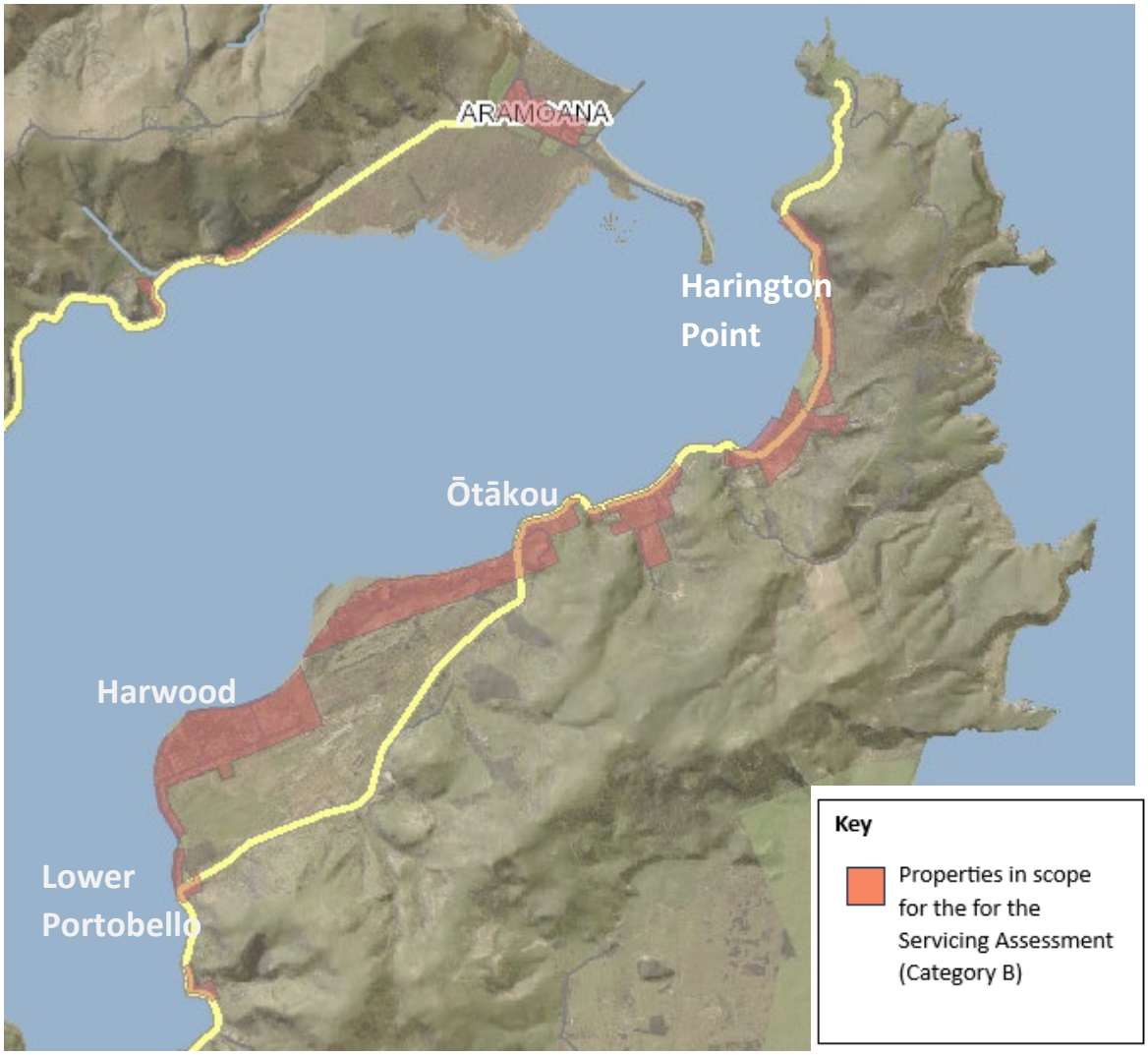
The settlements are concentrated around the harbour edge. Ōtākou holds cultural significance as the traditional home of Te Rūnanga o Ōtākou and the location of Ōtākou Marae, with the wider area including numerous wāhi tapu and culturally significant landscapes associated with mana whenua. Land use is characterised by low-density residential development, community facilities, cultural activities, and small-scale marine and fishing-related uses, with the surrounding environment recognised for its high landscape, ecological, and heritage values.

Under Dunedin's 2GP, zoning and overlays in and around the community reflect these values and the area's environmental sensitivity, landscape values, and exposure to coastal and natural hazards, resulting in limited capacity for further development.

Dunedin's FDS identifies Ōtākou as an area of Dunedin that was set aside for Kāi Tahu settlement, and that has enabling planning provisions so that mana whenua can live and sustain themselves there according to tikaka.

The community does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the community is shown on the map in Appendix Figure 2.



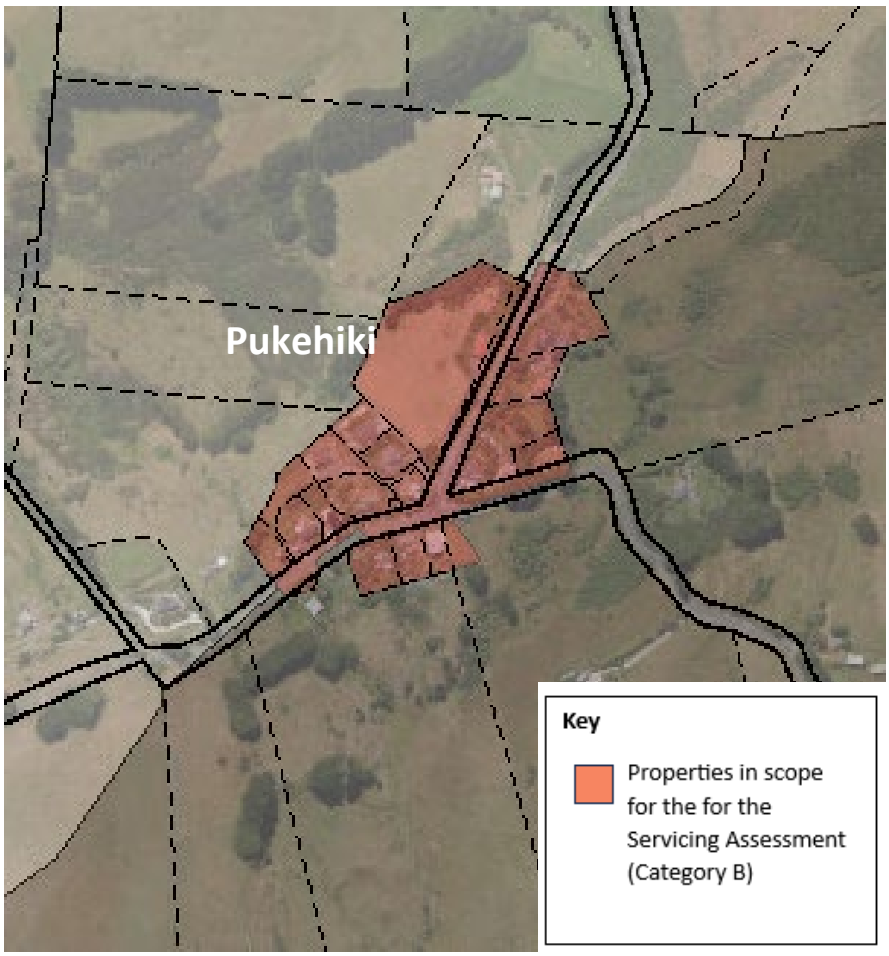
Appendix Figure 2: Ōtākou, Harington Point, Harwood and Lower Portobello

Pukehiki

Pukehiki is a small settlement situated on the central ridgeline of the Otago Peninsula, approximately 8km east of Dunedin's city centre, within the Otago Peninsula Community Board area. The settlement is characterised by a limited development, with a small number of dwellings and several community facilities including the historic Pukehiki Church, District Hall and community library. Pukehiki sits within a highly sensitive rural and coastal landscape defined by steep landforms and indigenous vegetation remnants. Under Dunedin's 2GP, Pukehiki is managed as a small established rural settlement, with zoning and controls focused on maintaining its very low-density character, protecting landscape and heritage values, and managing natural hazard risks associated with steep terrain and ridge-top exposure. Dunedin's FDS does not identify Pukehiki as a growth or intensification area and anticipates that it will remain a small-scale rural community with limited change over time.

Pukehiki does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the Pukehiki community is shown on the map in Appendix Figure 3.



