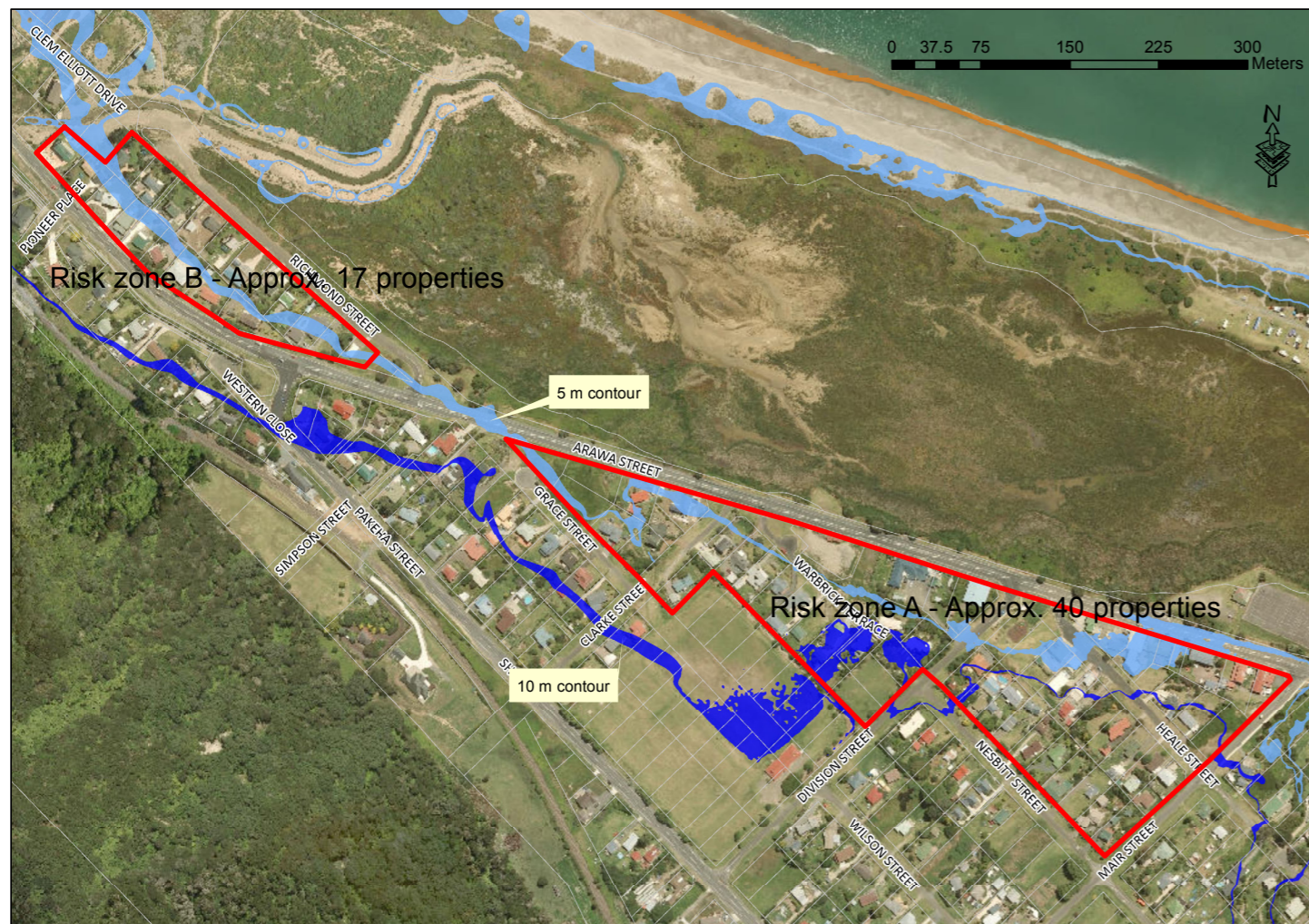


MATATĀ PROJECTS COMMUNITY UPDATE



10 DECEMBER 2012

FIGURE 2 – HIGH WATER TABLE AREAS



This report is intended to update the Matatā community on the evaluation of possible Awatarariki Stream debris control options; and the field investigation into wastewater (sewage) contamination 'hot spots'.

BACKGROUND

In September, Council engaged engineering consultancy AECOM to report on the cost and feasibility of fanhead zone structures to manage future debris flows from the Awatarariki Stream catchment. At the same time, to better understand the wider context of the situation, the Institute of Geological and Nuclear Sciences (GNS) was asked to map the land areas in and around Matatā which have been affected by past debris flows, the areas affected by the 2005 event, and to provide information about the areas which could be affected by future debris flows.

Council also asked Boffa Miskell to report on the planning measures which could be applied to manage debris flow hazards, should engineering solutions be impracticable or unaffordable.



AWATARARIKI STREAM – ASSESSMENT OF DEBRIS CONTROL OPTIONS

As you will know, as part of the response to the 2005 debris flow disaster, proposals were developed for a debris dam and then a ring net debris detention structure in the Awatarariki Stream catchment, above the escarpment. The dam proposal was abandoned in 2007 due to cultural and environmental objections, while the ring net structure proposal was discontinued earlier this year as a result of concerns about its engineering viability and escalating cost.

