DCC 9Y Plan (2025-34) + South Dunedin Future - Submission - Julian Doorey - 29-4-25

- DCC 9Y Plan (2025-34) - Consult closes Wed 30 Apr, 12 noon.
- South Dunedin Future - Consult closes Sun 11 May.
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My name is Julian Doorey, living in St Kilda, part of the Dunedin flat, sometimes generically referred to as South Dunedin. Owning my own home, I have financial skin in the issue of stormwater flooding. My background includes both Civil Engineering and Community Development here and overseas (13 years in Bangladesh). My motivation is to seek justice for South Dunedin people, from a Biblical worldview, a preferential bias for the poor (in this case flooded residents).

Thank you for the opportunity to make a public submission on DCC's draft plans. Although I present some views which disagree with previous and current DCC policy and actions, I regard all staff and elected representatives with dignity and respect. I do not in any way wish to cause offense.

Over the years, I have written South Dunedin flooding related ODT letters and a significant ODT opinion piece called 'Stormwater justice for South Dunedin' (published 4-12-24). I wrote to all DCC and ORC councillors, CEOs and the Mayor in Dec 2024, and spoke at both the ORC and DCC Council public forums in Feb 2025. I have met with the Mayor and the 3 Waters General Manager. I am a voluntary committee member of the Surrey Street Flood Action Group, a South Dunedin Stormwater Justice advocacy group. My input focuses on both technical and justice aspects of the decades long South Dunedin flooding situation.

In this submission I'm petitioning DCC to bring about South Dunedin Stormwater Justice (ie: stop flooding).

Flooding context

South Dunedin has experienced flooding (some major and some minor) over the last 60 years, being referred to as 'flood vulnerable / prone'. The reason is that the stormwater system has been and continues to be undersized. In both the 2015 flood (3~4 Jun) and almost 10 years later, the 2024 flood (3~4 Oct), flooding began with a rainfall intensity of just 8 mm/hr. This is well short of the design 14.3 mm/hr stated when the new pumping station was installed in 1964. Currently, NZ urban stormwater systems are designed for (i) 1 in 10 year rain events, with all stormwater retained in the pipe system, and (ii) 1 in 100 year rain events, allowing for some surface flooding, but remaining below building floors ie: no water inside buildings. This should be 17.7 mm/hr for South Dunedin. Hence, the 8 mm/hr initiated flooding, indicates a grossly undersized stormwater system. The flooding is likely due to 2 reasons (1) The stormwater system may have always been undersized from the time the original pipes were laid in the early 1900's up to and including the majority installed in the 1960s, and the pumping station installed in 1964, and (2) The catchment impermeable area (roofs, roads, hard surfaces) has probably doubled from 1964 until today (increasing from 45% to 90%, or 200 ha to 400 ha). This doubling of impervious area, results in doubling the stormwater attempting to quickly enter the stormwater system. Alternatively, it would be expected that surface flooding will begin at a rainfall intensity of approx 50% of the original design (14.3 mm/hr), equating to 7 to 8 mm/hr. This matches well the observed 2015 and 2024 flooding beginning at a rainfall intensity of approx 8 mm/h.

DCC narrative

Sadly, DCC has never stated in any public consultation that flooding is due to an undersized stormwater system. Nor have they accepted responsibility for the undersized stormwater system. Rather, since the 2015 flood, DCC has explained recent flooding as somehow Climate Change related without any evidence. For example in the DCC 9Y Plan draft consultation document, DCC introduces the flooding issue with "*South Dunedin is highly vulnerable to climate change impacts such as rising sea levels, increased rainfall, and rising groundwater.*" (p17). While Climate Change is likely to be a future issue, there is no evidence that this has caused flooding over the last 60 years, since the current stormwater system set-up began with the new pumping station in 1964. In the years after the 2015 flood, DCC focused almost entirely on a future Climate Change 'managed retreat', sometimes referred to as 'working with nature'. There seemed an ideological resistance to engineered solutions to keep South Dunedin dry - both now and in future.

Engineering investigations & reports

Prior to the switch to Climate Change explanations, DCC had commissioned 3 engineering reports:
(1) South Dunedin Integrated Catchment Mgmt Plan 2010-2060 - URS-OPUS - 23-11-11.
(2) Assess of Options for Protect Harbourside and South City from Direct Impacts of Sea Level Rise - BECA - 8-7-14.
(3) South Dunedin Stormwater Modelling - draft for consult - OPUS - June 2017.

