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Committee Landcare
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Pauatahanui Stream flood hazard investigation

1. Purpose

To update the Committee about the flood hazard investigation for the Pauatahanui Stream and to advise the Committee that officers from GW and PCC are co-operating on putting together a management plan to address responsibilities for management of the Pauatahanui Stream.

2. Significance of the decision

The matters for decision in this report **do not** trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

The Pauatahanui Stream is located east of Porirua City and flows in a near west to northwest direction into the Pauatahanui Inlet. The catchment is about 4100ha in area and comprises a mixture of steep and rolling rural hill country with a flat flood prone area in its final reach (about 2km long). The stream is classed as a “water body with a high degree of natural character” in the Regional Freshwater plan. The Pauatahanui Stream channel is classified as a rural watercourse under the Watercourses Agreement and so is not actively managed by either Greater Wellington or Porirua City Council.

During severe rainfall in January 2005, properties near Flighty’s Road and Murphy’s Road were flooded, with residents subsequently complaining to Porirua City Council.

A jointly funded flood study (with costs shared equally between Transit New Zealand, PCC and GWRC) has now been completed for the lower Pauatahanui Stream (from the Pauatahanui inlet to just upstream of the Judgeford Golf Course).

4. Key findings of the investigation

Rene van Lierop, consultant from Connell Wagner, will brief the Committee on the key points of the investigation.

A hydrological and hydraulic model of the stream was constructed. The total length of the modelled stream is 5.5km, including 9 bridges. Flood hazard maps have been created for the 10 year annual recurrence interval (ARI) and 100 year ARI events. The flood hazard maps show:

- Flooding of the sawmill property and the property upstream of Flighty's Road bridge in 100 year ARI events
- Overtopping of State Highway 58 in two places in a 10 year ARI event.
- Flooding of the Judgeford Golf course

Factors identified as contributing to the flooding risk include:

- Deposition of gravel, especially upstream of the golf course, that is slowly moving down causing reduction of the in-stream flow area
- Unconsented construction and filling around the sawmill, which has reduced cross-sectional flow area and storage
- Uncontrolled vegetation growth along the stream, reducing stream flow area, trapping debris and increasing flow resistance.

Physical improvement works recommended include:

- Removal of vegetation and trees along the stream banks especially from Flighty's Road bridge to Belmont Road bridge. This would substantially reduce roughness and increase flow capacity.
- Removal of gravel from the stream bed. This would increase flow capacity at the SH58 road bridges near the golf course, which overtop during a 10 year ARI event.
- Providing detention to increase storage. This has not been investigated at this stage.
- Significant upgrade of stream channel profile or structures. This has not been investigated at this stage.

The flood maps generated from the study will also be used to ensure future development along the stream takes account of the flooding risks.

5. Proposed management plan

One of the most significant threats from rural waterways is the potential for flooding, and this is increased where waterways are not maintained.

The Pauatahanui Stream is not maintained by GW. Although PCC have a responsibility for the watercourse, the main maintenance responsibility lies with the adjoining land owners.

All land owners with properties adjoining the banks of the Pauatahanui Stream have the responsibility to “remove ...all obstructions of any kind calculated to impede the free flow of water in such watercourse” under the Land Drainage Act 1908.

Officers from GW and PCC are co-operating on putting together a management plan to address responsibilities for management of the Pauatahanui Stream. It is envisioned that the management plan will help to inform landowners of their obligations and provide advice to the landowners as they carry out their obligations.

For example, landowners will be required to remove trees and vegetation that impede storm flows. This work is likely to be eligible for technical and financial assistance under GW’s Isolated Works Policy. Some of the isolated works budget could be utilised to assist landowners with the resource consenting process and provision of an arborist’s advice so they can clear the vegetation themselves.

The discussions with PCC are at an early stage. No agreement or commitment has been made by GWRC concerning the proposed management plan.

6. Communication

No communication is required at this stage.

7. Recommendations

That the Committee:

1. ***Receives the report.***
2. ***Notes the content of the report.***
3. ***Notes that officers from GW and PCC are co-operating on putting together a management plan to address responsibilities for management of the Pauatahanui Stream.***

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Attachment 1: Pauatahanui Stream Modelling Report introduction, conclusions and flood hazard maps