Appendix Figure 3: Pukehiki

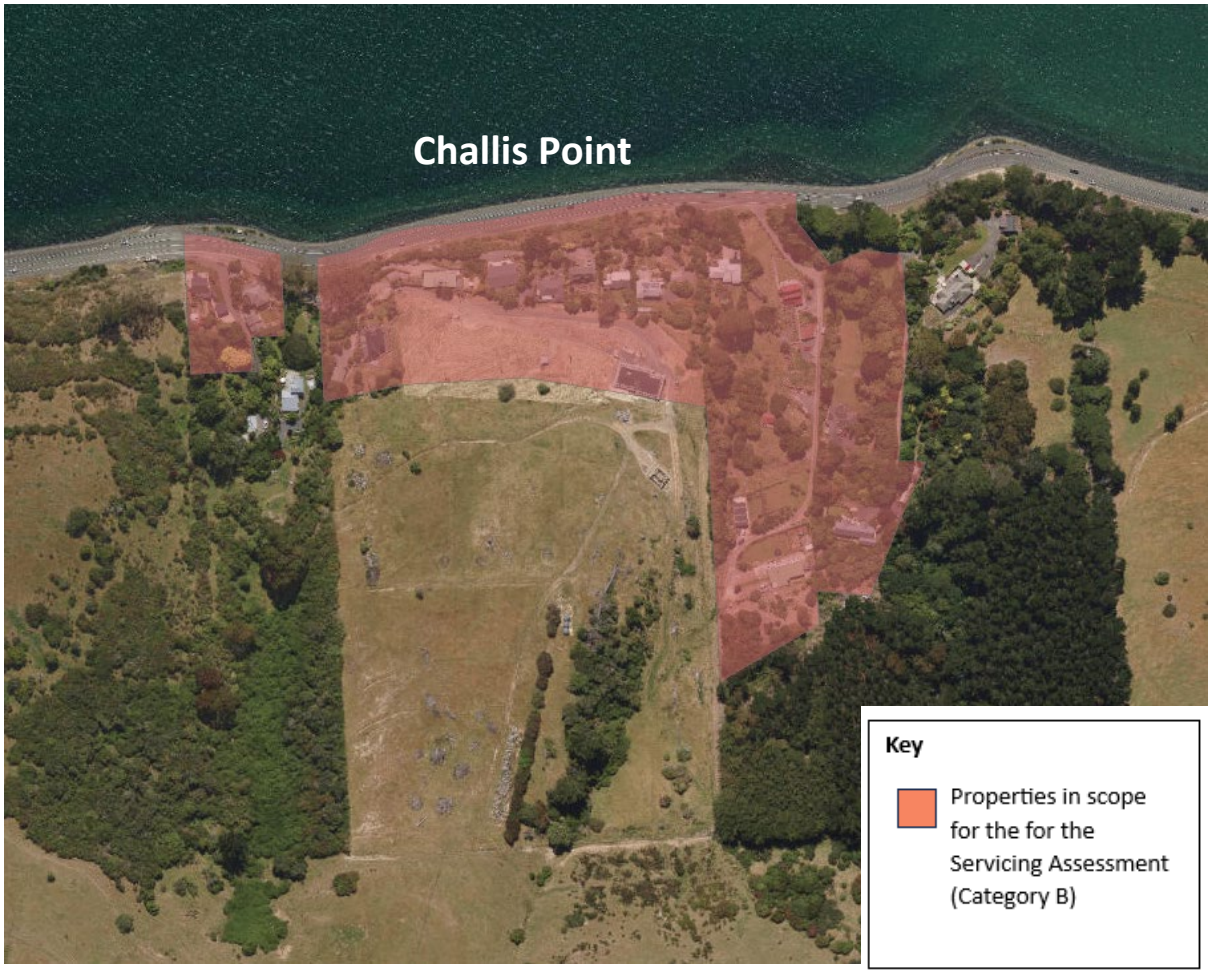
Challis Point

Challis Point is a small coastal locality situated on the inner reaches of the Otago Harbour, approximately 8km southeast of Dunedin's city centre along Portobello Road and is within the Otago Peninsula Community Board area.

Under the 2GP, Challis Point is zoned Township and Settlement with surrounding areas zoned rural and subject to overlays relating to coastal character, biodiversity, natural features, and natural hazard management. Dunedin's FDS does not identify Challis Point as a significant growth area.

Challis Point receives drinking water and wastewater services from the DCC. Challis Point does not currently receive stormwater services from the Dunedin City Council. However, stormwater network assets to be owned and operated by the DCC are planned to be installed as part of a new subdivision in the community.

The location of the Challis Point community is shown on the map in Appendix Figure 4.



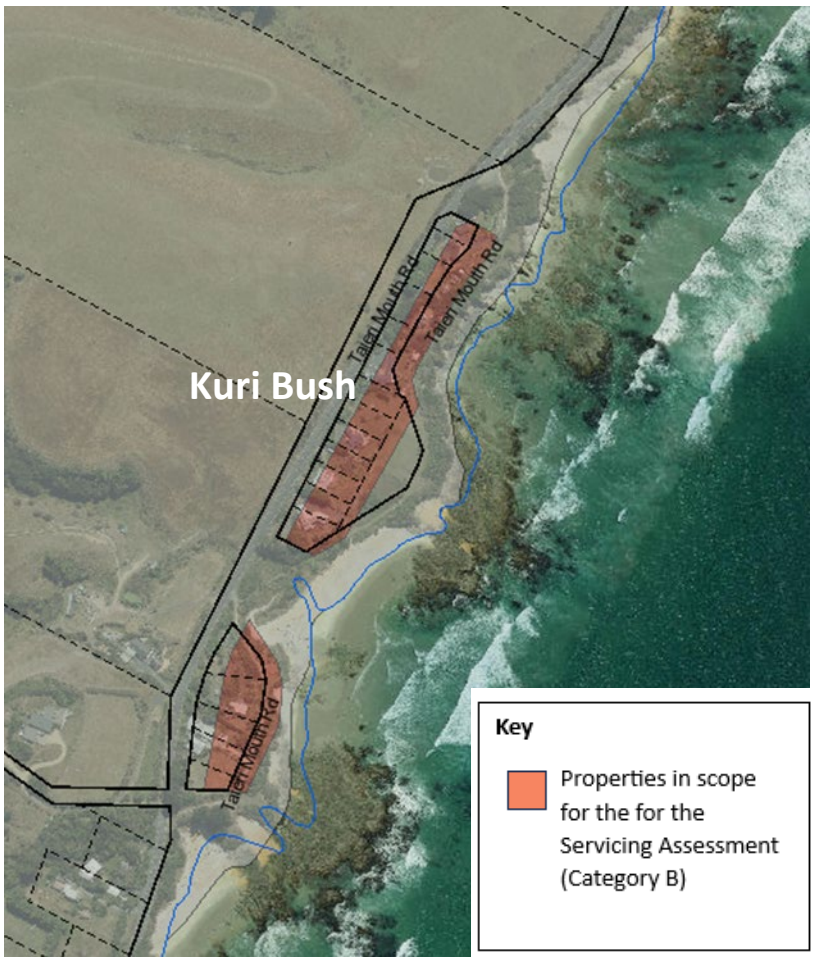
Appendix Figure 4: Challis Point

Kuri Bush

Kuri Bush is a very small coastal settlement located on the southern coastline of Dunedin City, approximately 28km southwest of Dunedin's city centre, situated between Brighton and Taieri Mouth near the mouth of the Taiari/ Taieri River and in the Saddle Hill Community Board area. The settlement is characterised by low density development. Kuri Bush lies within a landscape of high natural and scenic value, incorporating coastal environments, estuarine and riverine systems associated with the Taieri River, low-lying landforms, and areas of indigenous and regenerating vegetation. Under Dunedin's 2GP, Kuri Bush is managed with planning provisions focused on maintaining rural and coastal character, limiting subdivision and residential intensification, protecting natural and landscape values, and managing natural hazard risks. Dunedin's FDS does not identify Kuri Bush as a location for urban growth or intensification and anticipates that it will continue to function as a small-scale settlement with limited change over time.

Kuri Bush does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the Kuri Bush community is shown on the map in Appendix Figure 5.



Appendix Figure 5: Kuri Bush

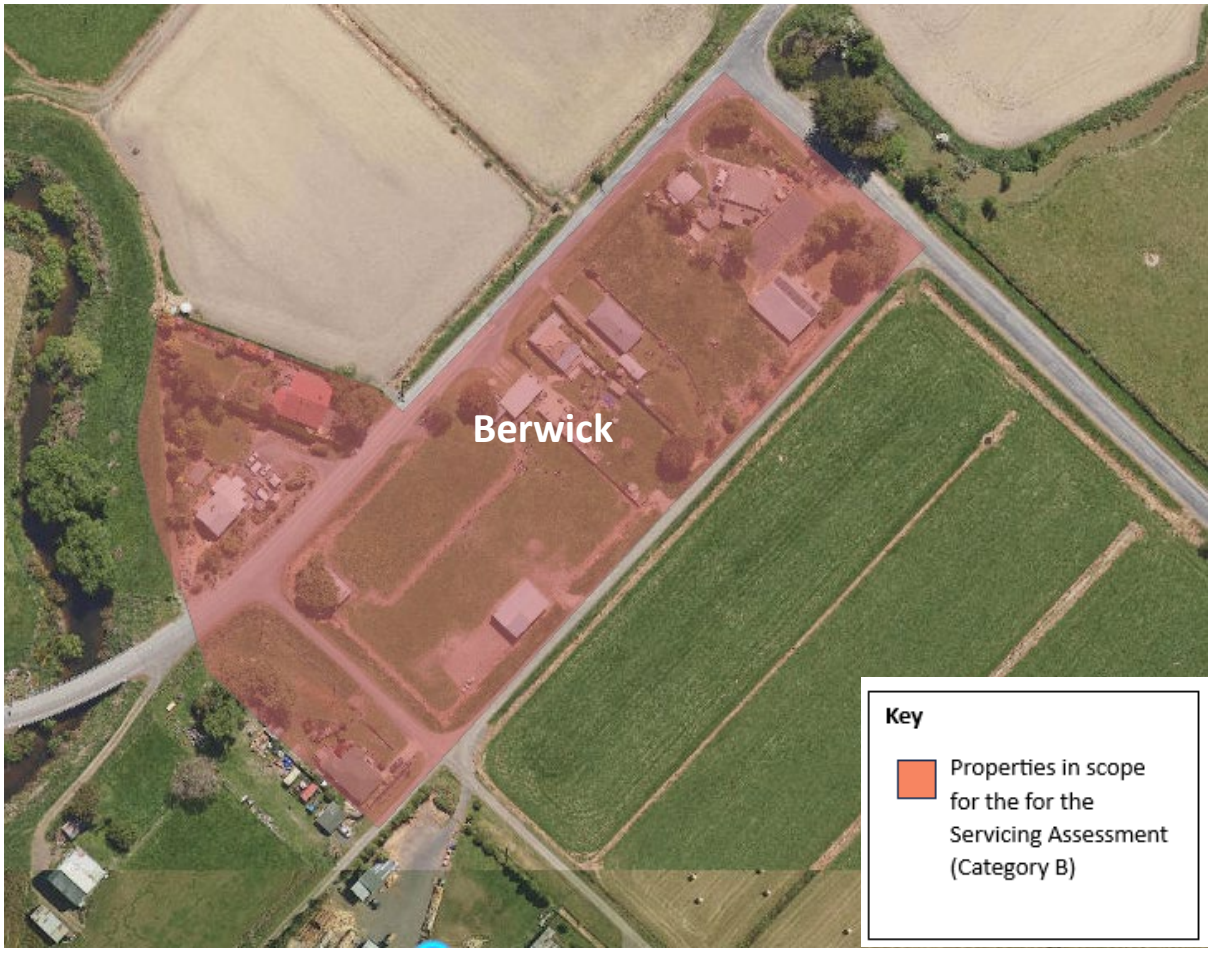
Berwick

Berwick is a small settlement situated in the lower Taieri catchment, approximately 33km west of Dunedin's city centre. It lies next to the Waipori River in the Mosgiel-Taieri Community Board area.

