

Safety and Resilience Committee 10 August 2023

Meeting will be held in the Council Chamber at Level 2, Philip Laing House
144 Rattray Street, Dunedin
[ORC Official YouTube Livestream](#)



Members:

Cr Gary Kelliher (Co-Chair)	Cr Tim Mepham
Cr Alan Somerville (Co-Chair)	Cr Andrew Noone
Cr Alexa Forbes	Cr Gretchen Robertson
Cr Michael Laws	Cr Bryan Scott
Cr Kevin Malcolm	Cr Elliot Weir
Cr Lloyd McCall	Cr Kate Wilson

Senior Officer: Richard Saunders Chief Executive

Meeting Support: Kylie Darragh, Governance Support Officer

10 August 2023 01:00 PM

Agenda Topic

Page

1. WELCOME

2. APOLOGIES

No apologies were submitted prior to publication of the agenda.

3. PUBLIC FORUM

Requests to speak should be made to the Governance Support team on 0800 474 082 or to governance@orc.govt.nz at least 24 hours prior to the meeting, however, this requirement may be waived by the Chairperson at the time of the meeting. No requests to speak were made prior to publication of the agenda.

4. CONFIRMATION OF AGENDA

Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

5. DECLARATION OF INTERESTS

Members are reminded of the need to stand aside from decision-making when a conflict arises between their role as an elected representative and any private or other external interest they might have. [Councilor interests are published on the ORC website.](#)

6. CONFIRMATION OF MINUTES

3

6.1 [Minutes of the 10 May 2023 meeting](#)

3

7. OPEN ACTIONS FROM RESOLUTIONS OF THE COMMITTEE

There are no open actions currently for this meeting.

8.1. South Dunedin - Programme Update

Prepared for: Safety and Resilience Committee
Report No. HAZ2302
Activity: Community: Governance & Community
Author: Jonathan Rowe, South Dunedin Future Programme Manager
Endorsed by: Gavin Palmer, General Manager Operations
Date: 10 August 2023

PURPOSE

- [1] The purpose of this report is to provide an update on the South Dunedin Future programme and to foreshadow the anticipated work plan through to mid-2024.

EXECUTIVE SUMMARY

- [2] This report provides an update on the South Dunedin Future programme by outlining key developments since Councils approved the programme plan in July 2022, and foreshadowing significant pieces of work coming up in the next 6-12 months.
- [3] Programme planning is now at a more advanced stage, with the programme broken down by phase, workstream, as well as key actions and decisions, with high-level scheduling across the three-year period July 2023 – June 2026. Delivery of the programme is led by a dedicated programme team based at Dunedin City Council (DCC), with continued collaboration with staff across DCC and Otago Regional Council (ORC), reflecting the multi-disciplinary nature of climate change adaptation.
- [4] These internal resources are now supplemented by an external consultant team providing a range of technical support services across the programme – including in strategy, communications, community engagement, risk assessment, and adaptation options development. Relationships are also developing with a range of partners and external stakeholders, including mana whenua, central government agencies, local government counterparts, private sector interests, and community stakeholders.
- [5] Community engagement remains a central focus of the programme, with extensive work undertaken to explain the complexities and uncertainties of climate change adaptation in South Dunedin in ways more easily understood by the general public. This is intended to help everyone better understand the key issues and engage with the discussion and decision-making, and has included reframing the programme around finding a balance between key concepts of people, water and space.
- [6] As the SDF programme accelerates, a range of outputs will be produced at regular intervals over the next three years, as partners and stakeholders are taken through the anticipated changes to the natural environment, the resulting risks and impacts on affected communities, and the options for managing impacts and adapting to change. The intention is that over the next three years this work results in a technically-sound, and community-supported set of adaptation options, which if approved by Councils, would be consolidated into a climate change adaptation strategy for South Dunedin.

- [7] It is anticipated that this adaptation strategy for South Dunedin will be completed by mid-2026. Early work has commenced in parallel to consider options for implementing that strategy, once the details are confirmed, including looking at potential land use change that might be required in South Dunedin to effectively adapt to the impacts of climate change over the coming century.

