

Perth & Kinross Council – Housing & Environment Service Aberfeldy Flood Study – Community Drop-in Sessions Summary of Questions & Answers

Introduction

Perth & Kinross Council recently held two community drop-in sessions in the Aberfeldy Town Hall from 2-8pm on 20 and 25 June 2019. The aim of these sessions was to engage with the local community on:-

- the risk of flooding in Aberfeldy;
- the findings from the Aberfeldy flood study;
- a review of surface water flooding; and
- other actions to raise awareness and improve community flood resilience.

The drop-in events were well attended and attendees were encouraged to fill in comment forms to provide feedback on the flood study. The Council would like to thank those that took the time to attend and provide feedback.

This report collates the verbal and written comments received during the drop-in sessions and provides the Council's response to those questions.

Community Drop-In Sessions

A letter had been distributed to the community in advance inviting residents to attend the drop in sessions.

The drop-in sessions included a central display (see Figure 1), a flood simulation video, a series of plans setting out the proposals and a rolling presentation. Representatives from the Council's flooding team, RPS Group Ltd and the Scottish Flood Forum were available to answer questions and provide further information.



Figure 1 - Central display at the drop-in sessions

The event was generally well attended by the local community with around 60 people attending over the two days. Those attending were encouraged to record their views and questions on comment forms. These forms were either completed on the day and handed to the Council or RPS Group, or were completed after the event and returned to the Council. Blank maps were also made available to allow consultees to make comments and mark on any information they had on flood extents, etc.

Community Response

Ten comment forms were returned to the Council after the sessions. In general, the impression received from the drop-in sessions was somewhat mixed. Some concerns were raised about the need for, and scale, of the proposed flood defences although there was a general acceptance of the significant flood risk in Aberfeldy and the need for action to manage this. Further consultation with the community will therefore be required if the proposals are to be taken forward.

The attendees raised a number of questions at the drop-in sessions and on their completed comment forms. These are listed below along with the Council's response. Those submitting forms have not been named for confidentiality reasons. This report will be distributed to members of the community.

The Next Steps

The Council will report the conclusions of the flood study to the next Environment and Infrastructure Committee.

SEPA has asked local authorities to identify new flood schemes for inclusion in the second cycle of Flood Risk Management (FRM) Strategies and Local FRM Plans covering the period from 2022-2028. The recommended flood scheme will therefore be put forward to SEPA for prioritisation and will hopefully be added to an updated national priority list.

The next Tay Local FRM Plan will be published in June 2022 and will set out the proposed implementation arrangements for the flood scheme, including timescales and how it will be funded. The next phases of work to develop the flood scheme proposals will therefore not commence until after 2022. The project will involve further outline design development, the statutory process under the Flood Risk Management (Scotland) Act, detailed design and tendering before eventual construction. This is a long process and will take a number of years to complete.

The Council will carry out further consultation with the community as the proposals are developed.

For further information on the Aberfeldy Flood Study please contact:

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Appendix A – Questions and Answers

Question 1 – Why is a flood protection scheme required, particularly one consisting of flood walls and embankments?

It is recognised that there is a significant flood risk in Aberfeldy and surrounding areas. Aberfeldy has suffered historically from repeated flooding, with records extending back to 1928. The most recent significant flooding events have occurred in 1950, 1990, 1993, 2004, 2005, 2006 and 2015. This risk is primarily from the River Tay and the Moness Burn, but also from smaller watercourses (namely the Tomchulan and Boltachan Burns).

Aberfeldy has been designated as one of the 254 Potentially Vulnerable Areas (PVAs) across Scotland. These are areas identified as having a significant risk of flooding and where flood risk management actions are prioritised. Aberfeldy is within PVA 08/03 (Aberfeldy and Pitlochry), which forms part of the Tay Local Flood Risk Management (FRM) Plan. The plan sets out the actions to be undertaken to manage flood risk within the Tay catchment and can be viewed on the Council's website at <http://www.pkc.gov.uk/frmplans>.

The Aberfeldy Flood Protection Study is an identified action within the Tay Local FRM Plan. The purpose of the study is to improve the understanding of flood risk and to identify options for the future management of this risk. This includes considering the feasibility of various options for a flood protection scheme.

The flood study has improved our understanding of flood risk in the area. Flood maps have been produced for a range of flood events. This has identified that 168 residential and non-residential properties are at risk of flooding during a 200 year flood event (the flood event with a 0.5% chance of occurring in any given year). This has further added to the evidence which confirms the significant flood risk within Aberfeldy.

