

## Awatarariki Fanhead - Update



Subject: **AWATARARIKI FANHEAD UPDATE**

To: **POLICY COMMITTEE**

Meeting Date: **THURSDAY, 8 OCTOBER 2015**

Written by: **MANAGER STRATEGIC PROJECTS**

File Reference: **A545819**

---

### 1 REASON FOR THE REPORT

This report is to provide the Committee with an update of the work carried out to date in relation to the following resolutions from the Policy Committee meeting on 2 July 2015:

#### RESOLVED:

1. **THAT** subject to the above correction, the report "A process towards a settlement framework to mitigate debris flow risks – Awatarariki Fanhead, Matatā" be received; and
2. **THAT** the Committee confirms that planning-based options continue as the focus of investigation during the process of developing a settlement framework to mitigate debris flow risks on the Awatarariki Fanhead, Matatā ; and
3. **THAT** the Committee acknowledges that a “do minimum” option is not the preferred outcome from the process of developing a settlement framework to mitigate debris flow risks on the Awatarariki Fanhead, Matatā; and
4. **THAT** staff progress the development of a voluntary managed retreat option as part of the process of developing a settlement framework to mitigate debris flow risks on the Awatarariki Fanhead, Matatā; and
5. **THAT** the Committee notes that a voluntary managed retreat option for the Awatarariki Fanhead in Matatā is contingent upon securing funding support across all three levels of government (including Whakatāne District Council, Bay of Plenty Regional Council, and Central Government); and
6. **THAT** the Committee acknowledges that a threshold of 90% of landowners to a settlement agreement is considered necessary before any formal approach to regional and central government can be considered; and
7. **THAT** the Committee approves the commissioning of the following work with a view to having the work completed by the end of October 2015:
  - (a) Definition of hazard lines at Awatarariki at a property boundary level;
  - (b) Definition of current market valuations of properties potentially affected at Awatarariki;
  - (c) Investigation of early warning systems and escape routes;
  - (d) Initiate informal approaches to Bay of Plenty Regional Council and central government for the funding of a managed voluntary retreat at Awatarariki;
  - (e) A review of the rating circumstances for each property owner on the Awatarariki Fanhead going back to 2005;

- (f) Investigation of solutions to the hazard of right hand turning traffic from SH2 into Kaokaoroa Street.
8. **THAT** the Committee approves the sum of \$88,000 budgeted in 2017/18, and \$82,000 budgeted in 2016/17, be brought forward for this project;
9. **THAT** the substantial unpaid work over the period from March to May 2015 by the six landowner representatives on the Awatarariki Fanhead Consensus Development Group be formally recognised.

## **2 DISCUSSION**

Letters containing a token of appreciation from the Mayor to members of the Consensus Development Group have been sent.

Eight workstreams have been generated to progress the work – refer to Appendix 1 for a high level process map of individual workstreams.

### **2.1 Workstream 1: Review hazard and risk line definition**

The purpose of this workstream is to confirm the risk rationale and the boundaries of individual annualised loss of life risk levels from future debris flows on the Awatarariki fanhead. This will define the area of land that will form a proposed retreat zone in a future District Plan variation proposal.

GNS and Canterbury University have been engaged to peer review the Tonkin and Taylor debris flow risk modelling and its interpretation. A peer review workshop was held in Auckland on 17 September. Preliminary observations are that the loss of life risk to occupied properties on the Awatarariki fanhead is very high; that there will be a residual risk outside of the retreat zone that it is not possible to eliminate; that there are uncertainties in the modelling due to the difficulty of modelling woody debris and boulders; and that there will be a need for maintenance on the fanhead of debris volume capacity following future events.

Tonkin and Taylor has been requested to overlay two maps from the Awatarariki supplementary debris flow risk assessment report and develop a histogram of the sensitivity parameters in the risk model, and to circulate the maps and histogram to the peer reviewers for further review.

Outputs of this workstream are:

- A collaborative peer review report
- Maps of the fanhead showing individual annual loss of life risk zones with imprecisions indicated
- A map showing the boundaries of a proposed retreat area

The peer review report is due by the end of October.

### **2.2 Workstream 2: Property Valuations**

The purpose of this workstream is to assess the 2015 market valuations of properties on the Awatarariki fanhead which are exposed to a high annualised loss of life risk from future debris flows, recognising all current regulatory constraints and future risks. The assessments will provide a key input into future discussions with property owners around voluntary retreat from the identified sites.

A project brief has been prepared and identification and selection of a service provider is underway.

This workstream is dependent on the completion of Workstream 1 to define the geographical area of the properties to be valued. Workstream 8 (Building Act determination) will also be influential in determining current market valuations.

Delivery on this workstream is early December.

### **2.3 Workstream 3: Investigate escape routes**

This workstream focuses on the reduction of life safety risk to occupiers of properties on the Awatarariki fanhead who are exposed to a high annualised loss of life risk from future debris flows by providing additional routes of escape during the natural hazard events such as floods, debris floods, and debris flows.

A project brief has been prepared and project team compiled. Investigation of an alternative vehicular escape route to the west of Clem Elliott Drive appears feasible. The project team is preparing a design concept for costing purposes and to evaluate any consenting requirements.