RECOMMENDATION

That the Strategy and Resilience Committee:

- 1) **Notes** this update on the South Dunedin Future programme.

BACKGROUND

- [8] The South Dunedin Future (SDF) programme is a joint initiative between the Dunedin City Council (DCC) and Otago Regional Council (ORC) to develop a climate change adaptation strategy for South Dunedin. A programme plan, which outlined the high-level approach for developing the adaptation strategy and delivering the SDF programme was approved by DCC and ORC Councils in July 2022 (refer report OPS2223, Strategy and Planning Committee, 13 July 2022). An update on the programme was provided to a joint workshop of both Councils on 6 June 2023. This report provides an update on delivery of the SDF programme, including reporting against the 'next steps' outlined in the July 2022 report, and foreshadows planned activities over the coming 6-12 months.

Programme Management Activities

Programme Planning

- [9] Detailed planning has now broken the SDF programme into five phases, five workstreams, and a number of programme actions. These are summarised below and illustrated in the A3 Programme Overview (**Attachment A**).
- [10] The programme continues to follow the Dynamic Adaptative Pathways Planning (DAPP) approach, which promotes a five-phase circular process for adaptation planning and is guided by best practice advice from the Ministry for the Environment (MfE).
- [11] The SDF programme has been broken into five complementary workstreams, including:
- a. Natural hazards – Monitoring, investigating and predicting changes to the physical environment and the associated hazards for local communities.
 - b. Strategy and programme – Developing a clear strategic intent and designing programme structure, resources and work plan required for delivery.
 - c. Communications and community engagement – Developing, designing and delivering a range of communications and community engagement activities in support of other programme work streams.
 - d. Risk assessment – Undertaking a three-stage climate change and natural hazard risk assessment for South Dunedin (and some parts of wider Dunedin city)
 - e. Adaptation options – Undertaking a five-stage adaptation options development process, following the PARA (protect, accommodate, retreat, avoid) framework.
- [12] Programme staff are also actively engaging with central and local government contacts on climate change adaptation policy, planning and practice – which is developing quickly, following the Auckland Anniversary floods and Cyclone Gabrielle in the North

Island in early 2023. This includes work to develop a Climate Change Adaptation Bill as part of wider reform of the Resource Management Act 1991.

- [13] The programme has established an academic research partnership contract with the Centre for Sustainability at the University of Otago, focussing on developing research summary products in areas relevant to the programme 6-12 months prior to addressing those issues through the programme. The first summary, produced in February 2023, focussed on Community Engagement for Climate Change Adaptation. A second summary, expected in August 2023, will focus on Community Mapping for Climate Change Adaptation (e.g. mapping community views, values and connections, in addition to relevant physical features in and around South Dunedin).

Programme Communications

- [14] Work has been undertaken to distil the wide range of complex and uncertain issues characterising the SDF programme, such as environmental change, social dynamics, and economic variables, into some key concepts and principles. The primary purpose has been to support programme communications by offering simpler concepts that are more easily understood by a wider range of people.
- [15] This has included distilling the programme down to three key concepts: people, water and space. The objective of the programme is essentially to find a balance between people, water and space, making South Dunedin a safer and better place to live, work and play, while maintaining and creating more space for water – given climate change is expected to mean rising groundwater, rising sea levels, and increased frequency and severity of rainfall events.
- [16] This work is central to reframing of the issues and purpose of the SDF programme. It supports the shift away from a deficit-focused, binary approach where South Dunedin must be protected from climate change at all costs until everyone has to leave. Pivoting to an opportunity-focussed, dynamic approach where South Dunedin’s climate change-related challenges are logically assessed, quantified, and adaptation options developed that not only manage risks and make South Dunedin *safer*, but also support activities (e.g. urban regeneration) that make South Dunedin a *better* place to live.
- [17] This involved rebranding work for the SDF programme through production of a programme flyer and other marketing materials that were launched at the South Dunedin Street Festival on 1 April 2023. A copy of the Flyer is included as **Attachment B**. A programme communications and engagement strategy is under development, and further flyers are planned for 2023, covering “The Science of South Dunedin”, “What matters most in South Dunedin”, and “The Adaptation Options for South Dunedin”. These are intended to gradually introduce the community to the key issues, provide a platform for more informed discussion, and enable better quality decisions and outcomes.

