

SOUTH WAIRARAPA DISTRICT COUNCIL

3 APRIL 2019

AGENDA ITEM D3

HART STREET, FEATHERSTON

Purpose of Report

To inform councillors of the climate change impact, legal matters including financial details for flooding for the Number 1 Hart Street Featherston property.

Recommendations

Officers recommend that the Council:

1. *Receive the Hart Street, Featherston Report.*

1. Executive Summary

Officers were instructed to prepare a report on Council responsibility for, and options to remedy the drainage problem at Abbots Creek, Featherston which impacts 1 Hart Street, Featherston, with consideration given to:

- climate change impact,
- legal matters
- includes financial details

Hart street is below state highway 2 at the toe of a steep incline where the terrain flattens to very little grade. The area between the highway and the property is owned by council.

After a flood event the owners of 1 Hart Street expressed concern over reoccurrence. Remedial and prevention works were requested. Council was also addressed in public participation on the matter.

Remedial works are taking place end of April and through May 2019 on the whole event area where works are required. At this time a drain will be reinstated above the properties to alleviate some of the volume of water that may occur in another event.

The remedies for anyone who wishes to claim against damages is either through their insurance or through legal action against those who may be at fault. Determination of fault is exceptionally difficult in these circumstances. Where there is proven failure of engineering controls the design parameters need to be determined and found lacking or the workmanship in the case of a levee for example.

The Drain will add some mitigation however without hydrology the amount of mitigation to what extend will be undetermined.

2. Background

Up to 120 mm of rain fell near the ranges behind Featherston flooding properties, turning streams into torrents and ripping out chunks of roads. The weather bomb was quite an "exceptional event" leaving a lot of clean-up in its wake.



The town of Featherston was also affected with large amounts of surface flooding flowing across State Highway 2 in places and through the commercial district.

Some farmers on Underhill Rd north of Featherston recorded extraordinary levels of rain in a very short period in the later afternoon. Up to 90-120mm of rain fell in just over an hour.

The worst-hit area appeared to be Underhill Rd and Bucks Rd, where an entire two-lane road washed out, with a nearby resident's rain gauge measuring 100mm of rainfall in just two hours.

In town, houses were flooded and many residential roads were under water as the infrastructure failed to cope with the torrent of water pouring off the Remutaka Hill and surrounding ranges. North-westerly gusts on the hill reached speeds of 142km/h, with the average wind speed sitting at 80km/hr.

The storm was so localised, blue sky could be seen a couple of hundred metres away, even though serious flooding was happening all around.

3. Discussion

3.1 Likely impacts of climate change

In relation to Hart street Featherston.

3.1.1. Higher temperatures

There is likely to be an increase in demand for air-conditioning systems and therefore electricity in summer.

People are likely to enjoy the benefits of warmer winters with fewer frosts. However hotter summers will bring increased risks of heat stress and subtropical diseases.

There may be a reduction in demand for winter heating. This could lead to lower costs and reduced stress on those who cannot afford electricity.

3.1.2. Flooding

More frequent intense winter rainfalls. These are expected to increase the likelihood of rivers flooding, and flash flooding when urban drainage systems become overwhelmed.

A warmer atmosphere can hold more moisture, and so the potential for more intense rainfall events is increased. Cycling of water through the atmosphere (i.e., evaporating from the surface, transportation by winds, and ultimately precipitating out) accelerates under global warming by about 3% per degree of warming, which is not as fast as the rate of increase in moisture holding capacity (about 7-8% per degree of warming). Thus, recharge of atmospheric moisture takes a bit longer and results in more dry days in many locations.

Thus for rainfall, as opposed to temperatures, extremes increase at **both** ends of the spectrum: more heavy rainfall and more dry days.

3.1.3. Water resources

Water demand will increase during hot, dry summers. Longer summers with higher temperatures and lower rainfall will reduce soil moisture and groundwater supplies. Drought intensity will likely increase over time. Drier conditions in some areas are likely to be coupled with more frequent droughts.

River flows are likely to be lower in summer and higher in winter. Lower river flows in summer will raise water temperatures and aggravate water quality problems (e.g.: through increased algae growth).

3.1.4. Transport

Hotter summers may damage elements of transport infrastructure, causing buckled railway lines and damaged roads, with disruption and repair costs.

3.2 Geography

As per the contour picture below the natural flow of storm water runoff is directed towards the properties in Hart St. The natural vegetation will decrease the water velocity towards the properties.

The reestablishment of a drain above the property boundaries will aid in the diverting storm water to Abbots Creek.



3.3 Legal matters

3.3.1. Locally

Upon investigation the flow of water from the state highway is to be contained or circumvented via controls e.g. kerbing and culverts by NZTA.

Water that flows via culverts under the Highway is the responsibility of the land owners while the maintenance and correct sizing of the pipe infrastructure is the responsibility of NZTA.