AECOM has now investigated the feasibility of two possible debris control structures in the fanhead zone – the 'chute-to-the-sea' and a deflection bund structure. Modelling debris flows (which typically happen over a short period with very high peak flow volumes – estimated at 350 cubic metres per second for the 2005 Awatarariki flow) is extremely difficult. As a result, the design parameters and cost estimates for the fanhead structures are based on the 2005 'debris flood' (water, soil and small debris only) volume of 66 cubic metres per second. The cost of structures capable of providing protection against a large-scale debris flow are therefore likely to be considerably higher than the cost estimates in the table below. The costs indicated do not include any property purchases which may be required.

Estimated Costs - Awatarariki Hazard Protection Structures

Structure	Capital Cost	Annual Maintenance
Chute-to-the-Sea	\$10 million	\$200,000
Deflection Bund	\$5.6 million	\$300,000

OTHER ISSUES

The GNS mapping exercise (see figure 1 on page 3) confirms that most of the Matatā township is constructed on material laid down by debris flow and debris avalanche events over the past 7,000 years. The area shaded in black indicates the parts of the township which could potentially be affected by future debris flows/avalanches of similar or larger magnitude to the 2005 event.

Logically then, if Council was to endeavour to construct an engineering solution to the Awatarariki debris hazard, there would be a requirement to consider providing a similar level of protection for other parts of the township.

HAZARD PROTECTION – A DISTRICT-WIDE PERSPECTIVE

Hazards are assessed both by the frequency with which they are likely to occur and by their consequences. For example, the 2005 weather event which caused the Matatā debris flows is estimated to occur once in every 200-500 years. In other words, in any one year, the chance of an event of that scale happening in any particular area would range between 0.2 and 0.5 percent.

Typically, local authorities around the world do not attempt to provide protection against flood hazards with a return frequency of longer than 100 years.

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CONCLUSIONS

Based on the cost estimates and the issues raised by the GNS mapping exercise, the Matatā Projects Governance Group has reached the conclusion that there is no affordable engineering solution to control debris flows on the fanhead zone. Given the difficulty in accurately modelling a large-scale debris flow, the cost of a structure capable of providing the level of protection required is likely to be considerably higher than the estimates provided.

The impact on rates, of either of the structures considered, would be significant and would continue indefinitely, because the Matatā community would be required to fund the maintenance costs and a quarter of the capital cost.

If Council were to attempt an engineering solution for a one-in 200-500 year hazard event for the Awatarariki Stream, a similar level of protection would need to be considered for potential debris flows from other catchments above Matatā. A precedent could also be set for other long-return period hazards in other parts of the District. That level of hazard protection would be unaffordable virtually anywhere in the world.

The Governance Group's recommendation to Council is that an engineering option to protect against a debris flow hazard with a return period of up to 500 years should not be pursued.

Planning and regulatory options have been identified which could be used to manage the risk of future debris flows from the Awatarariki Stream and other Matatā catchments. These include recording information about hazard risks on property titles; and developing hazard zones which take into account the level of risk involved for all properties within the identified zones.

If those recommendations are adopted by Council's Projects and Services Committee on 12 December, all of the available planning options will be evaluated in detail for further discussion with the community before a final decision is made. Other measures would also be considered, including the development of a warning system and evacuation plans for hazard zones.



THE WAY FORWARD

The feedback Council has received from property owners whose assets have been, and in many instances, continue to be affected by the 2005 Awatarariki debris flow, indicates an understandable level of frustration at the time it has taken to make a final decision on how to proceed. That it took six-and-a-half years to establish that engineering solutions in the upper catchment were not viable is less than satisfactory. In the past nine months, we have reconsidered and eliminated all of the potential engineering options, which leaves us to find a planning and regulatory approach which will, as far as possible, protect the interests of the community in the future. That work will continue as quickly as possible so that people can gain some certainty about their futures.

In setting out that approach, Council will consider the interests of property owners, the Matatā community and the wider Whakatāne District. We will continue to update you as that process moves towards a conclusion in the early months of 2013.

MATATĀ WASTEWATER

The field investigation into sewage contamination hotspots has identified two areas (see figure 2 on page 4) where the high water table is affecting the efficiency of on-site disposal systems.

We are developing a proposal for a partial reticulation system which will take the septic tank outflow from all of the affected properties and pump it to an area within the township where the soil conditions are appropriate for disposal via a large soakage field. One of the potential areas which would be suitable is Council-owned reserve land on Division Street. A soakage field would be buried well below the ground surface and, after preliminary examination, it appears that there is sufficient space available so that a field of the required size could be accommodated without impinging on the reserve's playing fields.

Ministry of Health subsidy funding will be sought to help pay for this project, which offers an affordable local solution to a local problem. We expect to be able to report back on the preferred solution in the first quarter of 2013.

Tony Bonne
MAYOR

Marty Grenfell
CHIEF EXECUTIVE

FIGURE 1