These provided very high quality, workable, conventional, engineered solutions which could (1) Solve the current stormwater flooding problem (OPUS 2017 report - generally pipes and pumps) and (2) Manage the impact of slowly rising sea-level on groundwater as needed in the future (BECA 2014 report - dewatering at the sea boundary - Victoria Rd). With regard to future Climate Change issues, these reports focused on Climate Change 'adaptation'. In particular the OPUS 2017 report presented a range of engineering options to reduce and / or prevent stormwater flooding. A potentially very good solution was to split the South Dunedin catchment in two, by adding a major west-east stormwater interceptor pipe from Hillside Rd across to Victoria Rd, with pumping into the sea. Splitting the catchment in two will result in half the stormwater flowing in the main north-south pipes, preventing flooding. If needed, the catchment could be split in three.

South Dunedin Future (SDF)

Unfortunately the OPUS 2017 report never went out for consultation as originally intended. As already discussed, the DCC intentionally turned away from more immediate engineered flood prevention work, to a longer term Climate Change investigation programme, supported by the ORC, called South Dunedin Future (SDF). Within or alongside this work was an intense investigation into South Dunedin natural hazards, resulting in a 198 page report released in Mar 2025. As already known the main risks are (i) Current flooding, and (ii) Future sea-level rise at the coastal boundary causing adjacent groundwater to rise. Engineered solutions and future adaptation to manage these risks was already included in the previous engineering reports, discussed previously. SDF released 7 potential futures for South Dunedin in 2100, for consultation in Mar 2025. The 7 potential futures were presented within a 'fight' (stay put) or 'flight' (managed retreat) framework.

The SDF programme was devised with the best of intentions, and the staff team have worked hard for the last 4 years. However, there have been a number of weaknesses with respect to the main issue of South Dunedin flood prevention:

1. The focus was Climate Change futures, rather than engineered urgent flood prevention now.
2. The SDF programme was seemingly separate to the 'St Clair - St Kilda Coastal Plan' (sea-level rise and coastal protection) work. However, sea-level rise will eventually impact South Dunedin groundwater, requiring engineered intervention. The 2 programmes should have been linked.
3. The SDF team were not part of the 3 waters engineering department and did not include stormwater experts or engineers. Hence the focus was not on engineered solutions now.
4. Public consultation initially occurred within a broad 'community and cultural well-being context', for example: 'What do like about living in South Dunedin?'. The meetings did not include engineering facilitators, so engineered solutions to prevent flooding could not be meaningfully discussed.
5. Public consultation about South Dunedin's future has not only included South Dunedin residents, but also people from outside South Dunedin with outside interests (eg: Climate Change alarmists, deep greens, academics, social researchers) who may ideologically prefer 'managed retreat' and 'working with nature' leading to the establishment of wetlands and open water ways.
6. Public consultation later asked the public to select their preferred flood control approaches. However, the general public typically has little knowledge of engineered stormwater and groundwater control options. In reality, engineers choose the engineered stormwater and groundwater control options.
7. Short-term engineered flood reduction proposals were suddenly selected (it seems) and proposed in Dec 2024, for inclusion in the draft DCC 9Y Plan. These were sourced from the 3 waters engineering department, separate to the SDF 7 potential futures. It is unclear whether these proposals are conceptual in nature or have been selected through engineering design. It is also unclear whether these proposals were a rapid response to the 2024 flood (3~4 Oct) or election year offerings (this year).
8. The SDF 7 potential futures public consultation documents show what South Dunedin could look like in 2100. However, the 7 futures are somewhat arbitrary, with key indicators (costs $, benefits $, benefit / cost ratio, properties potentially affected, implementation difficulties, residual risk) which are difficult for the public to meaningfully understand, examine and comment on. For example, 'residual risk' scores for the SDF 7 potential futures seem very arbitrary. Option 2 'Keep the land dry - pipes and pumps' has a residual risk of 'high', with the statement '*In the long-term, this option does not reduce exposure to flooding hazards*'. This raises the question: Why is there a long-term flooding risk? Surely, if (i) Pipes and pumps are correctly sized to prevent stormwater flooding, and (ii) Slowly rising sea-level impact on groundwater is managed by dewatering at the sea boundary (Victoria Rd), then the residual risk should be as low as any other SDF potential future. Another problematic example is 'cost $'. Costs for the SDF 7 potential futures range from $3.2 billion to $7.1 billion. Spread over 75 years from 2025 to 2100, this equates to $43 million to $95 million per year. These are incomprehensible astronomical costs.
9. The SDF planning model was to be an 'Adaptive pathways approach' ie: escalation of responses over time as needed. This would see a number of steps / stages over time. However, the SDF 7 potential futures are not presented in a progressive step by step way, but rather show the completed futures in 2100. It would be more helpful to have proposed just 2 or 3 futures, (1) Dry land maximum - without

open water areas, and (2) Dry land minimum - with large open water areas (ie: managed retreat), and (3) Dry land with some open water areas. Then show say 4 steps / stages starting from now until 2100.

