

Measures Taken to Prevent or Mitigate the Flooding of Non Agricultural Land Since November 2003

Implementation of the Flood Prevention Policy

Following the Roads and Transport Committee approval of the Flood Prevention Policy on the 11 June 1997, this policy has been implemented throughout The Highland Council Area. The policy is included as Appendix A of this report.

The preparation of the second Biennial 'Flood' Report, published in November 2000, identified inconsistencies in the reporting of flood incidents across the Highlands.

To address this identified problem, guidance was issued through the biennial report on the definition of a flood, to clarify to compilers the trigger for implementation of flood reporting procedures.

A thorough review of the requirements of the 'Act' has been undertaken by The Highland Council, to ensure both compliance with the Act and also ensure a consistent approach to implementation by the Area Service Managers of the eight Areas of The Highland Council Area.

National guidance is currently unavailable, so the review initially involved the appraisal of reporting procedures undertaken by the Local Authorities throughout Scotland, held by the Scottish Executive. Best practice from these reports was established and implementation guidance prepared and circulated.

The completed document contains clarification of responsibilities, legal advice, standardisation of approach and reporting and funding application issues.

Guidance on the referencing/scheduling of watercourses, requirement for an initial desk top assessment and prioritisation of watercourses together with identification of the related assessment regimes are contained therein. Examples of the reference schedule and assessment check chart are included as Appendix C.

An example of a watercourse assessment is included as Appendix D.

In addition to the assessment of watercourses, there is also the requirement and standardisation of Flood Reporting. See Appendix E.

Work is currently underway by both the Scottish Executive and the Society of Chief Officers of Transportation in Scotland (SCOTS). Assessment of the implementations by each council has been undertaken and guidance is to be provided. The assessment undertaken by the Scottish Executive assessed The Highland Council as 'producing a comprehensive report with full documentation of measures required and measures taken. Very clear pro-forma for water course assessment and reporting flooding incidents.'

Emergency Planning

The Highland Council have an Emergency Planning Unit whose responsibility it is to plan for emergency events and also co-ordinate resources in reaction to emergencies. Flooding is covered and co-ordination of response to flooding events occurs.

An emergency plan, in respect of flooding, has been developed from evaluation and appraisal of the effectiveness in responses to previous flood events.

The emergency plan is triggered on identification of the possibility of a flood using the Scottish Environment Protection Agency (SEPA) monitoring system, Met Office Severe Weather Warnings and computer 'Flood Modelling'. Warnings would be issued by Emergency Planning directly to Transport, Environmental and Community Services duty staff and a flood support group would convene at The Highland Council, Emergency Operations Centre, Inverness.

This group is drawn from:

- a) The Highland Council
- b) SEPA
- c) Police
- d) Fire Service, and
- e) HM Coastguard, if applicable.

The object of these parties in meeting, is to alert relevant bodies to the flood risk, establish availability of resources and implement a coordinated response, with the aim of minimising and managing the impact of any flooding.

All relevant information would be available to this group. The bulk of the information would be obtained from river telemetry and weather forecasting however, additional information will be obtained from actual rainfall, lying/melting snow, observers, tide tables, tidal surge data and historical information from previous events.

National Helpline

A development that came into force on 1 November 2001 is that of a "Floodline", this is a telephone Helpline, where members of the public can telephone to obtain information on the state of flooding or the conditions of watercourses and rivers in their local area. It is based on a similar system, operated by the Environment Agency, which has been running in England and Wales for some time.

The warning element is based on one or more of the following conditions being announced during television and radio weather broadcasts and programmes, **note Inverness and Nairn are used as an example :**

A " Flood Watch (flooding possible) has been issued for the Inverness and Nairn area "

A " Flood Warning (flooding expected) has been issued for the Inverness and Nairn area "

A " Severe Flood Warning (severe flooding expected) has been issued for the Inverness and Nairn area "

The " All Clear (there are no longer any Flood Watches or Flood Warnings) has been issued for the Inverness and Nairn area."

The National " Floodline " number is 0845 988 1188.

It should be recognised that the helpline information is based on the telemetry system (remote flow monitoring) operated by SEPA. There is a limited number of telemetry sites throughout the Highlands and these are restricted to major catchments only.

Works

Flood Alleviation Maintenance Works

The Highland Council is divided into 8 Areas, each administered by an Area Roads & Community Works Manager within TEC Services. Flooding events are managed by the relevant Area Roads & Community Works Manager.

It is the role of the Area Roads & Community Works Manager to initially assess the flooding event and take such emergency measures as deemed appropriate. Often flood events are localised and no residential or commercial properties are affected. Where the cause of the flooding is established and remedial measures are of minimal costs, then these are undertaken.

Works that fall into this category are gully emptying, offlet cutting, removal of vegetation, removal of debris and the like. These works are usually undertaken as an emergency response.

Where flooding events are known to re-occur, local procedures are in place to implement signing, sand bagging and the like at times of impending flood or during flood events.

Due to the minor nature of these floods the reporting of these events are not routinely logged.

