



HYNDS PIPE SYSTEMS PRESENTATIONS

How to bring the word "resilience" into action: renewal planning

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This paper presents a practical take on the concept of resilience – and why and how it should be considered when planning for infrastructure renewal.

Infrastructure renewal is generally the most costly Capex activity for local government. While central and local authorities aim to optimise their capital expenditure, they may not always be successful in the long term due to carrying out renewal planning in silos. In addition, they lack a realistic understanding of the concept of resilience, which adds to the inefficiency. This paper provides a measurable definition of *resilience* and what it means in the context of infrastructure. It also describes a new approach to planning renewals based on asset condition, age, and resilience. This approach will help infrastructure authorities to optimise their asset renewal over time – to provide service to the maximum number of clients during both business-as-usual and times of emergency.

Being bold - front-footing the New Zealand drinking water standards

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Combining a driver to protect public health and provide community confidence in the water supplied to their taps, with the recent changes to the WSP and regulatory environment results in an organisation embarking on an ambitious capital works programme.

Since 2013, Selwyn District Council has stepped-up their level of monitoring and responsibility of water supplies to the 19,000 households across the district. What makes this more challenging is these supplies come from 27 separate water schemes distributed across the District.

Records from 2017 reveal 22 boil water notices (BWN) issued across 10 of those water supplies. Interestingly, many of these BWN were precautionary and issued because of the more rigorous standards that SDC has set for themselves. Each BWN requires increased operator actions, attracts increased scrutiny by DHB's, and creates frustration and nuisance for customers. The next step is to advance the level of treatment at all supplies, thereby reducing chance of further BWN and being ahead of the ever changing requirements of NZ Drinking Water Standards. To execute that, SDC comprehensively assessed each supply and is rolling out a structured capital programme from the Main Divide to the Pacific coastline, and spending millions of dollars along the way.

Dynamic catchment risk assessment - innovative tools for water security decision-making

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Water supply managers have never before faced such water security challenges. Legislative changes and increasingly complex catchments require a greater understanding of source contamination risks.

Contamination of the Havelock North drinking water supply in 2016 has been a catalyst for significant legislative reform in New Zealand and has brought about a sharp focus on drinking water protection. The outbreak also serves as a stark reminder of the importance of source water protection. However, this comes with significant challenges, as source catchments are often complex, with many hundreds (or thousands) of potential contamination sources and are inherently highly dynamic.

The paper presents an automated tool that allows for contaminant sources to be identified, assessed and then displayed in real-time on an interactive GIS viewer. This approach represents a significant step toward addressing some of the current challenges facing decision-makers.