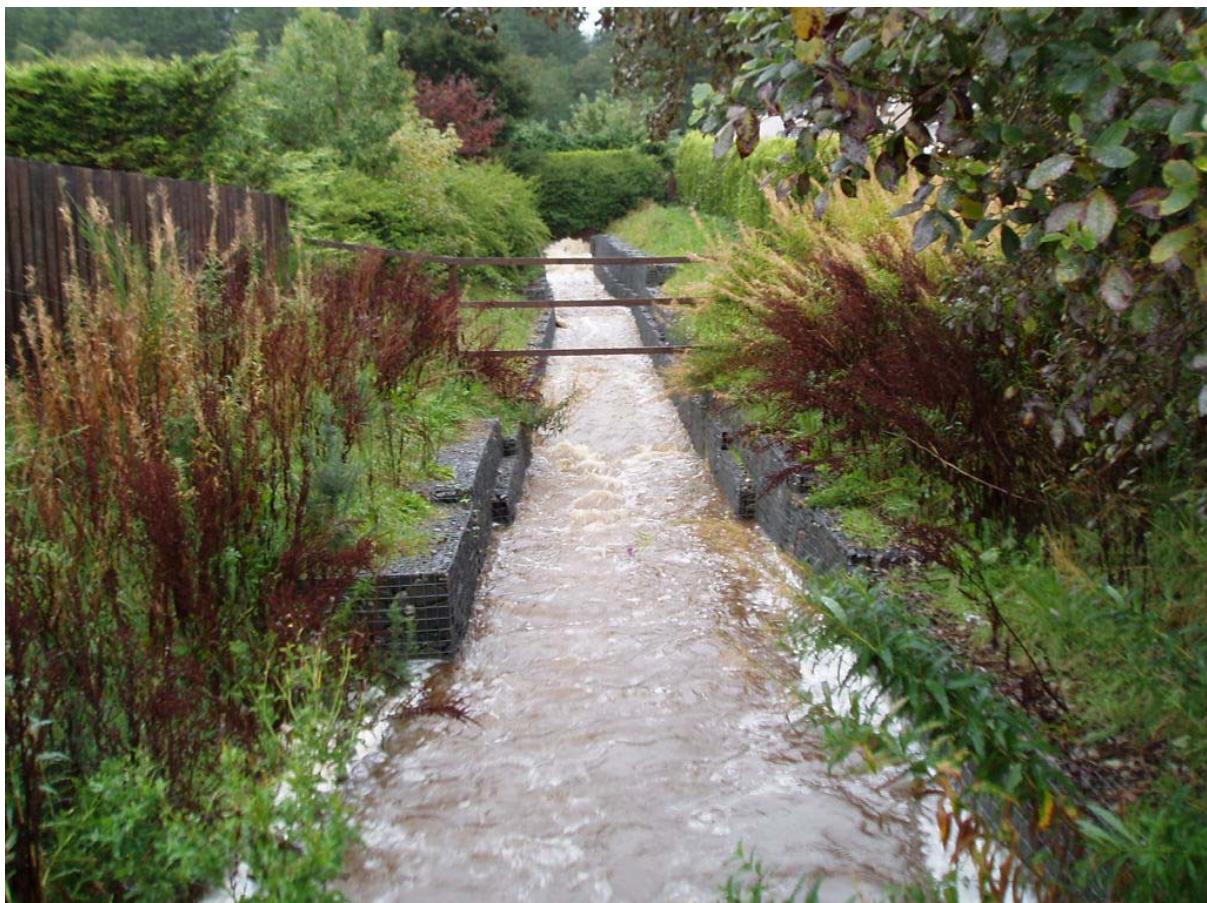




## **FLOOD PREVENTION AND LAND DRAINAGE (SCOTLAND) ACT 1997**

**BIENNIAL REPORT No. 7  
NOVEMBER 2009**



**Culloden Burn West**

The Highland Council  
Project Design Unit  
Dingwall

This document was revised as follows:-

Revision Status Indicator

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## Introduction

### **Flood Prevention and Land Drainage (Scotland) Act 1997**

In March 1997 the introduction of the Flood Prevention and Land Drainage (Scotland) Act 1997 instigated changes to the responsibilities and duties of Local Authorities in Scotland.

This Act amended the Flood Prevention (Scotland) Act 1961 and repealed sections of the Land Drainage (Scotland) Act 1930 and the Land Drainage (Scotland) Act 1941.