Partner & Stakeholder Engagement

- [18] Partner and stakeholder engagement remains central to the SDF programme, and staff are regularly engaging with central government, local government, private sector and community stakeholders on a wide range of issues. This has included monthly meetings with the South Dunedin Community Network, a presentation to the South Dunedin

Community Hui on 8 March 2023, as well as periodic meetings with a range of other community groups and representatives across South Dunedin to keep stakeholders up to date with developments, strengthen relationships, and deepen our understanding of what matters most for the community.

- [19] Programme governance and management continues to evolve, as more partners and stakeholders are engaged, and as the programme produces greater clarity on the problems to be solved, people's interests and objectives, and options for delivery. The SDF programme continues to report regularly to a joint Steering Group comprising General Managers from DCC and ORC, and provides periodic briefing and reporting to both Councils and Council Committees. As an operations level, day-to-day activities are managed by a DCC-based team of three staff, complemented by a range of other staff across DCC and ORC. The programme team regularly works with other local government staff, and central government agency staff, on a range of issues, and in coming months it is likely that more formal working groups and collaborative programme structures will be established involving representatives from councils, central government, mana whenua, private and community sectors, and consultant teams.

Programme Actions

Engagement with Mana Whenua

- [20] The SDF programme is operating on the basis that all our work will serve to build and enhance the mana of the DCC and ORC's Treaty partnerships with mana whenua. We expect this will be achieved through ongoing collaboration with Ōtākou Rūnaka and Kāti Huirapa Rūnaka ki Puketeraki, their consultancy arm Aukaha, and a range of local Māori organisations in Dunedin. These partnerships continue to develop. A range of operational discussions are underway with Aukaha, with an initial focus on partnership principles, incorporating mana whenua values, priorities and insights into the programme strategy, and co-development of programme workstreams.

Consolidated natural hazards information

- [21] ORC is continuing to lead the gathering and analysis of natural hazards information. There are currently 31¹ permanent monitoring wells where groundwater levels are recorded.
- [22] GNS Science have been engaged by ORC to update the analysis of the groundwater levels and the understanding of groundwater processes (e.g. magnitude and spatial variability) in the area. This work will inform the risk assessment and the development of adaptation options (refer to Discussion section).
- [23] ORC, supported by NIWA, is continuing to monitor the sea level at the Green Island site. The site has been operating since 2003. Land movement on Green Island is also being monitored. This is to determine if there are changes in land elevation occurring at this site, and help in the assessment of the relative contributions of land subsidence and changes in sea level to 'relative sea level rise' at that site.

¹ Permanently monitored sites as of October 2021. Five additional piezometers installed by DCC and University of Otago are also occasionally accessed for readings.

- [24] ORC has engaged NIWA to update the maps of coastal inundation from extreme sea level rise² using more accurate ground elevations. The purpose of this work is to refine the understanding and extent of the consequences of sea level rise on coastal inundation. This work will also inform the South Dunedin Future Programme, in particular the risk assessment and the development of adaptation options (refer to Discussion section).
- [25] ORC is working with the University of Otago, School of Surveying on improving the monitoring network for vertical land motion in South Dunedin. The current focus is on defining the coverage of the network and identifying adequate sites in the South Dunedin area to install the monitoring equipment. This work is to ensure that South Dunedin site specific vertical land motion data is available.
- [26] Work is underway to consolidate a wide range of natural hazard-related information relating to South Dunedin so that this can be integrated into programme workstreams. For over 10 years the ORC, supported by GNS Science, NIWA, and others, has led a programme of monitoring, investigation and prediction relating to natural hazards affecting South Dunedin.
- [27] This and other information is being consolidated into a range of SDF programme outputs, including community flyers summarising the natural hazards, website updates, and a range of technical reports as inputs into the risk assessment and adaptation options workstreams. This information is critical to understanding current natural systems, their interaction with the built environment, how these relationships might be affected by climate change, and what options there are for mitigating negative impacts.

