

EVIDENCE-BASED INVESTMENT DECISION MAKING FOR 3 WATERS PIPE NETWORKS (Pipe Renewals)

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What is this project about?

The Evidenced-based Investment Decision Making for 3 Waters Pipe Networks programme of works (or Pipe Renewals for short) is a multi-year collaboration between Water NZ, IPWEA and the Quake Centre. The purpose is to deliver a nationally consistent framework of guidance material to assist asset owners and managers to make good investment decisions in respect to the management and renewal of their 3 Water Pipe Networks. The Framework is closely informed by and consistent with the New Zealand Asset Metadata Standards project and the International Infrastructure Management Manual (IIMM).

Why this programme?

The Pipe Renewals programme has a number of drivers. These include:

1. The 'bow wave' of potential pipe renewals identified for the next 30 years with cost estimates as high as \$NZ 45 billion. This bow wave has been estimated on the age of the assets. Use of more sophisticated analysis methods is likely to significantly reduce this liability.
2. The National Infrastructure Plan and reports from the Auditor General which identify some short-comings in the knowledge of the state of water assets and their performance.
3. The New Zealand Asset Metadata Standards which offer opportunities to use large datasets to inform national and local decision making.
4. The many lessons that have been learnt in the past years from the SCIRT experience and others in respect to asset planning, management and resilience which need to be formally captured into good practice guidelines.
5. An opportunity to increase collaboration across the water sector with consequent savings in cost, time and effort.

What does the programme entail?

There are 47 different items of guidance identified as needed across 11 themes. Each item of work will

deliver a benefit in its own right by allowing users to create improved information on which to base investment decisions. The added benefit is that each item is a building block to a more consistent and holistic decision making framework.

Expected outcomes and timelines

It is expected that the project will take up to 10 years to complete but significant outputs will be developed by Year 3. The initial pieces of work comprise:

- Decision support framework. This is the core of the project. It will provide a rationale for investment decisions and guide the development of the rest of the programme.
- Opportunities for improved resilience. This will draw heavily on the Canterbury Earthquake experiences and lessons from SCIRT but also look at other key hazards.
- Update of the New Zealand Pipe Condition Manual. This was last updated in 2006 and needs to be aligned to new practices and the NZ Metadata Standards
- Scoping a New Zealand Pipe database. Significant benefits can be gained by analysing large data sets to improve our understanding of long-term pipe performance.