In respect of this Act the flooding referred to is the flooding of land, not being agricultural land. Flooding of agricultural land falls outwith the requirements of the Act.

The implications on The Highland Council of this Act impose the following additional requirements:-

- a     **Assessment of Watercourses**, from time to time for the purpose of ascertaining whether any such watercourse is in a condition likely to flood.
- b     **A Duty to Maintain Watercourses**, which are in a condition likely to cause flooding, or where works would substantially reduce the likelihood of such flooding.
- c     **Notification of Local Authorities outwith the Area**. Where it appears to The Highland Council that any watercourse in the area is in a condition which is likely to cause flooding, outwith the area, the Council shall notify the local authority for the area in which that land is situated.
- d     **Reports** shall be published, at two year intervals.

In recognition of these requirements The Highland Council prepared and implemented a Flood Prevention Policy, a copy of which is included in Appendix A of this report.

This report is published in accordance with reporting requirements of the Act identified in paragraph 1.d above.

Previous reports were published in November 1997, November 2000, November 2001, November 2003, November 2005 and November 2007.

### **Flood Risk Management (Scotland) Act 2009**

In 2009 the Scottish Government approved the Flood Risk Management (Scotland) Act 2009. The Act has received royal assent and is being commenced in sections. Upon receiving royal assent, only sections 3 to 6, 55, 71, 94, 95 and 97 of the Act

have been commenced. These are mainly interpretative provisions. The Government is now in the process of setting in place a workable timetable for commencing different Parts and Sections of the Act. Of key concern is creating a seamless transition from the 1961 Act to the new duties and processes set out in the Flood Risk Management (Scotland) Act 2009.

The Scottish Government's intention is to prepare two commencement orders. The first will cover Parts 1-3, 5, 8 and some of Part 6. The second order will deal with Part 4 and outstanding sections of Part 6 (LA functions). Both commencement orders will have implications for local authorities, and some of the provisions will be accompanied by transitional arrangements. Part 7 (Reservoirs) will be commenced at a later stage so as to meet the target date for transferring reservoir enforcement responsibilities to SEPA in 2011.

The first commencement order will come into force in time to ensure that we transpose the Floods Directive by the deadline of 26th November 2009. The second commencement order, which will be accompanied by transitional arrangements dealing with the transfer from the 1961 Act to the new statutory process, is likely to come into force in second half of 2010.

Local Authorities, SEPA and Scottish Water, along with other responsible bodies, will be responsible for implementing the Act. The most important responsibilities and duties for the Highland Council are:-

- Local flood Risk Management Plans
- Maintenance programmes and schedules
- Flood Prevention Orders which will include deemed planning approval

The Biennial Report following this 2009 report will be replaced by reports prepared as part of the Local Flood Risk Management Plan.

## **Flood Alleviation in the Highlands**

The Council have published a leaflet 'Flood Alleviation in the Highlands' a copy of which is included as Appendix F.

This leaflet seeks to give advice to the public on their responsibilities, coupled with details of the responsibilities of the Council, Scottish Water and the Scottish Environment Protection Agency (SEPA) in respect of flooding issues. It recommends that the public prepare for flooding and contains sensible precautions. The leaflet goes on to contain details of what to do if flooding occurs.

## Contacts

Should you need any information on any issues relating to flooding or for assistance during flooding events then please contact the following:-

### Normal Working Hours

Caithness 01955 607761  
Sutherland/Easter Ross 01408 623434

Ross & Cromarty 01349 868440  
Lochaber 01397 709000  
Skye & Lochalsh 01478 612727

Inverness 01463 703111  
Nairn 01667 703633  
Badenoch & Strathspey 01540 664910

You can also contact your local Service Point who can put you in touch with the relevant office.

### Out of Hours Emergency Numbers

Housing Services 0845 700 2005  
TEC Services/Social Work Services 0845 769 7284

## Reporting Requirements of the Flood Prevention and Land Drainage (Scotland) Act 1997

The Act states that each Local Authority in Scotland shall prepare and publish a report specifying:-

- a The measures which they consider that they require to take to prevent or mitigate the flooding of land in their area.
- b The measures which they have taken since the date of publication of their previous report to prevent or mitigate the flooding of such land.
- c All occurrences of flooding of such land since the publication of their previous report.

This report has been prepared to meet the reporting requirements of the Act, and has been subdivided into the three reporting headings specified above.