Minor Reported Works Relating to Flooding

Badenoch & Strathspey

Minor debris clearing works carried out to Gynack Burn 20m upstream from Spey Street Bridge to 10m downstream of Railway Bridge, 6th – 10th of June 2005. Rock armour protection works carried out on Gynack Burn adjacent to Milden Tower, Milden Road, Kingussie, 21st – 22nd June 2005.

Caithness

Stanergill Burn, Castletown, Watercourse Ref C3

Works undertaken November 2004 and planned for Oct/Nov 2005

Proposed works originally programmed for this October consist of removal of excess vegetation from the banks and invert of the watercourse over a short 50m section. The work is currently delayed due to a change in land ownership and obtaining permission to enter land.

This section of Stanergill Burn together with a section immediately downstream of the Mill Bridge were cleaned out in February 2004.

Brown Trout Hotel, Watten, Watercourse Ref C16

Works undertaken 2004

Replaced kerbs and footways and installed gullies and polychannel to prevent road surface water flowing into hotel carpark.

Unknown watercourse, Roadside House, Scarfiskerry, Watercourse Ref C19

Works undertaken Nov 04

Resident trying to stop flooding from an unknown stone culvert using a pump. Several inches of water ponding in his outbuilding. Excavated a trial hole and connected old stone culvert to nearby road surface water drain.

Road Drainage, Kirkhill Farmhouse, Achscrabster, Watercourse Ref C20

Works undertaken Nov 04

Following a period of sustained heavy rainfall, road surface water was prevented from entering drain due to choked offlets. Consequently the water flowed down the farm access and ponded around the house. Offlets cleaned out.

Car Park Lane, Halkirk, Watercourse Ref C22

Works in progress

Replaced a choked polychannel with gully and connection to surface water drain. The existing polychannel was choked with debris and lead into the property which compounded the flooding due to the natural depression in the site's topography.

Nairn/Badenoch and Strathspey

Gynack Burn, Kingussie

Debris clearing works carried out to Gynack Burn 20m upstream from Spey Street Bridge to 10m downstream of railway Bridge 6th – 10th June 2005. Rock armour protection works carried out on Gynack Burn adjacent to Milden Tower, Mill Road, Kingussie, 21st – 22nd June 2005.

Lochaber Area

Storm Drain Checks, are carried out on a fortnightly basis and during periods of heavy rain at the following locations:

North & Town Area

A830 Kilmallie Sawmill, Corpach
A830 Kilmallie Cemetery, Corpach
A830 Duncan MacDougal's, Corpach (2 No.)
A830 Treasurers of the Earth, Corpach (2 No.)
A830 Opposite Hillview Drive, Corpach
A830 Opposite Banavie School
"Loch Leven" House
B8004 - Opposite the Rugby Club, Banavie
Ben Nevis Industrial Estate
Swimming Pool (2 No. at rear of swimming pool)
Police Station
Lochview Estate
Upper Achintore School
Angus Crescent
Pinegrove
Kilmallie Cemetery

South – monthly inspections

Glencoe Village
Oldtown, North Ballachulish
Argyll Cottages
West Laroch Play Park
St Brides School
East Laroch
Lovat Road
Garbhein Crescent
Brown Terrace, 2 No
Wades Road
Foyers Road, 2 No
Hill Terrace

} Ballachulish Village

} Kinlochleven

West

Granite Square, Strontian
Moss Road, Acharacle (monitor the loch level)
Glencairn (monthly)
Clanranald Terrace, behind houses (3 monthly inspection of manholes)
Columba Road (new house) - monitor ditch ensuring free running

Problem Areas

B8006 - Lochyside, Caol - Problems when high tide combines with flood flows in River Lochy. Flooding of adjacent roads and properties experienced on 11th January 2005 when the Lochaber Area was affected badly by storm surge and tide. As a result of this storm, the Mott MacDonald, "Lochyside Flood Prevention Scheme" has been revisited and updated and was reported at the Area Committee in October 2005. Members noted that the survey work had commenced and agreed to the extending of the Consultants brief to allow a more comprehensive and complete report to be prepared.

Columba Road, Mallaig - New house at Columba Road from village road – will only cause problems if ditch is blocked.

Clanranald Terrace, Mallaig - Behind houses. 3 monthly inspection of manholes are carried out at this location.

A82 Achintore Road - The Scottish Executive have issued an instruction to renew 2 new culverts where problems occur.

Glen Nevis - High river levels

Rear of Garry Crescent, Invergarry - Drains at the rear

Rear of Argyll Terr – Heathercroft, Fort William – A very large development is proposed and hydrological studies have been requested before approvals are granted. The drainage for the area has to have unrestricted flow to Loch Linnhe.

Measures taken for flood prevention since October 2003

Work to the following locations was carried out in order to prevent flooding.

Union Road Fort William – Install Aco-Drain & culvert drainage

Hill Road Fort William – Install Aco-Drain & culvert drainage

Highbridge, Fort William – Install twin 400mm culverts

Sutherland

Police Station Lairg – Clash Breac (S/4/07) -£11,500

Flooding to police station garage and garden. Replace collapsed drain.