Procurement of Technical Support Services

- [28] The SDF programme involves detailed technical work and extensive community engagement over multiple years. The SDF programme team, which includes a dedicated Programme Manager and two advisors, supported by a range of staff from across different teams in DCC and ORC, identified areas in which external technical expertise is required to complement internal capability and support delivery of programme workstreams and development of the adaptation strategy for South Dunedin. This support is required to ensure all technical work is high quality, independent, and peer reviewed, and that programme direction and decisions are extensively engaged with affected communities.
- [29] An open tender procurement process to source the technical support services required to deliver the SDF programme commenced in November 2022. This process concluded in July 2023, and resulted in DCC contracting a consultant group comprising engineering, planning and environmental services firms WSP, BECA and Tonkin & Taylor, to support delivery of the SDF programme over the next three years (2023/24 to 2025/26). The total value of this contract is \$1,931,184, which will be funded from a mix of DCC South Dunedin Future operational funding, ORC natural hazards operational funding, and central government grant funding.
- [30] The contracted services focus on four workstreams:

² <https://niwa.co.nz/natural-hazards/our-services/extreme-coastal-flood-maps-for-aotearoa-new-zealand>

- a. Strategic Programme Advisory Support
- b. Communications and Community Engagement Support
- c. Climate Change and Natural Hazard Risk Assessment
- d. Adaptation Options Development

(a more detailed breakdown of contracted services is included in **Attachment C**)

- [31] A further contract is in development with a secondary supplier to undertake technical peer review of the risk assessment and adaptation options development workstreams.
- [32] The fifth workstream, natural hazards, was not included in this procurement process. This workstream is ORC-led and subject to a number of other contracting arrangements, for example for scientific or technical research, as inputs into the SDF programme, as opposed to professional services to deliver key workstreams of the programme.

DISCUSSION

Upcoming Programme Actions

- [33] Following onboarding of the technical support services consultant team in late July, the SDF programme is expected to accelerate, and will start producing outputs across all five workstreams from August 2023. All key programme actions are noted on the SDF Programme Summary document in **Attachment A**, but key outputs over the next six months are also noted below:

Workstream: Natural Hazards

- a. Information gathering and analysis: continued groundwater levels and sea level monitoring. Establishment of site-specific vertical land movement monitoring sites. Up-to-date analysis of the groundwater levels and refined understanding of groundwater processes in South Dunedin. Updated coastal inundation maps from extreme sea level rise.
- b. Science of South Dunedin flyer: Flyer and supporting web content explaining the science of climate change and how it will impact South Dunedin. Making this more accessible for everyday people.

Workstream: Strategy & Programme

- c. Mana whenua engagement: Engagement with Aukaha and local rūnaka to integrate views, values and insights into revised SDF programme strategy
- d. National adaptation plan: Analysis of National Adaptation Plan, which was released in August 2022 (after Council approval of the SDF programme plan) to incorporate key elements into revised SDF programme strategy
- e. Council Report - Revised SDF programme strategy: Paper to DCC and ORC Councils seeking approval of refined SDF programme strategy

Workstream: Communications and Community Engagement

- f. What matters most engagement: Utilising “people, water, space” reframing of the programme, a series of communications and engagement activities will be

undertaken to test and refine our understanding of community priorities and the objectives of the programme.

Workstream: Risk Assessment

- g. Initial Risk Assessment: Undertaking the first stage of a three-stage risk assessment process, which will start with a high-level climate change and natural hazard risk assessment for Dunedin city (before narrowing to focus on South Dunedin).

Workstream: Adaptation Options

- h. Options Review: Undertaking a desktop review of national and international adaptation literature, policy, practice, planning documents and case-studies of relevance to South Dunedin. This will include crowdsourcing of adaptation ideas from local communities.
- i. Longlist of generic adaptation options: Developing a long-list of up to 20 adaptation options spanning the spectrum of 'fight or flight', grouped into four adaptation options of protect, accommodate, retreat, and avoid.
- j. Council Report – Generic Adaptation Options: Paper to DCC and ORC Councils presenting the initial long-list of generic adaptation options and seeking approval to engage the community on the options in early 2024.