Following on from this, work was carried out to identify options to manage the identified flood risk. A long list of options was considered but, given the numbers of properties potentially at risk, it was apparent that a flood protection scheme would be required to manage this risk fully. As the main sources of risk are the River Tay and Moness Burn, it was also evident that structural measures (flood walls and embankments) would be required as part of any option for a flood protection scheme.

While a flood protection scheme has been recommended by the study, it is important to note that this does not necessarily preclude other options. The identification of a preferred option is only the first step in a long process of delivering a flood protection scheme. There are currently no firm plans in place for any works following this study. The preferred option would be subject to inclusion in the next Local FRM Plan, further investigations, further development and public consultation prior to any firm proposals being put in place. The delivery of any scheme is also dependent upon it remaining economically viable.

Question 2 – Why are the flood defence heights required by the preferred option so high?

Flooding is a natural phenomenon which can never be entirely prevented. Even a flood scheme can only protect up to a certain standard and there will always be a residual risk, should a greater flood occur. The flood study considered various forms of flood defences to protect the area up to the 1 in 200 year flood event (the flood that has a 0.5% chance of occurring in any one year). A 1 in 200 year standard was recommended as the optimum, although this will be reviewed again during any future development of the proposals.

The floodplain of the River Tay is extensive, especially during a 200 year flood. By providing flood defences for an area, the floodplain available to store water is effectively reduced. This alters the way that flood water passes through the remaining floodplain and can elevate flood levels. Therefore any proposed flood defences need to account for this. There are also elements of uncertainty within the hydraulic modelling used to determine the flood depths and required defence heights. Therefore, defence heights need to include an element of freeboard to account for this uncertainty. This is typically an additional 300mm for walls and 600mm for embankments. It is also important to note that if a flood defence is moved closer to the river banks, it will have to be built to a higher level as it would constrain the available floodplain even more.

In order to determine the appropriate level of defence we need to know how much water passes through each of the watercourses (and floodplains) during a flood event and how the rivers interact with each other. This work has been carried out as part of the study. The estimated river flows are based on up to date recorded gauge data (from past flood events where available) and national guidance. These flows have been independently checked by, and agreed with, SEPA.

It should also be noted that the flood study has recommended a form of flood scheme but this is by no means the final design. There are currently no firm proposals in place for any further works following this study. The initial proposals would be subject to inclusion in the next Local FRM Plan, further investigations, development and public consultation prior to any firm proposals being put in place. Consideration is yet to be given to the form of construction of the proposed flood defences. Various forms of construction are available that could mitigate the visual impact of the proposed defences.

Question 3 – Can the alignment of the flood defences shown in the preferred option be reconsidered?

The flood study considered the feasibility of options to manage the identified flood risk in Aberfeldy. At this early stage in the process, it is usually preferable to set potential flood defences as far back from the river channel as possible. As noted in the response to Question 2, this is intended to maintain as much of the natural floodplain as possible and to keep the required heights of the flood defences to a minimum.

The alignment shown in the preferred option is not the final proposal. As mentioned above, further design and consultation work is required to develop the final proposals for a flood protection scheme.

We have noted the concerns raised around the alignments displayed at the drop-in sessions, particularly with regards to the football pitch. This will be considered in more detail during the future stages and the Council will aim to avoid cutting the football pitch off from the changing facilities.

Question 4 – We have concerns about the level of detail shown on the preferred option, specifically around the Market Street Bridge and the lack of accesses shown to the river-side of the flood defences.

As has been mentioned in the responses above, the preferred option recommended by the flood study is not a final detailed design. It was highlighted at the community drop-in sessions that there will be further stages of design and community engagement before a final design is proposed.

Comments were raised regarding the feasibility of the design around the Market Street Bridge. These have been noted and will be reviewed again in greater detail during any future design stages for the scheme.

It was also highlighted that no access routes were shown linking both sides of the flood defences. This will be addressed as part of future detailed design work. Further engagement with the community will also be carried out before a final design is arrived at, and to ensure appropriate access is provided.

Question 5 – Why is dredging of the watercourses not being considered/carried out?

A river is contained entirely within its banks under normal flow conditions. Any flow in excess of the channel capacity will result in overtopping of the banks. The sight of water out of a river channel and on floodplains is therefore actually quite commonplace. However, this can be a concern if it impacts upon people or property located on the floodplain.

