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Committee Hutt River Advisory
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Hutt River Floodplain Management Plan – Belmont House Raising

1. Purpose

- To inform the Advisory Committee of the outcomes of consultation with the thirteen Belmont home owners who are eligible to be considered for house raising assistance from Greater Wellington – The Regional Council (GWRC).
- To advise the Committee on an alternative option to house raising, for mitigating flooding at Norfolk Street, Belmont.
- To ask the Hutt River Advisory Committee to recommend changes to GWRC's 2003–2013 Long Term Council Community Plan (LTCCP), in order to accommodate an alternative flood mitigation option at Norfolk Street.

2. Background

Report 02.645 presented on 24 October 2002 updated the Advisory Committee on the suite of proposed flood reduction measures at Belmont. The measures include bank edge protections, associated property issues, provisions being developed for Hutt City Council's (HCC) District Plan, and house raising for selected properties.

The report also noted the need to consult with the community, not only on the imminent bank edge protection project (construction programmed to start early 2004) but also on the non-structural measures and the house raising project.

House raising at Belmont is provided for in the Hutt River Floodplain Management Plan (HRFMP) under Policy 3. Chapter 4 of the plan includes provision of \$450,000 (1999 estimate) between 2003 and 2007 for the house raising.

In order to discuss the suite of measures with the Belmont community on an informed basis, we decided to advance investigation and consultation on the house raising component. This report covers the outcomes of those investigations and consultation

3. House raising and eligibility

At the time of the HRFMP preparation, investigations identified 32 Belmont houses or buildings **floodable from the Hutt River** in the 1900 cumec (100-year) flood event, 50 in the 2300 cumec (440-year) event, and 61 in the 2800 cumec (very rare) event.

The “design standard” adopted in the HRFMP for the Belmont area is the 100-year flood event. After considerations that included the uncertainty related to design flood levels, and the benefits and practicality of raising houses by small amounts, the number of houses eligible to be considered for house raising in the 100-year event was set at 15 (later refined further to 13).

A further consideration was that the houses will ultimately be reconstructed to minimum floor levels, under the HRFMP non-structural requirements, when they reach the end of their useful life.

The HRFMP anticipated that any offer of assistance to home owners would be subject to:

- specific investigation on the need for, and practicality of, house raising
- the home owner wanting the house raised
- the home owner meeting criteria and requirements set by Greater Wellington.

4. Consultation with home owners

Consultation with the thirteen eligible home owners was held in December 2002. The purpose of the consultation was to:

- provide each home owner with flood information specific to their house
- assess the need for and practicality of raising their house
- gauge the home owners feelings about house raising
- present other possible options to house raising
- summarise the home owners’ views.

The thirteen houses eligible for house raising comprised: one house in Carter Street, four in Owen Street, and eight in Norfolk Street.

The Carter Street house was incorrectly categorised as eligible for consideration, after misinterpretation of level information. The Carter Street house does not need to be raised.

The four houses in Owen Street are all two storied and have a major proportion of their living and amenity areas upstairs. The households could function through, and recover reasonably well, after a large flood event. House raising for these houses is neither viable nor required.

The key message the eight eligible Norfolk Street home owners gave, for a variety of reasons, is that they prefer not to have their houses raised. They feel more comfortable with the option of a small stopbank across Norfolk Street, adjacent to the Belmont Playcentre.

5. **The Norfolk Street stopbank option with emergency component**

The potential for a small stopbank to protect Norfolk Street **from Hutt River flooding** was noted in 2001 at the time of HRFMP plan preparations. It was not possible at that time to evaluate a design for what is a small component of the overall HRFMP project, so house raising was included in the plan as the default provision.

Before consulting with the Belmont residents in December 2002, feasibility design was carried out for a small stopbank located at the south end of Norfolk Street. A short low retaining wall is also required in Belmont Domain, parallel to Norfolk Street. The concept and plans for the stopbanks were presented to the Norfolk Street residents and were well received.

However, several residents advised that in the December 1976 storm large flows were diverted into Norfolk Street from the Western Hills and State Highway 2 (SH2). While improvements have been made, a recurrence of this problem cannot be ruled out. The potential for stormwater to **pond above a Norfolk Street stopbank** could negate the benefits the stopbank would provide in reducing **flooding from the Hutt River**. Further calculations have identified that the diverted flows are too large to be passed through a culvert under the stopbank.

A variation on the full stopbank option is to form a bank on either side of Norfolk Street, up to the edge of the footpaths, and close the gap across the road when a large Hutt River flood event occurs (reasonable warning time is available). When high runoff from the Western Hills and SH2 occurs, flows can pass down Norfolk Street and out into the domain.