- [34] As the programme advances, it is intended to settle into a cycle of (i) technical work producing a selection of adaptation options – a wide range initially; (ii) consideration and endorsement by Councils; and (iii) a period of community engagement on those options, which would inform further technical work. This process would be repeated over the course of three years, to narrow down and eventually settle a preferred set of adaptation options, which would be consolidated into the climate change adaptation strategy or South Dunedin.

Early thinking on implementing the adaptation strategy for South Dunedin

- [35] As the technical work of the SDF programme accelerates, some early thinking has also started about how best to implement the climate change adaptation strategy for South Dunedin, which is expected to be produced by mid-2026. The contents of the adaptation strategy, including the balance of adaptation options selected and implemented across South Dunedin over time, are yet to be determined. It is important not to pre-empt or pre-judge the outcome of that process, which will be guided by detailed and independent technical work and extensive community engagement.
- [36] However, it is important to begin thinking about how various adaptation options could be implemented, and to commence preparations – particularly if long lead in times are involved. To this end, initial thinking has commenced on the assumption that land use change of some form will be required in South Dunedin over the coming century to manage the impacts of climate change, be that through hard infrastructure protections like pumps, pipes and sea walls, accommodation of hazards through nature-based solutions like open water courses, parks and wetlands, or through retreating or relocating to move people and property out of harm's way.

- [37] There are approximately 6,500 properties in South Dunedin, and if land use change of 1% per annum was required over a 100-year period in order to effectively manage and adapt to the impacts of climate change, that would mean a change affecting 65 properties each year, every year, for the next century. Such a rate of change is yet to be confirmed, so is indicative at this stage, though possible given anticipated changes in sea level rise, groundwater levels, and rainfall.
- [38] Preliminary work is underway to explore options and models for facilitating such land use change should that prove to be required, with a view to identifying viable approaches, and getting these set up in parallel to the SDF programme – so implementation could commence immediately upon completion of the adaptation strategy for South Dunedin in 2026. Further advice will be provided to Councils in due course as this work progresses.

OPTIONS

- [39] This update report is for noting only, so no options are provided.

CONSIDERATIONS

Strategic Framework and Policy Considerations

- [40] These are described in the paper and attachments, with a subsequent report on SDF programme strategy to be provided to Council in September 2023.

Financial Considerations

- [41] ORC's financial contributions to the SDF programme are provided for in the 2023/24 Annual Plan, or will be considered as part of the next Long Term Plan process.

Significance and Engagement Considerations

- [42] Not relevant to the decisions being made in respect of this paper.

Legislative and Risk Considerations

- [43] These are described in the paper and attachments.

Climate Change Considerations

- [44] The SDF programme is making a significant contribution to climate change adaptation in Otago.