The project team report is due by the end of October.

### **2.4 Workstream 4: Investigate early warning systems**

Early warning systems are problematic for debris flows that occur in short, steep, erodible catchments, such as those behind Matatā, due to the minimal lead-time between event initiation and the arrival of destructive debris at the fanhead.

Debris flow initiation is typically a combination of rainfall intensity, soil moisture content, and steep erodible slopes. There is no reliable methodology for confidently predicting how these three factors interact to generate a debris flow. Hence, debris flow early warning systems for developed areas like the Awatarariki fanhead are generally excluded early in a risk management decision-making process. For new developments the risks are better able to be managed through avoidance.

Notwithstanding, initial project work has identified potential value in installing a debris flow early warning system linked to flashing lights (and perhaps a traffic barrier) and communication system to significantly reduce loss of life risk to SH2 road users and KiwiRail employees. This system would not benefit residents on the fanhead. NZTA, KiwiRail and GNS are potential funding partners for this system.

The Awatarariki fanhead has established residences upon it and residents have an existing use right to remain that can only be extinguished by the BOPRC under the RMA (i.e. WDC does not have the same RMA legislative authority). In the absence of the BOPRC acting, residents can therefore elect to stay and remain exposed to the risk from future debris flows. Under these circumstances, rather than limit the project to road and rail user safety, further investigation is warranted into a second warning system that may alert residents to a potential debris flow occurring. The BOPRC has an existing rain gauge in the Herepuru catchment that is supported with telemetry. This rainfall monitoring system could be enhanced by adding sensors to monitor antecedent moisture in the catchment, supplemented with live monitoring of rain radar imagery once a specified threshold is reached. Software development would be required to correlate and interpret the three data streams. The problem however, is the high level of uncertainty around understanding how a matrix of variables might accurately reflect alignment of multiple uncertain factors resulting in initiation of a debris flow. Liabilities around reliance by residents on the system working when it is needed also need investigating. Exploratory discussions are underway with GNS Science, Canterbury University, and the BOPRC to assess the viability of the concept further.

The project team report originally scheduled for the end of October has been rescheduled to early December as the process to date has highlighted a need for additional research and collaboration.

### **2.5 Workstream 5: Review Rates**

This workstream reviews the rates assessed and paid by Awatarariki fanhead residents following the 2005 debris flow event. In particular, to assess the equitability of rates paid by residents:

- within the Awatarariki fanhead;
- compared to other Matatā residents; and
- compared to the wider District.

A project brief has been prepared and the project team is working through the research and analysis phase. Anticipated outputs from this workstream are:

- A report that clearly presents the findings of the review
- A report to Council that outlines options and recommends a way forward to address the rating concerns of the Awatarariki fanhead property owners, if found to be valid
- A database that shows individual rating information over ten years to incorporate into a relocation package for the voluntary retreat option, if required.

The first report is due by the end of October.

## **2.6 Workstream 6: Investigate right-turning lane on SH2**

The purpose of this workstream is to investigate an issue raised by Consensus Development Group resident members around life safety risk from west bound traffic turning right into Kaokaoroa Street, Matatā.

The project output is an overview report of the investigation into the road safety concerns of residents together with recommendations on how to progress the issue through to an on-ground solution if appropriate.

The report is due by the end of October.

## **2.7 Workstream 7: Voluntary Retreat**

Completion of workstreams 1, 2 and 8 are pre-requisites to progressing this workstream past the research phase. As a consequence, an update report on this workstream will not occur until March 2016.

## **2.8 Workstream 8: Building Act determination**

The Council responded to the last request for further information on 18 August 2015. One of the other parties to the determination application responded to the Council's additional information on 21 September 2015. We are now waiting for the final determination decision from the Ministry of Business Innovation and Employment.

# **3 ASSESSMENT OF SIGNIFICANCE**

The decisions or matters of this report are part of a process to arrive at a decision that may be significant in accordance with section 3.3 of the Council's Significance and Engagement Policy. This states that a matter shall be determined to be significant if/when the following criteria have been triggered:

- (a) The impact or consequences of the proposal or decision on the affected persons (being a number of persons) will be substantial.
- (b) The financial implications of the proposal or decision on the Council's overall resources are substantial.
- (c) The proposal or decision is likely to generate a high degree of interest in the community.

#### 4 COMMUNITY INPUT AND PUBLICITY

All owners of properties on the Awatarariki fanhead were provided with copies of the report ‘*A process towards a settlement framework to mitigate debris flow risk- Awatarariki fanhead, Matatā*’ which was considered by the Policy Committee on 2 July 2015, and were invited to that meeting.

An update newsletter will be sent to property owners following this meeting.

#### RECOMMENDATIONS:

**THAT** the report “Awatarariki Fanhead – Update” be received

Attached to this report:

- Appendix 1 – Project process map of Awatarariki fanhead project workstreams

#### Report Authorisation

Report writer:	Jeff Farrell	Manager Strategic Projects
First Approval:	David Bewley	General Manager Planning, Regulatory and Corporate Services
Final Approval:	Marty Grenfell	Chief Executive