Under the 2GP, the small urban area of Berwick is zoned Township and Settlement. Dunedin's FDS does not identify Berwick as a future growth area.

Berwick does not receive reticulated drinking water, wastewater, or stormwater services from the Dunedin City Council.

The location of the Berwick community is shown on the map in Appendix Figure 6.



Appendix Figure 6: Berwick

Allanton

Allanton is a small settlement located on the eastern edge of the Taieri Plains, approximately 20km west of Dunedin's city centre, within the Mosgiel-Taieri Community Board area. The settlement has a modest but growing residential population and is characterised by a compact township surrounded by highly productive rural land. Land use is dominated by low-density residential development within the urban zoned area, with the surrounding landscape forming part of the wider Taieri Plains, which is recognised for its agricultural value and exposure to natural hazards, particularly flooding. Under Dunedin's 2GP, Allanton is zoned Township and Settlement with associated overlays to enable residential use while protecting rural land and managing flood risk. Dunedin's FDS identifies Allanton as an established rural settlement rather than a primary growth location, with future development expected to remain constrained, and closely aligned with infrastructure capacity, hazard management, and the protection of rural character.

Allanton does not receive drinking water or stormwater services from the DCC. Allanton receives wastewater services from the DCC.

The location of the Allanton community is shown on the map in Appendix Figure 7.

Appendix Figure 7: Allanton

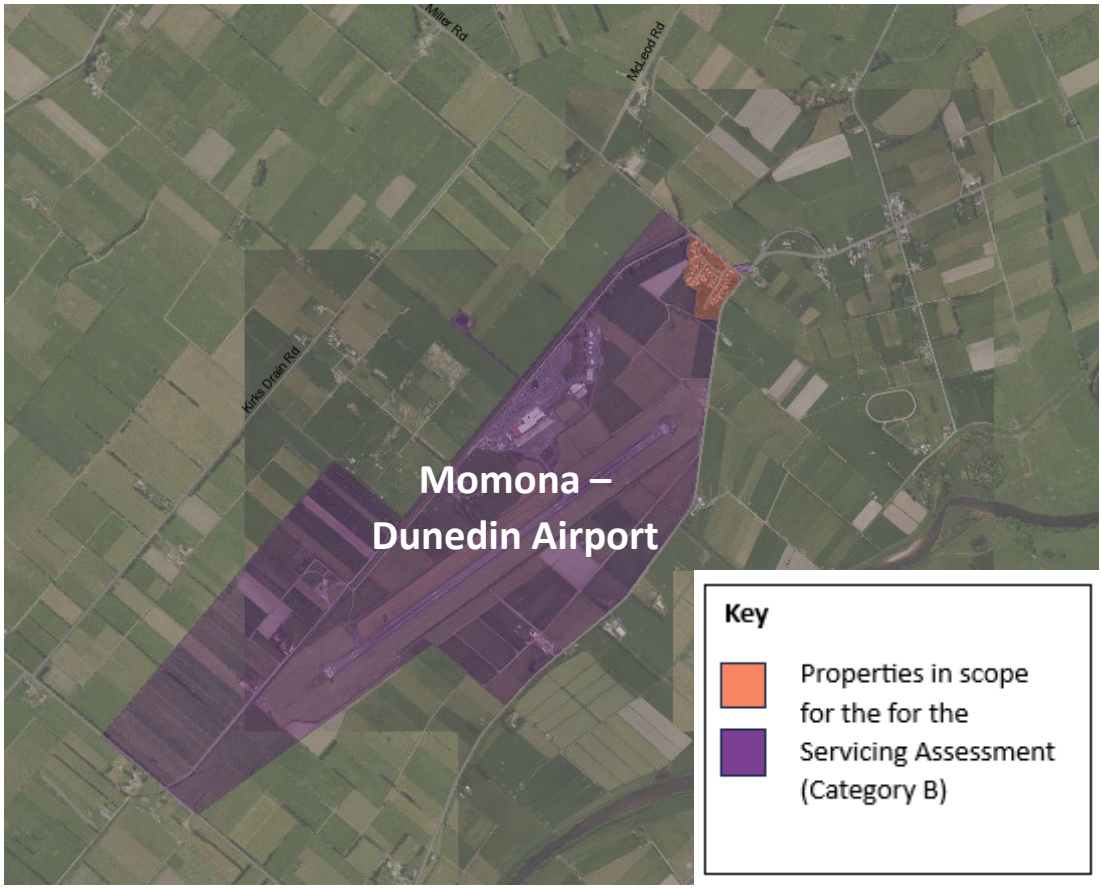
Momona – Dunedin Airport

Momona is a small settlement located on the Taieri Plains approximately 23km west of Dunedin's city centre and is defined by its long-established agricultural setting and the presence of Dunedin Airport, which is the dominant land use and critical piece of regional infrastructure for Otago and Southland. The community is in the Mosgiel-Taieri Community Board area. The surrounding area is characterised by flat, fertile rural land in productive agricultural use. Dunedin Airport occupies a substantial landholding within Momona and functions as a nationally and internationally connected transport hub, supporting passenger services, freight, aviation-related activities, and associated operational and safety infrastructure, while also influencing surrounding land use through aircraft noise contours and designation-related planning controls. The airport has historically shaped limited associated residential development, including a small cluster of housing originally established for airport staff, but broader urban expansion has been constrained. The locality sits within a low-lying flood-prone environment associated with the Taieri Plain and Taieri River catchment, making natural hazard management, particularly flood risk and groundwater considerations, a significant planning factor.

Under Dunedin's 2GP, the small residential area is zoned Township and Settlement with the airport area subject to its own zoning that prioritises the safe and efficient operation of the airport while managing adverse effects on surrounding rural activities. Dunedin's FDS identifies Dunedin Airport as regionally significant infrastructure to be protected and enabled but does not identify Momona as a future location for urban growth or intensification.

Momona – Dunedin Airport does not receive wastewater or stormwater services from the DCC. Momona – Dunedin Airport receives drinking water services from DCC to a single point of supply and then has a privately operated distribution system that distributes water to the airport and small associated residential area at Momona.

The location of the Momona-Dunedin Airport community is shown on the map in Appendix Figure 8.



Appendix Figure 8: Momona – Dunedin Airport

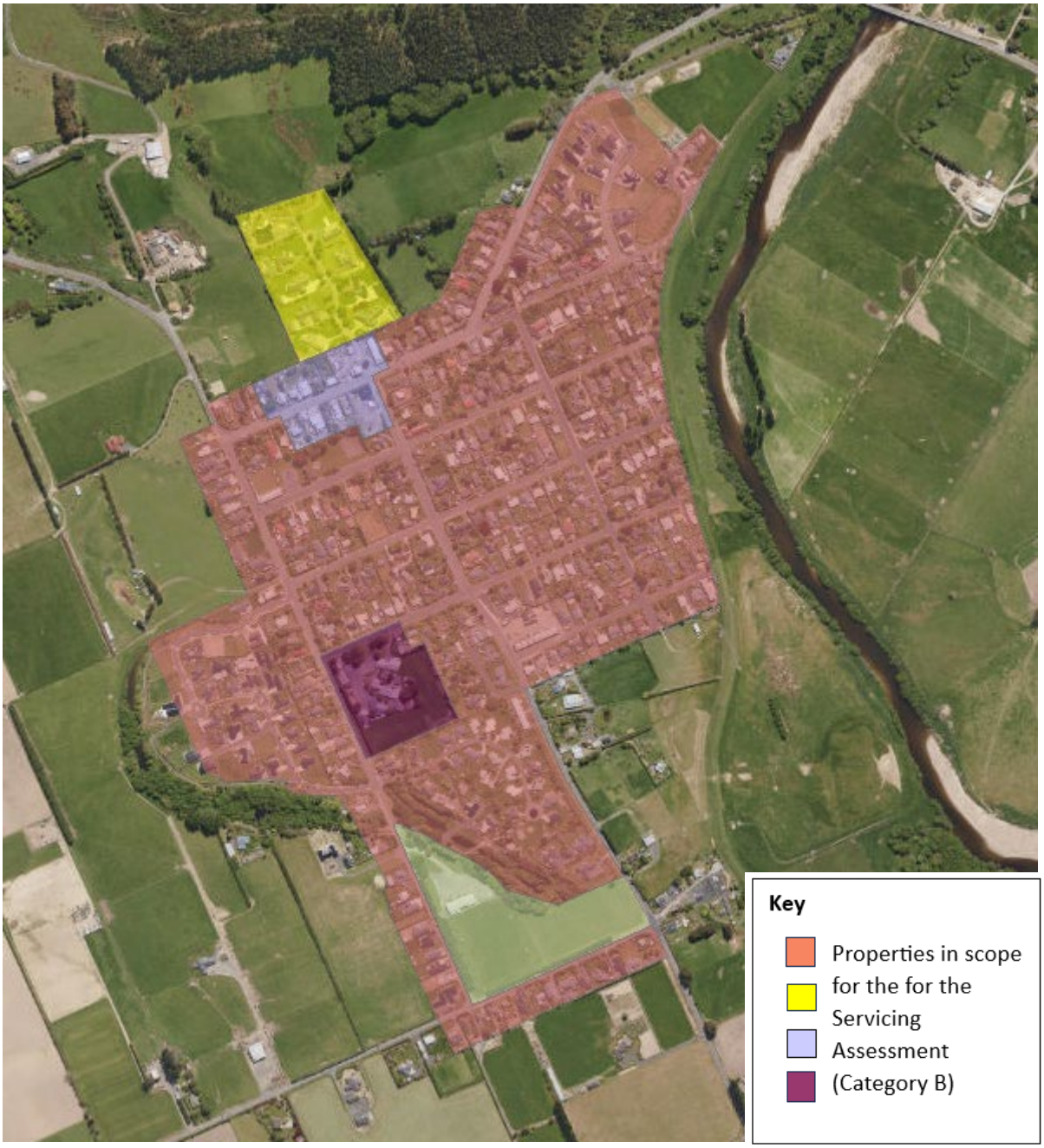
Outram

Outram is an established rural township located approximately 20km west of Dunedin's city centre on the edge of the Taieri Plains, within the Mosgiel-Taieri Community Board area. The settlement has a larger and more consolidated residential base than many surrounding communities and functions as a local service centre for the West Taieri area. Outram is a predominantly low-density residential development, supported by a limited range of commercial and community uses, and is surrounded by highly productive rural land used primarily for pastoral and horticultural activities. Its location on the Taieri Plains makes it susceptible to natural hazards, including flooding.

