

Report No.	20-179
Information Only - No Decision Required	

LOWER MANAWATU SCHEME O&M MANUAL

1. PURPOSE

- 1.1. The purpose of this item is to provide members with an update on the development of an Operations, Maintenance and Surveillance Manual for the Lower Manawatu Scheme.

2. EXECUTIVE SUMMARY

- 2.1. The current 2018 – 2028 **Long-term Plan (LTP)** commits, amongst other things, to the development of an **Operations, Maintenance and Surveillance Manual (O,M&S Manual)** for the **Lower Manawatu Scheme (LMS)**. The drivers for this initiative are many and varied – the complexities of the LMS, the increasing importance of capturing institutional knowledge with impending/ recent staff retirements, the pressures that climate change will exert, to name a few.
- 2.2. There is also an apparent resourcing deficit with the LMS and with the many and varied pressures on the operating budget, the initiative, in parallel with the significant advances in organisational asset management systems / practices, provides an opportunity for the first time to systematically determine the **Full-time Equivalent staff (FTE)** requirement as it relates to LMS inspection and maintenance activities.
- 2.3. The scale of the task has proved challenging particularly as there are no known equivalents nationally. It has, however, due to a range of factors, now gained some critical mass. Although the full document is not quite at a point where it can be presented to this meeting a glimpse in the form of the table of contents is provided to members.

3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 20-179 and Annex.

4. FINANCIAL IMPACT

- 4.1. There is a relatively small financial impact for both the River and Drainage General and LMS (current Revenue and Financing Policy identifies this work as being equally split between the two) budgets related to this item; resource pressures mean that the budget for this work lies in a previous financial year. The scale of input required is also larger than what was envisaged when 2018 LTP budgets were set. Costs for this work will be placed against the respective cost centres with a draw on reserves if required (where the relevant unexpended portion of the budget from the previous financial year has dropped into).

5. COMMUNITY ENGAGEMENT

- 5.1. This initiative formed part of the 2018 LTP process with updates provided to Scheme meetings. Although not confidential as such the document is written as a reference document for staff and is not intended to be provided to the public. Communications staff are continuing to work on an information sheet for the LMS.

6. SIGNIFICANT BUSINESS RISK IMPACT

- 6.1. Arguably the O,M&S Manual addresses the most significant business risk (taking a long-term view) for Horizons – catastrophic failure of our largest River Management Scheme, the Lower Manawatu Scheme. The document is a significant mitigation measure, gathering together key technical and operational information from disparate sources and capturing institutional knowledge, tangibly reducing the future risk of stopbank network failure.

7. CLIMATE IMPACT STATEMENT

- 7.1. As noted previously to members a key component of scheme response to the impacts of climate change is the focus on resilience. This initiative has a direct positive impact in that regard – the value of collating technical and operational knowledge and making it easily accessible.

8. BACKGROUND

- 8.1. Horizons' Lower Manawatu Scheme is a very complex flood protection scheme that protects large parts of the Manawatu and Horowhenua. It is likely to be (personal opinion) the largest flood protection scheme in New Zealand by asset value, encompassing a diverse range of operating contexts.
- 8.2. Like any river management scheme it hasn't been designed and built from a single, perfect blueprint; it has its origins with early European settlement, through the Manawatu Catchment Board to its present day form with Horizons as custodian. It has been modified and added to over time, with large flood events particular catalysts for evolution and development.
- 8.3. The essence / subtleties of the scheme don't readily lend themselves to documenting, and for new staff in particular there is a bewildering array of different sources of information around how it works and particular issues to keep an eye on. Staff continuity has provided a degree of risk mitigation in the past but an aging workforce, societal changes and a more transient workforce mean that particular mitigation measure is becoming less effective.

9. DISCUSSION

- 9.1. The project seeks to distil all of those information sources into a single, definitive source of information. The document is based on information recorded by now retired (2016) Senior Design Engineer Graham Doull who (as he neared retirement) was charged with producing a document that outlined the technical basis for the scheme. Previous Group Manager Operations Allan Cook has added to that document; Jennifer Fox from Timaru-based consultants Waugh Asset Management is tasked with producing the final document.
- 9.2. As the name suggests the intent with the document (in addition to scheme background / development) is to capture both how the scheme operates and a complete list of inspection and maintenance activities. As noted on a number of occasions (e.g. the item to the March 2020 Committee meeting on the Fitzroy Bend secondary stopbank) a qualitative assessment suggests insufficient resource to adequately cover all of the inspection and maintenance activities. The initial drafts of the 2021 LTP include additional resourcing but the O,M&S Manual looks to more systematically tally the FTE requirement associated with all the inspection and maintenance tasks.
- 9.3. Manuals of this type are not common practise but are a significant issue for the sector. The format in part follows the intent of the dam safety guidelines, particularly the flood surveillance component (prioritising the information to be captured and monitoring required in a flood event). It's intended to encompass all operational requirements including those that currently reside in the Emergency Response Manual.

09 December 2020

- 9.4. The document has not quite evolved to the point where it is in a state fit to share with members but it is fairly rapidly evolving; the appointment of Cliff Thomas to the role of Area Engineer Central and the 2021 retirement of Senior Engineering Officer Ian McMahon (with close to 40 years' experience) are timely and the confluence of those and other things has meant considerable momentum has been generated. I'm confident a complete draft can be circulated with the April meeting agenda.

10. CONSULTATION

- 10.1. It is intended to circulate a complete draft for comment to key ratepayers including the current Liaison Group Chair Peter Wells.

11. TIMELINE / NEXT STEPS

- 11.1. As noted a complete draft is intended to be included as part of the April 2021 meeting agenda.

12. SIGNIFICANCE

- 12.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Ramon Strong

GROUP MANAGER RIVER MANAGEMENT

ANNEXES

- A LMS O&M Manual Table of Contents