Sadly, the greatest negative impact of the 2017 DCC diversion away from implementing urgent engineered flood prevention works to solve the South Dunedin stormwater flooding problem (as per the OPUS 2017 report), and instead focusing on the longer Climate Change 'managed retreat' and SDF programme, was the delay or avoidance in implementing urgently needed flood prevention works. This 10+ years of effectively zero practical flood prevention works was a direct contributing factor to the 2024 flood (3~4 Oct). This is a shameful situation for the 13,000 people in 5000 houses who call South Dunedin home, and the 1000's of Dunedin people who visit the shops, businesses and essential services each week.

Surrey Street - Wastewater Overflows

In addition to stormwater flooding, Surrey Street (and some others) have experienced wastewater and / or sewage overflows into residential properties for decades. In particular there were major overflows during the 2015 (3~4 June) flood and 2024 (3~4 October) flood, however small overflows typically occur every 2 or 3 years during heavy rain events. The discharged contaminated water including raw sewage creates environmental hazards and serious health risks. Local residents have complained to the DCC for years, urgently requesting the overflows stop. This problem has not started or worsened by rapid Climate Change onset. Evidence based on infrastructure analysis and rainfall data clearly points to undersized piping systems. A newly formed Surrey Street Flood Action group has formally requested the DCC to begin urgent action to reduce the risk of any further wastewater overflow to zero within 12 mths, but preferably 6 mths. In addition the ORC has been asked to begin immediate enforcement action under the Resource Management Act against the DCC to prevent the illegal non-consented discharges. Similarly, Health New Zealand (Southern) has been requested to begin immediate enforcement action under the Health Act.

Recommendations for both the DCC 9Y Plan and South Dunedin Future programme

I request the following South Dunedin flood prevention actions be taken by the DCC under either / both the DCC 9Y Plan and the South Dunedin Future programme:

1. DCC admit the reason for South Dunedin being flood prone is due to an undersized stormwater system for decades, not Climate Change at this point.
2. DCC apologize to the people of South Dunedin for delaying / avoiding implementing engineered flood prevention works after the 2015 flood, for 10+ years, which directly contributed to the 2024 flood.
3. DCC commit to 'South Dunedin Stormwater Justice'. The goal is dry flood free land.
4. DCC create a South Dunedin media policy (with ORC, ODT, RNZ and others) which is 'mana enhancing', treating local residents and business owners with dignity and respect. This will promote South Dunedin as a valuable flat land area city asset and a great place to live, close to amenities and businesses. The goal is to avoid 'click bait' headlines referring to South Dunedin as a 'Poster child for managed retreat' or 'Choosing between fight and flight', resulting in anxiety, social stigma and loss of house values.
5. DCC in all future public consultations (including this one), distinguish between (i) South Dunedin based resident or business responses, and (ii) People from outside South Dunedin responses. The goal is to reduce bias from outside interests (eg: Climate Change alarmists, deep greens, academics, social researchers) who may ideologically prefer 'managed retreat' and 'working with nature' leading to the establishment of wetlands and open water ways.
6. DCC commence urgent staged engineered flood prevention works, beginning with pipes and pumps, making South Dunedin flood-free within 5 years. Begin by considering the OPUS 2017 report.
7. DCC stop the Surrey Street wastewater and / or sewage overflows within 12 mths, preferably 6 mths.
8. DCC investigate and design a coastal dewatering system to reduce the impact of slowly rising sea-level on adjacent groundwater. This should be ready for implementation at a defined future point. This will involve dewatering at the sea boundary - Victoria Rd). Begin by considering the BECA 2014 report.
9. DCC investigate and design a coastal protection system to reduce the impact of slowly rising sea-level erosion and wave action on coastal boundary land.
10. DCC complete an SDF 2100 plan, focusing on dry flood free land, without open water areas. This will show say 4 steps / stages of implementation starting from 2025 until 2100.

I wish to speak at the public hearings.

Thank you.

Julian Doorey
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