Under Dunedin's 2GP, Outram is primarily zoned Township and Settlement with a small area of Large Lot Residential 2 zoning and a Rural Centre (commercial and mixed use) zone. The 2GP recognises it is a rural township that enables residential infill and limited growth within defined boundaries while managing natural hazard risk and protecting surrounding rural land and amenity values. Dunedin's FDS does not identify Outram as a major growth area, instead anticipating that future development will be modest and primarily focused on consolidation within the existing settlement footprint, aligned with infrastructure capacity, hazard management, and the maintenance of its rural service-town character.

Outram does not receive wastewater service from the DCC. Outram receives drinking water and stormwater services from the DCC.

The location of the Outram community is shown on the map in Appendix Figure 9.



Appendix Figure 9: Outram

Woodside

Woodside is a small settlement approximately 25km west of Dunedin's city centre and located on the Taieri Plains. It forms part of the wider Taieri rural environment and sits within the Mosgiel-Taieri Community Board area.

The woodside area is near Taieri River and its tributaries, which contribute to periodic flood risk, particularly during high-rainfall events.

Under the 2GP, the small urban area at Woodside is zoned Township and Settlement, with overlays relating to high-class soils, natural hazard management, and rural character protection applicable in the surrounding area. Dunedin's FDS does not identify Woodside as a future growth area.

Woodside does not receive drinking water, wastewater, or stormwater services from the Dunedin City Council.

The location of the Woodside community is shown on the map Appendix Figure 10.

Appendix Figure 10: Woodside

Middlemarch

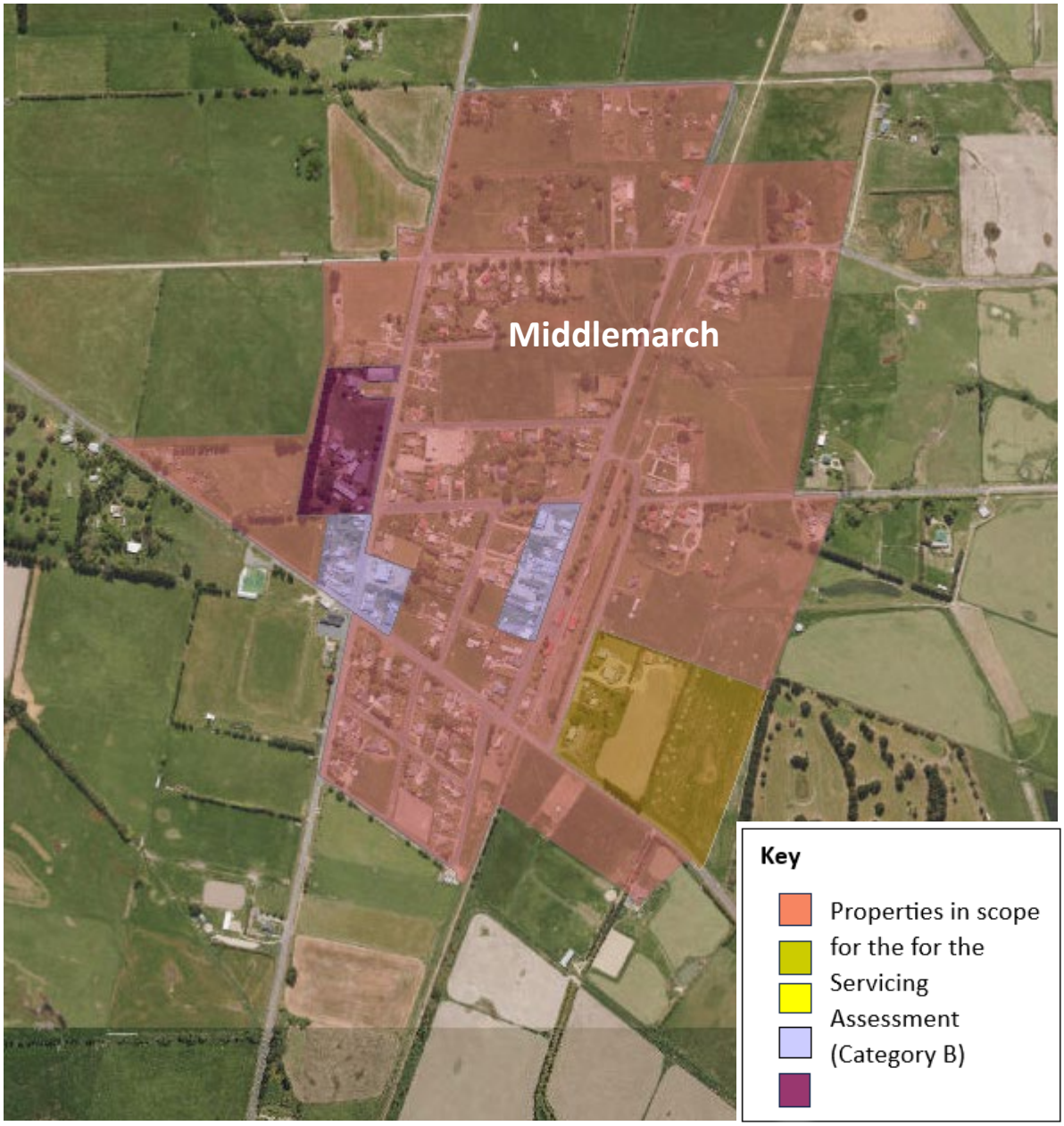
Middlemarch is a small township located in the Strath Taieri valley at the foot of the Rock and Pillar Range, approximately 50km northwest of Dunedin's city centre, within the Strath Taieri Community Board area. The settlement functions as a service hub for the surrounding farming community and is a gateway to the Otago Central Rail Trail, marking the trail's eastern terminus and supporting tourism-related activities alongside its primary rural service role.

Middlemarch has a small, stable residential population and a compact settlement form, with development characterised by low-density residential housing, community facilities, and small-scale commercial and visitor accommodation uses. The surrounding landscape is predominantly rural, with extensive pastoral farming, high landscape values, and exposure to natural hazards such as flooding.

Under Dunedin's 2GP, Middlemarch is primarily zoned Township and Settlement with several Rural Centre (commercial and mixed use) zones. Overlays reflect Middlemarch's role as an established rural settlement, providing for limited residential and visitor-focused development while accounting for rural character, infrastructure limitations, and hazard management. Dunedin's FDS does not identify Middlemarch as a growth area.

Middlemarch does not receive drinking water services from the DCC. Middlemarch receives wastewater and stormwater services from the DCC.

The location of the Middlemarch community is shown on the map in Appendix Figure 11.



Appendix Figure 11: Middlemarch

Hyde

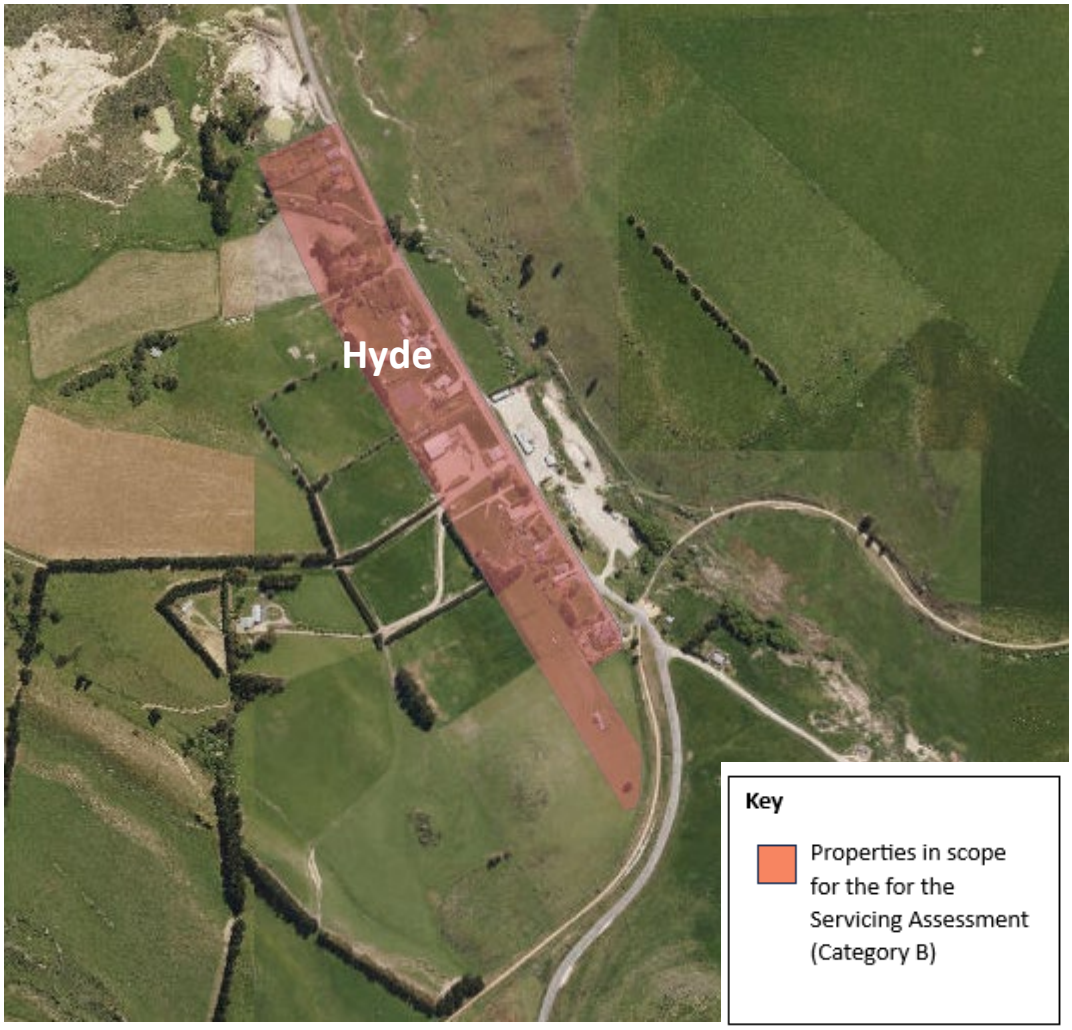
Hyde is a small settlement located in the Strath Taieri valley, approximately 68km northwest of Dunedin's city centre along State Highway 87. It forms part of the wider Strath Taieri rural environment and sits within the Strath Taieri Community Board area. The locality has a small permanent population, characterised by historic dwellings, farm properties and lifestyle blocks.