Communications Considerations

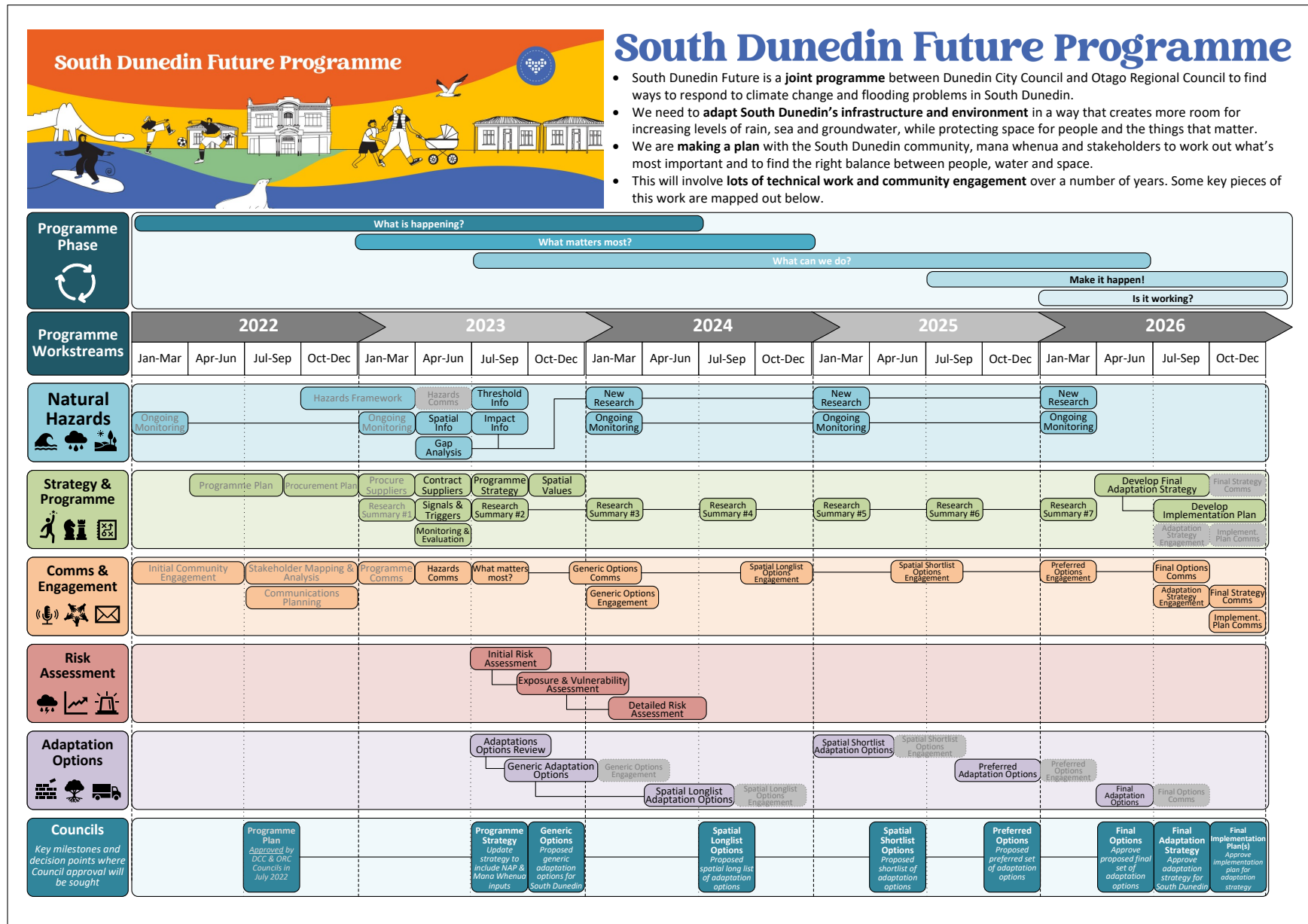
- [45] These are described in the paper and attachments.

NEXT STEPS

- [46] These are described in the paper and attachments.

ATTACHMENTS

1. SDF Programme - Summary One- Pager (A 3) [8.1.1 - 1 page]
2. South Dunedin Future Flyer Apr-23 [8.1.2 - 3 pages]
3. SDF Technical Support Services - Contracted Services [8.1.3 - 1 page]



Get in touch

Head to our website to learn more and
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South Dunedin Future



SOUTH
DUNEDIN
FUTURE

Let's make a plan!

 **DUNEDIN** | kaunihera
CITY COUNCIL | a-rohe o
ōtepoti

 **Otago**
Regional
Council

We need to talk about water.

In South Dunedin there's water coming down from the sky, up from the ground and in from the sea, and it's ending up in places we don't want it.

We saw this with the flood in 2015, and the science tells us this kind of event will happen more often.

Climate change means there'll be more rain, bigger storms, rising seas and higher groundwater.

We need a plan.

There's so much to love about South Dunedin – its diversity, its community and all the great things you can do here. And it's flat so everything's easy to access.

On the downside, the water coming in has nowhere to go, and South Dunedin's infrastructure struggles to cope with it.

We need to find a balance between people, water and space.