Options to close the gap include gates, a flexible apron, and sandbagging. **Attachment 1** shows the proposed arrangement with a gap across the road. All of the options can be effective but require community involvement and good emergency management procedures.

A further meeting was held on 4 February 2003 to re-present the stopbank option with the associated emergency management component. Thirteen people, including Norfolk Street home owners and the Presidents of the Playcentre and Ratepayers' Association respectively, attended the meeting. Four of the eight Norfolk Street home owners eligible to be considered for house raising under HRFMP policy attended. The residents accepted the revised stopbank design as the best option available to them and preferred sandbagging as the best means of closing the gap.

6. The emergency management component

We need to make sure that arrangements are in place to 'close the gap' in the stopbank at Norfolk Street during a major flood event. There are several options for 'closing the gap' including sandbagging and using gates. Sandbagging is currently the local communities preferred option. Sandbagging is simple and effective but does require some knowledge and training. It is also labour intensive.

During a major flood event GWRC and HCC operational staff resources will be severely stretched and we expect the Belmont community would need to play a major role in closing the gap. Attendees at the 4 February 2003 meeting indicated a willingness to be part of a community effort, and expected wider community support.

Further work is required to determine acceptable procedures to 'close the gap'. This will involve discussions with the local community and Hutt City Council emergency management officers.

Our preliminary proposals include:

- Providing emergency management provisions at site including a sufficient quantity of sand, empty bags and some tools.
- Setting up procedures for local residents to 'close the gap' in the stopbank during a flood situation.
- Setting up flood warning procedures, so we can alert the local residents when the Hutt River floods could exceed a 50 year return period event.
- Putting in place regular reviews of procedures including exercises, to ensure residents continue to know what to do in the event of a major flood.

Once implemented this will be an example where the local community will be actively involved in protecting their own areas with assistance from local authorities.

7. Financial implications

The small stopbank at Norfolk Street, and the associated emergency management component, is estimated to cost \$100,000. This sum excludes the costs of the investigations, preliminary design and consultation completed to prepare this report. The estimated expenditure this financial year is approximately \$15,000.

A sum of \$521,000 for house raising is currently budgeted in GWRC's preliminary 2003–2013 LTCCP in years one to four. It is recommended that budget provision be amended to \$100,000 only in year 1 (2003/04) for construction of the Norfolk Street stopbank and provision for house raising be deleted.

However, our recommendation is that the HRFMP still retain the existing policy and provision for house raising at Belmont. In the event of a large flood, where houses in the area are unexpectedly inundated, house raising assistance could form a useful part of the flood recovery as well as providing the only flood mitigation option that can be carried out in isolation.

8. Communication

Consultation with the Belmont community in December 2002 and February 2003 is described in this report. A meeting to update the wider Belmont community on all of the Belmont flood protection work (bank edge protections, property matters, environmental matters and the Norfolk Street proposals) will be called in March. The Hutt News will receive the HRAC reports and it is likely that they will find the information suitable for an article.

9. Summary

The HRFMP includes policy and financial provision for 15 houses (subsequently revised to 13) to be raised to mitigate flooding in the Belmont area. Subsequent investigation and consultation have determined that house raising for five of the identified houses is now not recommended and the remaining eight home owners, in Norfolk Street, do not want their houses raised.

An effective alternative to reduce flooding is available at Norfolk Street. The alternative comprises small stopbanks built up to the footpaths on each side of the road, with the road section blocked during a flood event. Several options are available to “block the gap” including a gated system or a flexible apron, both fixed to abutments either side of the road. Sandbagging is another simple effective system and is preferred by the local community.

10. Recommendations

That the Committee:

1. *receive the report.*
2. *note the contents of the report.*
3. *note that of the thirteen Belmont home owners who are eligible for consideration for house raising assistance under policy and provisions contained in the Hutt River Floodplain Management Plan (HRFMP), five do not need their houses raised and the remaining eight do not want their houses raised.*
4. *recommend to the Landcare Committee that:*
 - a) *a new stopbank/emergency management option to mitigate flooding at Norfolk Street, Belmont be provided in lieu of house raising at a total estimated cost (including investigations to date) of \$115,000.*
 - b) *Policy 3 in the HRFMP and associated provision, which provides for house raising at Belmont, be retained, noting that this provision may only be required after a major flood event.*
 - c) *Greater Wellington – The Regional Council make the following changes to the proposed Flood Protection 2003–2013 Operating Plan:*
 - (i) *Delete the provision of \$521,000 for house raising at Belmont.*
 - (ii) *Add a provision of \$100,000 in 2003/04 to construct a new stopbank at Norfolk Street.*

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Attachment 1 : Proposed Stobank – Norfolk Street