Hyde's natural environment includes river margins, dryland ecosystems and significant geological features, contributing to its distinctive inland-Otago character. Hyde is subject to natural hazard considerations, particularly river flooding, localised slope instability and fire risk during dry summers. These environmental factors, combined with its zoning and heritage values, limit opportunities for further development.

Under the 2GP, Hyde is a small community zoned Township and Settlement around a historic township centre. Overlays apply to heritage buildings, natural features, landscape values, and natural hazard management. Dunedin's FDS does not identify Hyde as a growth area.

Hyde does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the Hyde community is shown on the map in Appendix Figure 12.



Appendix Figure 12: Hyde

Evansdale

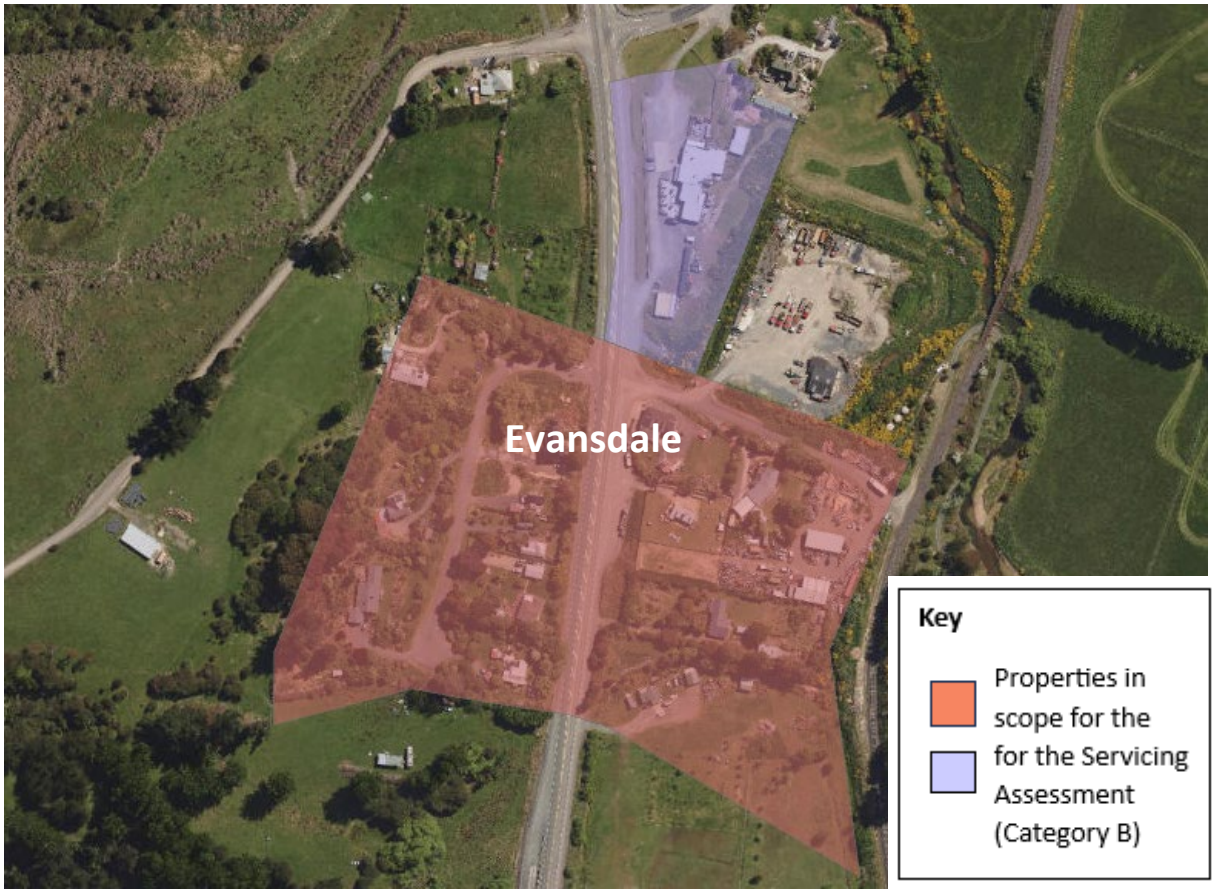
Evansdale is a small settlement situated approximately 18km north of Dunedin's city centre. It sits within the Waikouaiti Coast Community Board area.

The Evansdale area is subject to natural hazard considerations. These environmental factors, combined with the rural zoning pattern in the surrounding area, limit opportunities for further development.

Under the 2GP, the small urban area at Evansdale is zoned Township and Settlement with a small Rural Centre (commercial and mixed use) zone. Dunedin's FDS does not identify Evansdale as a growth area.

Evansdale does not receive wastewater or stormwater services from the DCC. Evansdale receives drinking water services from the DCC.

The location of the Evansdale community is shown on the map in Appendix Figure 13.



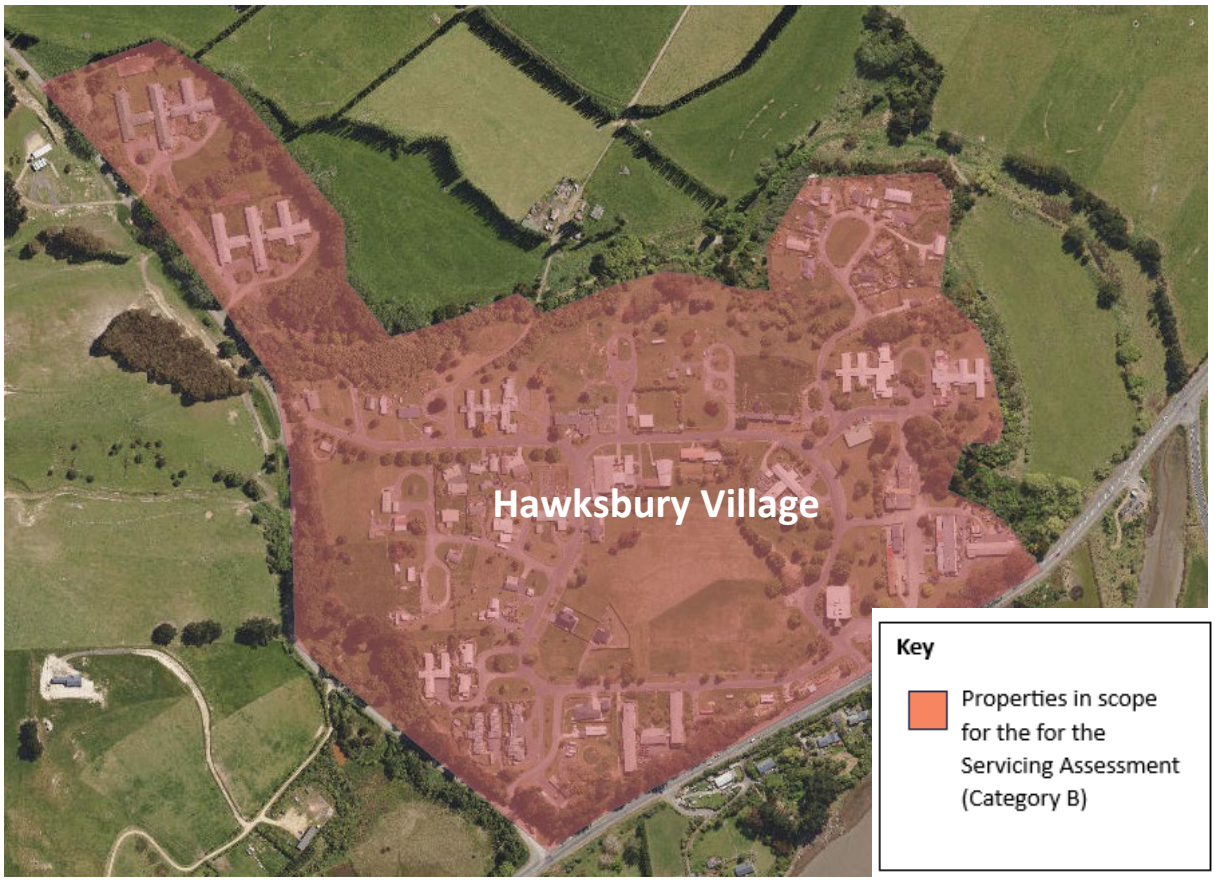
Appendix Figure 13: Evansdale

Hawksbury Village

Hawksbury Village is a small, residential village located in East Otago between Dunedin and Waikouaiti, within the Waikouaiti Coast Community Board area, situated approximately 30km north of Dunedin's city centre. The village occupies the former Cherry Farm Hospital site, which was redeveloped into a privately owned and managed residential community following the hospital's closure in the early 1990s. Under Dunedin's 2GP, Hawksbury Village is recognised as an established residential area, with Township and Settlement zoning. Although there is some scope for subdivision and development, Dunedin's FDS does not identify Hawksbury Village as a growth location, instead anticipating that the settlement will remain limited in scale, with any future development constrained to the existing village footprint and aligned with infrastructure capacity, environmental constraints, and the maintenance of its contained village character.