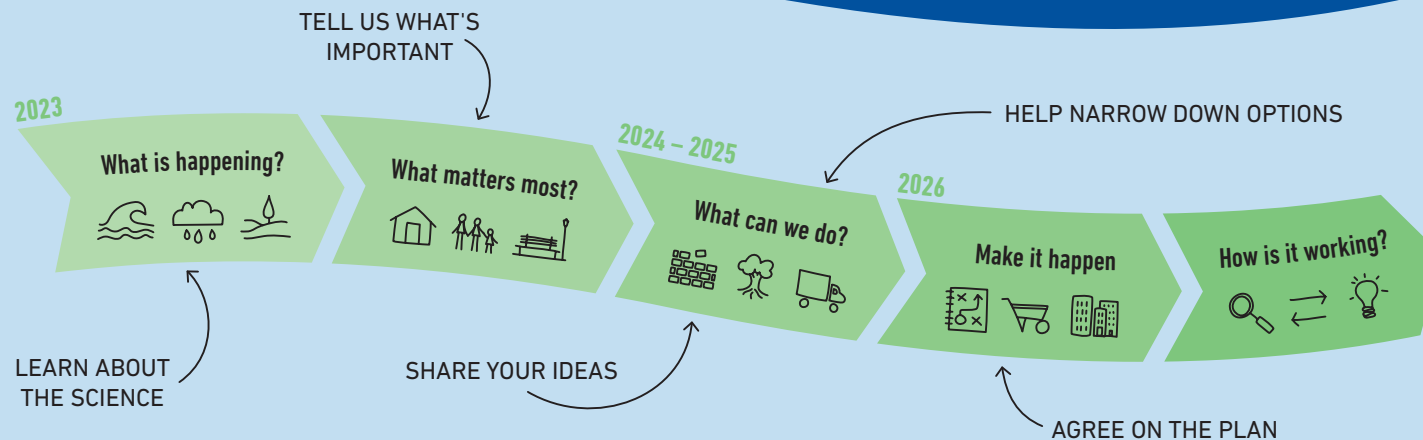
We've launched South Dunedin Future so we can figure out what to do. We need to work out how to adapt and allow for water, yet still have space for people and the things that matter.

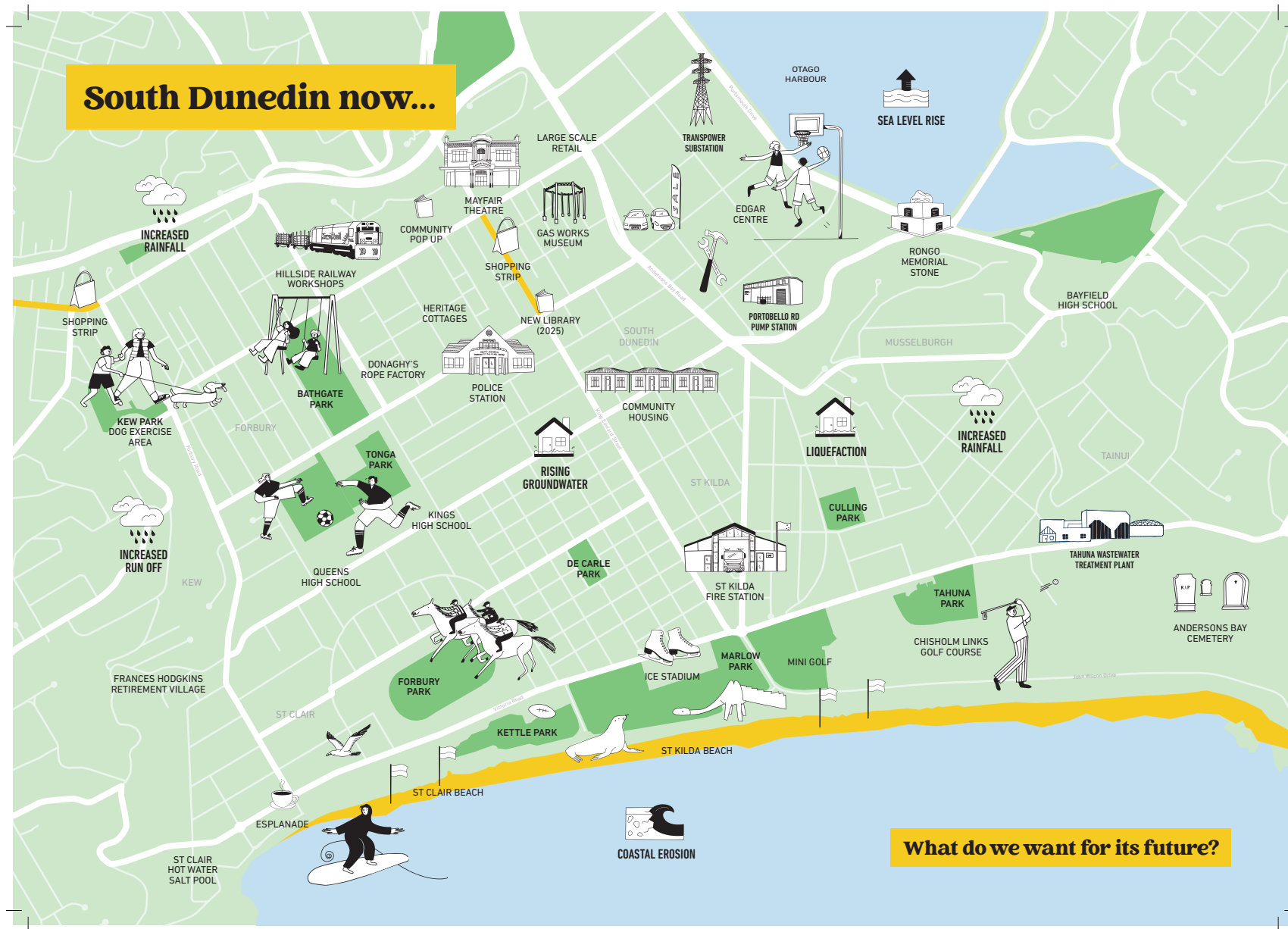
The Dunedin City Council and Otago Regional Council are leading this programme to produce a plan for the future.