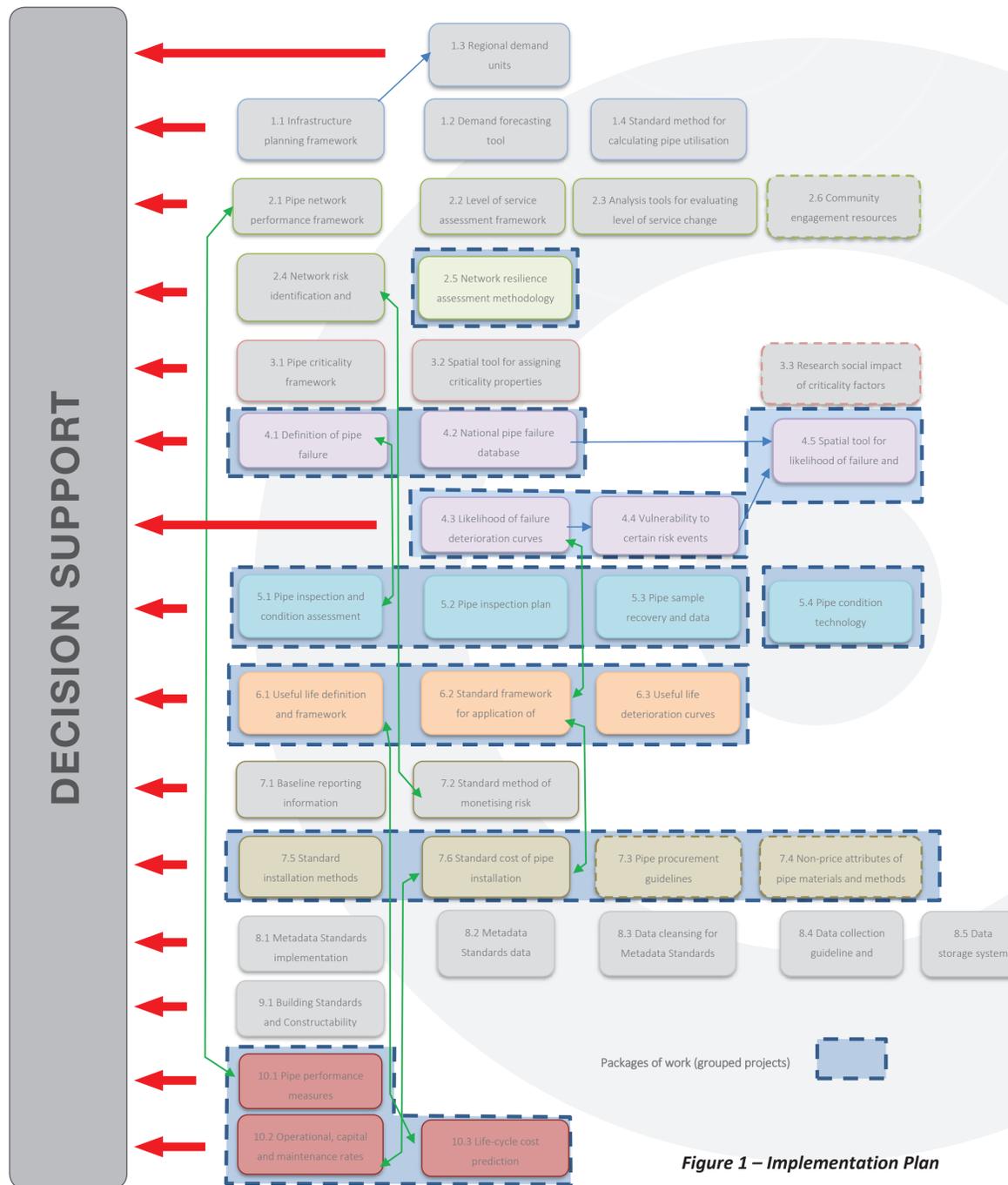


Figure 1 – Implementation Plan

Who will benefit and how?

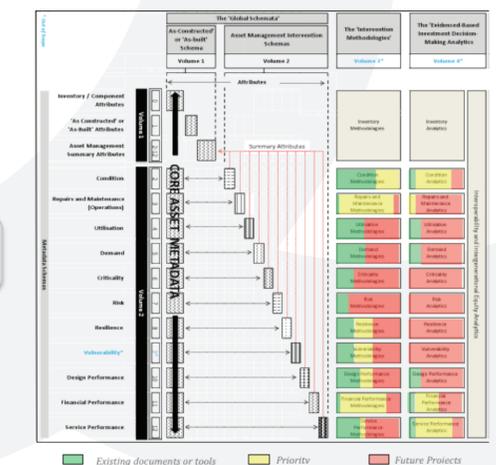
There are many beneficiaries of this project.

- Rate payers. Across the country there are multi-million dollars of potential savings by better targeted investment in pipe assets.
- Local councils. The framework will provide a more transparent decision making process for local council managers and elected members. It will allow better conversations about Cost, Level of Service and Risk.
- Asset managers and engineers. This project is a mechanism for collaborating and sharing best practices in Pipe Renewals.
- Central Government. Treasury will have a better understanding of New Zealand's contingent liability and the Office of the Auditor General will have a methodology on which to measure the performance of NZ's water assets.

Acknowledgements

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A snapshot of current practice mapped onto the Metadata Standards Framework



Global Asset Metadata Schema – Documentation and Project Alignment