Hawksbury Village does not receive wastewater or stormwater services from the DCC. Drinking water is supplied by the DCC to a single point of supply, from which it is distributed across Hawksbury Village through a private network.

The location of the Hawksbury Village community is shown on the map in Appendix Figure 14.



Appendix Figure 14: Hawksbury Village

Osborne

Osborne is a small settlement located on the north coast of Dunedin City between Waitati and Long Beach and is located within the West Harbour Community Board area, situated approximately 16km northeast of Dunedin's city centre. The area functions primarily as a low-intensity residential and rural living area.

Under Dunedin's 2GP, Osborne is zoned Township and Settlement. Dunedin's FDS does not identify Osborne as a growth area, instead anticipating that it will remain a small-scale settlement with very limited change over time, consistent with its isolation, infrastructure constraints, and surrounding environmental values.

Osborne does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the Osbourne community is shown on the map in Appendix Figure 15.

Appendix Figure 15: Osborne

Pūrākaunui

Pūrākaunui is a small coastal settlement located approximately 17km northeast of Dunedin's city centre, within the West Harbour Community Board area. The settlement has low-density residential development focused around the inlet and coastal margins. Pūrākaunui sits within a landscape of high environmental, cultural, and scenic value, characterised by coastal and estuarine environments, steep landforms, indigenous vegetation remnants, and proximity to significant ecological sites. The area has strong cultural significance to Kāi Tahu, reflecting a long history of Māori occupation, food production and settlement associated with the inlet and coastal environment.

Under Dunedin's 2GP, Pūrākaunui is managed as an established settlement, with Township and Settlement zoning and is focused on maintaining its low-density character, managing natural hazards and landscape effects and protecting ecological and cultural values. Dunedin's FDS does not identify Pūrākaunui as a location for growth or intensification, instead anticipating that development will remain limited and largely within the existing settlement footprint, consistent with infrastructure constraints, environmental sensitivity, and the retention of its rural coastal character.

Pūrākaunui does not receive drinking water, wastewater or stormwater services from the DCC.

The location of the Pūrākaunui community is shown on the map in Appendix Figure 16.

Appendix Figure 16: Pūrākaunui

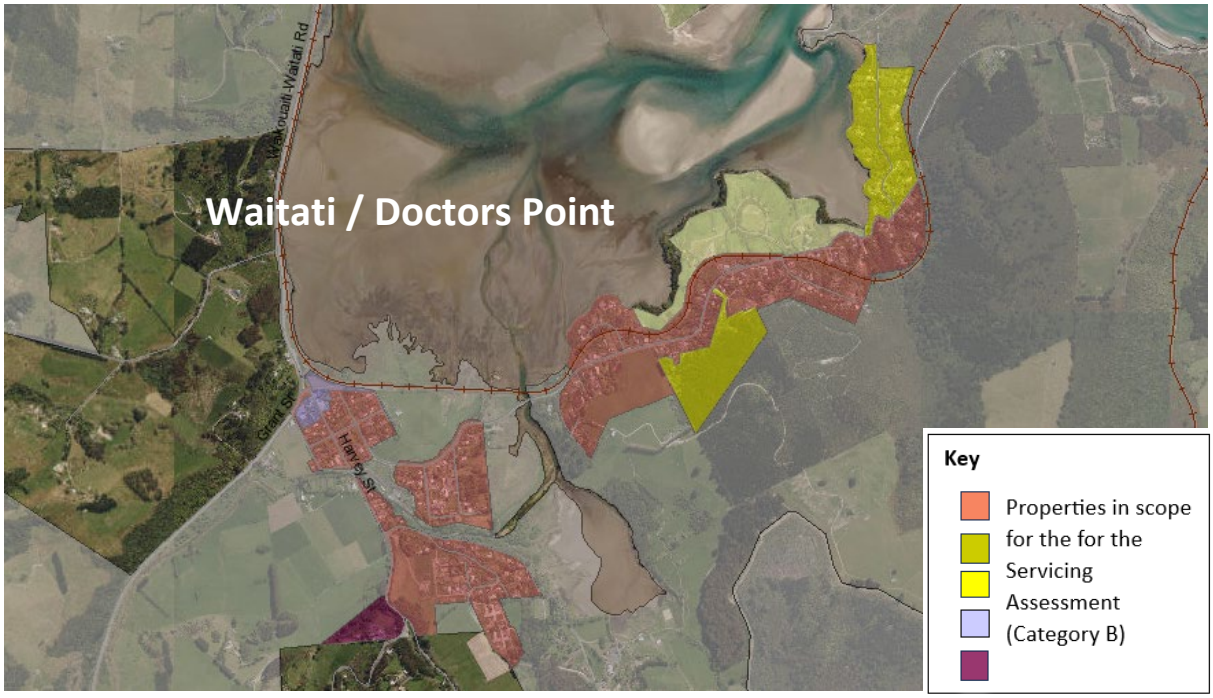
Waitati / Doctors Point

Waitati and Doctors Point together form a small coastal rural settlement located on the southern edge of Blueskin Bay, approximately 16km north of Dunedin's city centre and within the Waikouaiti Coast Community Board area. Waitati is the primary settlement, containing an established but compact village with a local primary school, community hall, library, fire station, café, general store, horticultural nursery, and a small number of community and visitor-oriented activities, while Doctors Point is a smaller, more dispersed coastal locality characterised predominantly by low-density residential development, holiday accommodation, and recreation-based use focused around its beach, reserve and coastal walking tracks. Natural hazard considerations, particularly flooding, coastal processes, and land instability, are relevant across parts of the settlements due to their estuarine and coastal setting.

Under Dunedin's 2GP, Waitati and Doctors Point are primarily zoned Township and Settlement with a Rural Centre (commercial and mixed use) zone in Waitati and some areas of large lot residential zoning in Doctors Point. Dunedin's FDS does not identify Waitati or Doctors Point as locations for significant urban growth or intensification.

Waitati / Doctors Point does not receive wastewater or stormwater services from the DCC. Waitati / Doctors Point receives drinking water services from the DCC.

The location of the Waitati / Doctors Point community is shown on the map in Appendix Figure 17.



Appendix Figure 17: Waitati / Doctors Point

Coast Road, Warrington

Warrington is a small coastal settlement located approximately 20km north of Dunedin's city centre on the northern shore of Blueskin Bay, within the Waikouaiti Coast Community Board area. The settlement occupies a gently sloping coastal area framed by Warrington Beach and surrounding rural landscapes. Warrington is predominantly a low-density residential settlement.

There are 27 properties just south of the main Warrington settlement on Coast Road that are zoned Township and Settlement, and which have been considered a community for the purpose of the servicing assessment.

The environment surrounding Warrington is characterised by coastal ecosystems, dune systems, estuarine margins and rural land, with areas of recognised ecological, landscape, and cultural significance. The settlement is subject to coastal hazard considerations that influence land-use planning and limit opportunities for further intensification.

Under Dunedin's 2GP, the community at Coast Road, Warrington is zoned Township and Settlement and managed as a small established coastal settlement. Dunedin's FDS does not identify Warrington as a strategic growth area, instead anticipating that it will experience only modest change over time.

This section of Coast Road, Warrington does not receive wastewater or stormwater services from the DCC. Coast Road, Warrington receives drinking water services from the DCC.

The location of the Coast Road, Warrington community is shown on the map in Appendix Figure 18.

Appendix Figure 18: Coast Road, Warrington

Long Beach

Long Beach is a small coastal settlement located on the northern coastline of Dunedin, approximately 18km northeast of the city centre, within the West Harbour Community Board area. The locality has a mix of holiday homes and full-time residences.

The settlement is positioned at the base of steep coastal hills and fronts a wide sandy beach backed by dunes and coastal vegetation. The surrounding landscape includes rocky headlands, limestone formations, and areas of indigenous bush, contributing to the area's high natural character and ecological value. These environmental features also create exposure to coastal hazards, including inundation, dune erosion, storm surge effects, and long-term sea-level rise. The combination of topographic constraints, hazard overlays, and sensitive coastal ecosystems limits opportunities for further development.

Under the 2GP, Long Beach is zoned Township and Settlement and subject to overlays relating to coastal character, natural features, biodiversity, and natural hazard management. Dunedin's FDS does not identify Long Beach as a growth area.

Long Beach does not receive drinking water, wastewater or stormwater services from the Dunedin City Council.

The location of the Long Beach community is shown on the map in Appendix Figure 19.

Appendix Figure 19: Long Beach

Seacliff

Seacliff is a small coastal settlement located approximately 24km north of Dunedin's city centre, situated between Blueskin Bay and Karitāne, within the Waikouaiti Coast Community Board area. The surrounding environment is characterised by steep landforms, coastal and rural landscapes, and areas of ecological and landscape significance. Under Dunedin's 2GP, Seacliff is zoned Township and Settlement with provisions reflecting its low-density residential character, heritage values, landscape and natural hazard risks, and limited opportunity for further subdivision and intensification. Dunedin's FDS does not identify Seacliff as a growth location.

Seacliff does not receive stormwater services from the DCC. Seacliff receives drinking water and wastewater services from the DCC.