During a large flood event, the peak river flow is usually many times the bank full channel capacity and large volumes of water will spill out onto the floodplain. It is therefore not practical to dredge the river to the extent that it would confine such large flood flows within the channel only and to exclude flow from the wider floodplain.

This is not to say that managing sediment on rivers should never be considered or is never useful. Indeed, this can provide benefits if targeted at specific locations where the river flows and behaviour are properly understood. However, if not properly studied and understood then dredging can have serious consequences that could lead to environmental damage, erosion problems and an increased flood risk downstream.

Dredging and straightening rivers and burns increases flood risk downstream as it increases the speed and flow of flood water from the upper catchment. Dredging can also lead to erosion due to increases in the energy of the river. In addition, placing dredged material on the banks of a river can also increase the destructive forces of floodwater by preventing water from spilling onto floodplains where it would slow down and dissipate its energy. The effects of dredging can also affect areas further upstream and downstream as the river seeks to return to its more natural alignment and gradient.

Nonetheless, dredging was considered as a potential flood protection option. The effect of lowering the bed of the River Tay by 1.0m and the Moness Burn by 0.5m was modelled. The flood volumes associated with the River Tay and Moness Burn are too large for dredging to effectively manage the flood risk. The modelling showed that direct flood defences (i.e. flood walls and embankments) would still be required alongside any dredging work in order to provide the required standard of flood protection, albeit at slightly lower heights than the preferred option (by about 0.3m). In addition to this, regular dredging would be required to maintain the enlarged channel capacity, which is clearly not a sustainable approach. The potential costs involved meant that this option is not economically viable. The River Tay, and Moness Burn (up to the Falls of Moness), are also designated as a Special Area of Conservation (River Tay SAC) and the negative environmental impacts of dredging are clearly established.

Landowners are however free to apply for the appropriate permissions from SEPA should they wish to carry out dredging or sediment management works on their land.

Question 6 – SEPA prevent landowners from carrying out dredging work – why is this?

SEPA are responsible for regulating works within the water environment and ensure that the Water Environment (Controlled Activities) (Scotland) Act 2013 (as amended) is complied with. This covers various different activities, including dredging.

Where landowners have plans to carry out works in a watercourse, they are encouraged to contact SEPA to discuss their plans to ensure that these are appropriate and that the correct level of authorisation is obtained. Since 2007, SEPA have received, and approved, two applications from landowners for CAR registrations to carry out sediment management works within the Aberfeldy area.

It is worth noting however, as mentioned in Question 5 above, that the River Tay and the Moness Burn (up to the Falls of Moness) are part of the River Tay Special Area of Conservation. The environmental impacts of dredging are well understood and therefore it may not be considered appropriate to carry out such an activity on these watercourses.

Question 7 – What existing actions are being undertaken to manage flooding and why are these not sufficient to deal with the flood risk to Aberfeldy?

There are two Community Resilience Groups operating in Aberfeldy: the Tayside Waders and The Aberfeldy Community Council Resilience Group. These groups

continue to be supported by the Council (through Emergency Planning contacts) and by the Scottish Flood Forum (SFF). For example, the Tayside Waders have set up a store of sandbags and pumps, with assistance from the SFF, for deployment around the Tayside Crescent area in the event of a flood. The positive actions of these groups are helping to increase local community flood resilience.

However there is a limit to the effectiveness of this work. For example, individual property flood gates can only operate up to flood depths of 600mm (before they are overtopped or the hydrostatic pressure can result in structural damage to a property). The flood study has explored potential options that would provide a far greater standard of flood protection, and would not have to be deployed in advance of a flood.

The flood study was only one of a number of identified actions for Aberfeldy contained within the Tay Local Flood Risk Management Plan. The other actions are listed below and the recommendations of the flood study are in accordance with these:

- Strategic flood mapping and modelling (SEPA and Scottish Water);
- Flood forecasting (SEPA);
- Awareness raising;
- Self-help measures;
- Maintenance (clearance and repair works);
- Emergency plans/response;
- Managing flood risk through the application of development planning policy.

Therefore, everyone has a role to play – including all riparian landowners and residents, Perth and Kinross Council, SEPA, Scottish Water, the Scottish Government and all other responsible authorities and public bodies. Everyone will continue to manage flood risk in Aberfeldy by implementing the actions set out in the published Tay FRM Strategy and Local FRM Plan. Further information on each action is contained within the Tay Local FRM Plan, which can be viewed on the Council's website at: <http://www.pkc.gov.uk/frmplans>.