We'll hold discussions and workshops, we'll hear everyone's ideas, and we'll work out our options.

By 2026, we will have a strategy that tells us what we'll do, when we'll do it, and how.

We've been preparing for this for a long time, but South Dunedin Future starts now.





South Dunedin Future Technical Support Services - Contracted Services

Primary Supplier(s)

WS1 Strategic Programme Advisory Support

Provision of strategic and technical advice relating to programme planning, design and delivery, including coordination of suppliers, interfacing between technical disciplines, developing adaptation signals, triggers and thresholds, programme strategy, risk and issues management, benefits management, reporting, monitoring and evaluation.

WS2 Communications and Community Engagement Support

Provision of communications and engagement advice on wide-ranging issues of relevance to the programme, including: finalising the programme communications and engagement plan, review of science communications materials, design, delivery and analysis of engagement activities and communications products during the three stages of the risk assessment workstream and five stages of the adaptation options development workstream, and development of a final adaptation strategy document.

WS3 Risk Assessment

Undertaking a three-stage climate change and natural hazard risk assessment for South Dunedin, including design, delivery and reporting on findings, covering an initial high level desktop review, assessment focussing on exposure and vulnerability, and further detailed assessment on risk consequence, indirect and cascading risks. This work also includes responding to and integrating technical peer review findings.

WS4 Adaptation Options

Undertaking a five-stage adaptation options development process, utilising a Dynamic Adaptative Pathways Planning (DAPP) methodology and following the PARA (protect, accommodate, retreat, avoid framework), including: review of national and international adaptation options, developing generic long list of options, developing a spatial long list of options, developing a spatial shortlist of options, and developing final preferred options.

Secondary Supplier(s)

Peer Review – Risk Assessment

Technical peer review of WS3 Risk Assessment work undertaken by Primary Supplier to ensure the robustness and appropriateness of the approach (such as comparing with best practice, identifying risks and opportunities, validating conclusions, challenging and stimulating discussion around alternate ideas).

Peer Review – Adaptation Options

Technical peer review of WS4 Adaptation Options work undertaken by Primary Supplier to ensure the robustness and appropriateness of the approach (such as comparing with best practice, identifying risks and opportunities, validating conclusions, challenging and stimulating discussion around alternate ideas).