The location of the Seacliff community is shown on the map in Appendix Figure 20.

Appendix Figure 20: Seacliff

Greenlaw Street, Waikouaiti

Greenlaw Street is a small residential cluster situated near to the township of Waikouaiti, approximately 35km north of Dunedin's city centre. It sits within the Waikouaiti Coast Community Board area.

Under the 2GP, Greenlaw Street is zoned Low Density Residential, supporting low-density housing while maintaining the small-town character of Waikouaiti. Overlays in the wider area relate to natural features, heritage, biodiversity, and natural hazard management. Dunedin's FDS identifies Waikouaiti as a limited-growth rural-coastal settlement, with emphasis on consolidating existing residential areas, supporting community resilience, and protecting the ecological values of the Waikouaiti River estuary and surrounding coastal systems.

Greenlaw Street, Waikouaiti does not receive wastewater or stormwater services from the DCC. Greenlaw Street receives drinking water services from the DCC.

The location of the Greenlaw Street, Waikouaiti community is shown on the map in Appendix Figure 21.

Appendix Figure 21: Greenlaw Street

Reynoldstown Road

Reynoldstown Road is situated adjacent to Port Chalmers approximately 12km northeast of Dunedin's city centre and is within the West Harbour Community Board area. Reynoldstown Road includes 13 properties for the purposes of this assessment that are zoned Township and Settlement.

Reynoldstown Road does not receive drinking water, wastewater or stormwater from the DCC.

The location of Reynoldstown Road is shown on the map the in Appendix Figure 22.

Appendix Figure 22: Reynoldstown Road

Appendix B: Assessment Criteria

Drinking Water

Appendix Table 1: Drinking Water Assessment Criteria

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
1. The extent to which the community is **currently receiving a sufficient quantity**[35] of drinking water including consideration of the community's existing access to drinking water services - Section 69(2)(d) of the Local Government Water Services Act 2025 (LGWSA)	a) Notifications to the Water Services Authority-Taumata Arowai and/or consumers of restriction or interruption of the supply of drinking water, and/or imminent risk to sufficient quantity of drinking water (e.g. any notifications and/or consumer advisories issued under Sections 25 and 26 of the Water Services Act 2021) b) Imposition of water restrictions	a) No interruption of supply or consumer advisories b) No water restrictions	a) Infrequent / irregular interruptions (more than 8 hours of continuous service interruption) to no more than 5% of the population b) Level 3 Water restrictions in place (all residential outdoor water use must be stopped)	a) Significant interruption of supply (More than 8 hours of continuous service interruption on any several occasions affecting more than 5% of the population) OR Regular / frequent interruptions (more than 8 hours of continuous service interruption) to any population level or a single interruption to more than 20% of the population b) Do not drink / do not use notices issued
2. The extent to which the community will **continue to receive a sufficient quantity** of drinking water – Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet projected future demand[36] b) There is sufficient treatment capacity to meet projected future demand c) There is sufficient treated water storage available to meet projected future demand d) There is sufficient network capacity to meet projected future demand	a) Raw water is readily available in the long term b) Water treatment facilities are available / maintained to treat raw water to meet projected future demand c) Treated water storage capacity is available to meet future demand d) The network has enough capacity to allow for projected growth	a) Raw water is available in the long term for minimum population growth scenario. b) Water treatment facilities are somewhat available / maintained to treat raw water to meet projected future demand c) Treated water storage capacity is limited and not able to meet projected future demand. There are mitigation options being considered d) The network has limited capacity to allow for projected growth. Mitigation options are being considered	a) Raw water is not available in the long term for minimum or high-level population growth scenarios b) Water treatment facilities are not available / maintained to meet projected future demand c) Water storage capacity is not available to meet future demand d) The network does not have enough capacity to allow for projected growth

[35] For the purposes of drinking water services criteria 1 and 2, **sufficient quantity** has the same meaning as in Section 25(2) of the Water Services Act 2021. In summary, this means the quantity of drinking water that is sufficient to support the ordinary drinking water and sanitary needs of consumers at the point of supply.

[36] For the purposes of drinking water services criteria 2 and 4, **future demand** relates to projected demand over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
3. The service is able to **meet current demand –** Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet current demand b) There is sufficient treatment capacity to meet current demand c) There is sufficient treated water storage to meet current demand d) There is sufficient network capacity to meet current demand	a) Raw water is readily available b) Water treatment facilities are available / maintained to treat raw water to meet current demand c) Treated water storage capacity is available to meet current demand	a) Dams / Reservoirs are low b) Treatment plants have limited capacity c) Treated water storage capacity is limited and not able to meet projected current demand	a) Dam / Reservoirs are critically low b) Treatment plants are failing c) Treated water storage capacity is not able to meet current demand
4. The service is able to **meet future demand** – Section 69(2)(d) of the LGWSA	a) There is sufficient raw water available to meet projected future demand b) There is sufficient treatment capacity to meet projected future demand c) There is sufficient treated water storage available to meet projected future demand d) There is sufficient network capacity to meet projected future demand	a) Raw water is available in the long term for high level population growth scenario. b) Water treatment facilities are available / maintained to meet projected future demand c) Treated Water storage capacity is available to meet future demand d) The network has enough capacity to allow for projected growth	a) Raw water is available in the long term for minimum population growth scenario. b) Water treatment facilities are limited and may not be able to treat enough raw water to meet projected future demand c) Treated water storage capacity is limited and not able to meet projected future demand. There are mitigation options being considered. d) The network has limited capacity to allow for projected growth. Mitigation options are being considered	a) Raw water is not available in the long term for minimum or high-level population growth scenarios. b) Water treatment facilities not are available / maintained to meet projected future demand c) Water storage capacity is not available to meet future demand d) The network does not have enough capacity to allow for projected growth
5. The service is **adequate from a public health perspective**, in terms of health risks to communities, drinking water safety and quality - LGWSA 2025 Section 69(2)(e) and (f) of the LGWSA	a) Notifications to the Water Services Authority-Taumata Arowai and/or consumers of unsafe drinking water (e.g. any notifications and/or consumer advisories issued under Section 21 of the Water Services Act 2021) b) Notifications to the Water Services Authority-Taumata Arowai and/or consumers of non-compliant drinking water (e.g. any notifications and/or consumer advisories issued under Section 22 of the Water Services Act 2021) c) Evidence of water-borne illness caused by drinking water d) For all drinking water supplies: (i) Whether the drinking water supply is registered (ii) Whether there is a drinking water safety plan in place (iii) Whether there is a treatment barrier for bacteria in place (iv) Whether there is a treatment barrier for protozoa in place (v) Whether residual disinfection is used (vi) Whether adequate boundary backflow prevention measures are in place e) Does DCC have business continuity plans in place to avoid and/or manage disruptions to drinking water services from unanticipated events? (e.g. disaster, sickness, pandemic, asset failure or scheduled maintenance) *Additional considerations for non-registered drinking water supplies:* • *regular monitoring of treatment processes is undertaken*	a) No notifications / non-compliances / incident reports under Section 21 of the WSA 2021 b) No notifications / non-compliances / incident reports under Section 22 of the WSA 2021 c) 0 instances of illness confirmed as caused by drinking water d) The drinking water supplies have all of the following: (i) the drinking water supply is registered (ii) there is a drinking water safety plan in place (iii) there is a treatment barrier for bacteria in place (iv) there is a treatment barrier for protozoa in place (v) residual disinfection is used (vi) DWQAR performance rating 'all met' for backflow rules	a) Unforeseeable/ uncontrollable, irregular / isolated notifiable events under Section 21 of the WSA 2021 b) Unforeseeable/ uncontrollable, irregular / isolated notifiable events under Section 22 of the WSA 2021 c) 0 instances of illness confirmed as caused by drinking water d) The drinking water supplies have some of the following: (i) the drinking water supply is registered (ii) there is a drinking water safety plan in place (iii) there is a treatment barrier for bacteria in place (iv) there is a treatment barrier for protozoa in place (v) residual disinfection is used	a) Foreseeable, regular / frequent notifiable events under Section 21 of the WSA 2021 that could have been avoided with controls in place b) Foreseeable, regular / frequent notifiable events under Section 22 of the WSA 2021 that could have been avoided with controls in place c) 1 or more instances of illness confirmed as caused by drinking water d) The drinking water supplies have none of the following: (i) the drinking water supply is registered (ii) there is a drinking water safety plan in place (iii) there is a treatment barrier for bacteria in place (iv) there is a treatment barrier for protozoa in place (v) residual disinfection is used (vi) DWQAR performance rating 'not met' for backflow rules

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
	• *regular drinking water quality monitoring is undertaken* • *drinking water quality monitoring results are made available to consumers* • *the quality of drinking water quality supplied meets drinking water standards*	e) All necessary business continuity plans are in place.	(vi) DWQAR performance rating 'almost met' or 'partially met' for backflow rules e) Some business continuity plans are in place, but there are some gaps in the suite of plans.	e) No business continuity plans are in place.