Number 1 Hart street abuts South Wairarapa District Council land and while it's NZTA's responsibility to contain the water on its road reserve or allow the flow through from above. It is council's responsibility to ensure the same to 1 Hart Street.

The properties of 1 and 2 Brandon Street directly about the state highway and therefore is not council's responsibility.

Maintenance of Abbots creak is the responsibility or Greater wellington council.

3.3.2. Responsibilities

Council work on flood protection is not always successful, and has led to flooding, damaging homes and businesses. An aggrieved party may seek legal redress, tort being an option. If so, a plaintiff must first determine the appropriate defendant. This will generally be either a Regional Council or District Council.

The Local Government Reorganisation Order 1989 provided that certain "functions, powers, and duties" were vested in Regional councils. There are similar provisions for each region the functions, duties, and powers of a catchment board. Any reference to a catchment board in reality means the relevant Regional Council.

Numerous measures protect against flooding. These include weather forecasting, insurance, recovery plans, and the construction of physical works such as stop banks and culverts. Responsibility for flood protection lies with regional councils: "The Government considers local risks to be a local responsibility." 11 regional councils have extensive responsibility for managing flood risk. Flood protection measures are generally effective, but sometimes fail. Central government typically involves itself at the civil defence recovery stage and only where necessary.

Greater Wellington have flood risks from the 2,333km of rivers (and 19,365km of streams) that flow across our region. These risks range from loss of life to loss of land through erosion, to damage to property and buildings. Through their work, they manage these risks to our community's (including Featherston), assets such as houses. Rivers wind their way through public and private land, so they must work with our communities and land owners to manage the risks and impacts of flooding and erosion.

3.3.3. Central government

Central government plays a reduced role, focusing primarily on recovery. 15 However, the Resource Management Act 1991 (RMA) requires the Minister for the Environment to ensure the Act is effectively implemented. 16 The Ministry for the Environment is required to provide advice to the Government, its agencies, and other public authorities on "the identification and likelihood of natural hazards and reduction of the effects of natural hazards". 17 Despite this general duty to provide information, no specific

policy group or commission is tasked with guiding local government's approach to flooding.

3.4 Financial

3.4.1. Physical works

In respect of physical works, money is allocated by councils (regional and local) in respect of specific projects, rather than a single "flood protection" budget drawn from on an as-needs basis. For example, the Hutt City Council is currently planning to increase the height of the stop bank which protects the City from the Hutt River.

The public at large are not directly charged for the building of flood works in the sense that anyone who wishes to have a building constructed must pay for the relevant inspections. Consequently, the cost of flood protection primarily comes from rates, rather than fees charged for the construction of works.

3.4.2. Remediation and recovery

The individual liability model, while more economically efficient, may be unduly harsh on those who cannot afford to insure themselves. Alternatively, a council liability model, while resulting in a complex chain of cost distributions, would have the benefit of ensuring that more homeowners are protected against loss, but at a greater financial cost to the community depending on the extent of that liability (that is, strict or fault-based).

Flooding is a significant problem in New Zealand. Its cost is surpassed only by the recent Canterbury earthquakes. Councils and communities have a real interest in protecting against flooding as best they can, but some of these measures will eventually fail, either because natural forces exceed the limits of the works, or because of problems with the protections themselves.

Councils can be liable for flooding damage in respect of their own torts, but that a non-delegable duty is arguably not owed to general members of the public. This may have the effect that where a property is uninsured and the contractor who did the work leading to the damage is insolvent, the property owner cannot recover.

The extent to which councils should be liable ultimately falls to whether the moral obligation of socialising loss outweighs acknowledging individual responsibility to insure one's own assets. While councils remain liable at for harm caused by their negligence, it would be more economically effective for individuals to remain responsible for protecting their assets through private insurance policies.

3.4.3. 1 Hart Street

The preventative works required in reinstating a drain above the property and diverting the water to Abbots creak is estimated at circa. \$5,000.

This work will enable water sheeting off the hill to be diverted affording some protection to the properties of hart Street. This may still not be able to contain the size of the deluge that had been previously experienced but will lessen any effects. This should also avoid issues of liability.

4. Conclusion

Flood control being a function of GWRC measures to prevent come under their control. Due to owning the land adjacent to 1 hart Street a "good neighbour" approach is being undertaken by reinstating a drain to help mitigate future flooding. To what extent is undeterminable and a hydrological study is seen as excessive.

The works will be done in conjunction with other work in the area to assist in cost control.

It is envisioned whether at the same location or not, that more frequent major events are predicted and will cause similar issues elsewhere. It would be prudent for home owners to understand the legalities on the damages that can be incurred and mitigating through insurance for their properties.

Contact Officer: Mark Allingham, Group Manager, Infrastructure & Services