Wastewater

Appendix Table 2: Wastewater Assessment Criteria

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
1. The service is adequate from a public health perspective, in terms of health risks to communities – Section 71(2)(a) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 1 for sewerage and sewage? **Performance Measure #1**: The number of dry weather sewerage overflows from the sewerage system, expressed per 1,000 sewerage connections to that system. (*DCC Performance Target*: zero overflows) b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 2 for sewerage and sewage? **Performance Measure #2:** Compliance with DCC resource consents for discharge from its sewerage system measured by the number of abatement notices, infringement notices, enforcement orders and convictions. (*DCC Performance Target*: zero non-compliance). c) Number of beach closure notifications due to faecal alert levels being reached in recreational water. d) Does DCC have business continuity plans in place to avoid and/or manage disruptions to wastewater services from unanticipated events? E.g. disaster, sickness, pandemic, asset failure or scheduled maintenance. *Additional considerations for non-DCC wastewater services:* • *Building Act compliance action in relation to seepage / septic tank performance* • *Resource consent compliance - as per DCC Performance Measure #2 for above*	a) No dry weather sewerage overflows b) No enforcement action c) No beach closures d) All necessary business continuity plans are in place.	a) Contained instances of wastewater flooding b) Abatement and / or infringement notices issued in relation to non-compliance c) 1-4 beach closure events d) Some business continuity plans are in place, but there are some gaps in the suite of plans.	a) Uncontained instances of wastewater flooding b) Enforcement orders and/ or convictions in relation to non-compliance c) 5 or more beach closure events d) No business continuity plans are in place.
2. The service is adequate from a public health perspective, in terms of the quality of the service – LGWSA 2025 Section 71(2)(b)	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 3 for sewerage and sewage? **Performance Measure #3**: Where the DCC attends to sewerage overflows resulting from a blockage or other fault in the sewerage system, the following median response times are measured: (i) Response time from the time the notification is received to the time that the service personnel reach the site; (Performance Target: attendance in under 60 minutes) (ii) Resolution time from the time the notification is received to the time that the service personnel confirm resolution of the blockage or other fault. (Performance Target: resolution in under 240 minutes). b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 4 for sewerage and sewage? **Performance Measure #4:** Percentage of residents satisfied with the sewerage system (Performance Target: 65% or more residents are satisfied) c) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 5 for sewerage and sewage?	a) Performance measure #3 targets achieved: (i) Response times <60 minutes (ii) Resolution time <240 minutes b) Performance measure #4 target achieved: 65% or more residents are satisfied with the sewerage system c) Performance measure #5 target achieved: <5 complaints received per 1000 connections relating to: (i) Sewage odour; (ii) Sewerage system faults; and (iii) Sewerage system blockages	a) Performance measure #3 targets not achieved: (i) Response times 60-240 minutes (ii) Resolution time 240 - 480 minutes b) Performance measure #4 target not achieved: 50-64% of residents are satisfied with the sewerage system c) Performance measure #5 target not achieved: 5-10 complaints received per 1000 connections relating to: (i) Sewage odour; (ii) Sewerage system faults; and (iii) Sewerage system blockages	a) Performance measure #3 targets not achieved: (i) Response times >240 minutes (ii) Resolution times >480 minutes b) Performance measure #4 target not achieved: <50% of residents are satisfied with the sewerage system c) Performance measure #5 target not achieved: >10 complaints received per 1000 connections relating to:: (i) Sewage odour; (ii) Sewerage system faults; and (iii) Sewerage system blockages

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
	Performance Measure #5: The total number of complaints received about any of the following: (Performance Target: <5 complaints per 1000 connections)[37] (i) Sewage odour; (ii) Sewerage system faults; and (iii) Sewerage system blockages *Additional considerations for non-DCC wastewater services:* • *Number of complaints from within the community to the system operator* • *System operator response and resolution times for customer complaints / faults*			
3. The service is adequate from a public health perspective, in terms of ability to meet current demand[38] – LGWSA 2025 Section 71(2)(c)	a) The wastewater network has sufficient capacity to convey current demand from connected users to the wastewater treatment plant / system b) The wastewater treatment plant / system has sufficient capacity to treat current demand so that the system complies with any applicable regulatory limits on discharge volume, discharge quality, and quality of receiving environment	a) The wastewater network has sufficient capacity to convey current demand from connected users to the wastewater treatment plant / system. b) The wastewater treatment plant / system achieved 'Full Compliance' with discharge consent conditions relating to limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings).	a) The wastewater network has some localised constraints on capacity to convey current demand from connected users to the wastewater treatment plant / system. b) The wastewater treatment plant / system has been non-compliant with discharge consent conditions relating to limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings). Improvement actions or other mitigations to address the non-compliance have been completed or are in progress.	a) The wastewater network has widespread constraints on capacity to convey current demand from connected users to the wastewater treatment plant / system. b) The wastewater treatment plant / system has received a 'Significant Non Compliance' grade in relation to consented limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings) and no improvement actions or other mitigations are in progress to address the non-compliance.
4. The service is adequate from a public health perspective, in terms of ability to meet future demand [39]– LGWSA Section 71(2)(c)	a) The wastewater network has sufficient capacity to convey future demand from connected users to the wastewater treatment plant / system b) The wastewater treatment plant / system has sufficient capacity to treat future demand so that the system complies with any applicable regulatory limits on discharge volume, discharge quality, and quality of receiving environment	a) The wastewater network has sufficient capacity to convey future demand from connected users to the wastewater treatment plant / system (based on network modelling, population growth projections, and planned network extensions / upgrades) b) The wastewater treatment plant / system is expected to achieve 'Full Compliance' with discharge consent conditions (including current and any future conditions) relating to limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings)	a) The wastewater network is expected to have some localised constraints on capacity to convey future demand from connected users to the wastewater treatment plant / system (based on network modelling, population growth projections, and planned network extensions / upgrades). b) The wastewater treatment plant / system is expected to achieve 'Low Risk Non-Compliance' with discharge consent conditions (including current and any future conditions) relating to limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings).	a) The wastewater network is expected to have widespread constraints on capacity to convey future demand from connected users to the wastewater treatment plant / system. (based on network modelling, population growth projections, and planned network extensions / upgrades). b) The wastewater treatment plant / system is expected to achieve 'Moderate Non-Compliance' and/or 'Significant Non-Compliance' with discharge consent conditions (including current and any future conditions) relating to limits on discharge volume, discharge quality and quality of the receiving environment (based on ORC audit findings).

[37] All of the complaints expressed per 1,000 connections to sewerage system

[38] for the purposes of this criterion, 'demand' refers to dry weather conditions and rainfall / wet weather events up to one in 10 year events.

[39] For the purposes of wastewater services criterion 4, **future demand** relates to projected **demand** over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

Appendix Table 3: Stormwater Assessment Criteria

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
1. The service is adequate from a public health perspective, in terms of health risks to communities – Section 71(2)(a) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 2 for stormwater? **Performance Measure #2**: The number of flooding events that occurred in the DCC district, and for each flooding event, the number of habitable floors affected (expressed per 1,000 properties connected to the stormwater system. (*DCC Performance Target*: 0 flooding events, and 0 habitable floors affected). b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 3 for stormwater? **Performance Measure #3:** Compliance with DCC resource consents for discharge from its stormwater system measured by the number of abatement notices, infringement notices, enforcement orders and convictions (*DCC Performance Target*: zero non-compliance) c) Number of public notifications due to faecal alert levels being reached in recreational water d) Does DCC have business continuity plans in place to avoid and/or manage disruptions to stormwater services from unanticipated events? E.g disaster, sickness, pandemic, asset failure or scheduled maintenance *Additional considerations for non-DCC services:* • *Resource consent compliance - similar to Performance Target #3 for DCC above* • *Habitable floor flooding - similar to Performance Target #2 for DCC above*	a) No flooding events and no habitable floors affected b) No consent enforcement action c) No public notifications due to faecal alert levels being reached in recreational water d) All necessary business continuity plans are in place	a) 1-3 flooding events and 1-3 habitable floors (per 1000 properties) affected b) Abatement and / or infringement notices issued c) Less than 5% of samples taken resulted in public notifications due to faecal alert levels being reached in recreational water d) Some business continuity plans are in place, but there are some gaps in the suite of plans	a) 4 or more flooding events and 4 or more habitable floors (per properties) affected b) Enforcement orders and/ or convictions have been issued c) More than 5% of samples taken result in public notifications due to faecal alert levels being reached in recreational water d) No business continuity plans are in place
2. The service is adequate from a public health perspective, in terms of the quality of the service – Section 71(2)(b) of the LGWSA	a) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 1 for stormwater? **Performance Measure #1**: Percentage of residents satisfied with the stormwater system. (*DCC Performance Target*: 50% or more of residents are satisfied) b) Is DCC meeting its performance targets against the local government mandatory non-financial performance measure 4 for sewerage and sewage? **Performance Measure #4:** The median response time to attend a flooding event, measured from the time that notification is received to the time that service personnel reach the site (*DCC Performance Target*: <60 minutes) *Additional considerations for non-DCC services:* • *Number of complaints from within the community to the system operator* • *System operator response and resolution times for customer complaints / faults*	a) 50% or more residents are satisfied with the stormwater system b) Response times <60 minutes	a) <40-49% of residents are satisfied with the stormwater system b) Response times 60-240 minutes	a) <40% of residents are satisfied with the stormwater system b) Response times >240 minutes
3. The service is adequate from a public health perspective, in terms of ability to	a) The stormwater system has sufficient capacity to convey current demand from connected users to the environment	a) The stormwater service has the capacity to meet current demand	a) The stormwater service has limited the capacity to meet current demand	a) The stormwater service does not have the capacity to meet current demand

Assessment Criteria	Indicators (measures to be assessed on system capability)	MET EXPECTATIONS – scoring guidance	PARTIALLY MET EXPECTATIONS – scoring guidance	DID NOT MET EXPECTATIONS – scoring guidance
meet current demand[40] – Section 71(2)(c) of the LGWSA				
4. The service is adequate from a public health perspective, in terms of ability to meet future demand[41] – Section 71(2)(c) of the LGWSA	a) The stormwater system has sufficient capacity to convey future demand from connected users to the environment	a) The stormwater system has sufficient capacity to convey future demand	a) The stormwater system limited capacity to convey future demand	a) The stormwater system does not have sufficient capacity to convey future demand

[40] For the purposes of stormwater services criterion 3, **demand** refers to rainfall / wet weather events up to 1-in-10-year events.

[41] For the purposes of stormwater services criterion 4, **future demand** is defined in terms of ability to meet technical levels of service (design standards) and the assumption that Second Generation District Plan (2GP) rules relating to impervious surfaces are enforced. 'Future demand' relates to projected demand over a 30-year period. This aligns with the 30-year planning horizons of Dunedin's Future Development Strategy and the Infrastructure Strategy in Dunedin's 9-Year Plan 2025-34. Projected demand over the 30-year period takes into account population growth and climate change predictions.

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