## **Measures Required to Prevent or Mitigate the Flooding of Non Agricultural Land**

### **Introduction**

In recognition of the impact of flooding on commercial and residential properties coupled with the new responsibilities placed on to the Highland Council as a result of the Flood Prevention and Land Drainage (Scotland) Act 1997, measures to prevent or mitigate flooding are being addressed on a number of fronts.

One issue being addressed is the control of the location and nature of future developments. Careful consideration of flooding issues and flood risk areas is made in assessing all planning applications and in the identification of land for development in local plans.

SPP (Scottish Planning Policy) 7 includes a flood risk framework which requires planners to respond to development proposals in known flood risk areas as follows:

Little or no risk area (less than 0.1% (1:1000)) - no general constraints.

Low to medium risk area (0.1% to 0.5% (1:1000 - 1:200)) - suitable for most development but not essential civil infrastructure.

Medium to high risk area (0.5% (1:200) ) or greater – in built up areas with flood prevention measures most brownfield development should be acceptable except for essential civil infrastructure; undeveloped and sparsely developed areas are generally not suited for most development.

Aside from policy implementation there are the reactive measures needed to address flooding events at locations which are known problem/at risk areas.

Known at risk areas vary significantly in size and impact, and as such differing solutions are identified. These vary from schemes where significant investment and capital build is necessary and Flood Prevention Orders are required to permit construction, down to minor maintenance works to alleviate localised flooding issues.

These strategies are further considered thus:

## **Implementation of The Highland Council Structure Plan**

The Highland Council's Structure Plan constitutes the Council's strategic land use planning framework.

When considering sustainable development it is fundamental that the risk from natural hazards is evaluated. To reduce the potential of flooding of future developments and to limit development in flood risk areas the Structure Plan addresses Natural Hazards and more specifically Flooding.

The section relating to Natural Hazards of the Structure Plan, see Appendix B, includes the following proposals:-

### **Proposal NH1      Flood Consultation Areas**

Local Plans will identify areas with a perceptible risk of flooding with assessment of development proposals within these areas for compatibility with flood risk.

### **Proposal NH2      Flood Appraisal Group**

The Council will establish a Flood Appraisal Group to provide a coordinated approach to flood management.

### **Proposal NH3      Integrated Catchment Management Plans**

The Council will support integrated catchment management plans.

The finalised Spey Catchment Management Plan was launched in June 2003. This provides an integrated management plan for the sustainable use of the water resource in the Spey catchment.

## **Local Plans**

The Council will require development proposals, in all but exceptional circumstances, to comply with the latest CIRIA document on the subject of Sustainable Drainage Systems guidance contained in the Sustainable Drainage Systems, namely "The SUDS Manual" 2007. Development proposals will be assessed for any requirement to provide related attenuation measures and where necessary, remedial works associated with existing drainage systems. There will be a strict presumption against development not associated with the open space functions of the "green" corridors adjoining rivers and burns as identified in the Local Plan, to avoid jeopardising their potential for disposal or attenuation of surface water.

## Flood Risk

Development proposals within areas known to be at risk from flooding will be assessed for their sensitivity according to the following hierarchy:

HIGH	(e.g. sheltered housing, hospitals, emergency services, major public venues)
MEDIUM	(e.g. housing development)
LOW	(e.g. golf course, car parks)

There will be a presumption against high sensitivity developments unless an exceptional need can be demonstrated. Proposals will be considered high risk if they pose an unacceptable threat to public safety, may cause pollution if flooded or may give rise to inordinate public expenditure on flood prevention works. The costs of providing necessary flood prevention works as a result of proposals will be met by developers whether on or off site and regardless of the level of sensitivity.

Medium and low sensitivity developments will be assessed against the following criteria:

Developers must demonstrate that any new building can be adequately protected from flooding and, where appropriate, remedial measures to alleviate the flood risk have been taken.

Evidence is provided that there is no adverse impact on the natural characteristics of the watercourse;

Any such protective/alleviation measures will not involve The Council in inordinate public expenditure.

Developers must employ the use of best management practices in the disposal of surface water runoff.

Layout and building design must take account of the need to ensure proper evacuation procedures.

The Council supports preparation of Integrated Catchment Management Plans for the main rivers in the Plan area. This will enable flood appraisal and management in the context of wider development and land use activities. The establishment of a Flood Liaison and Appraisal Group involving partner agencies and other interests, facilitates a coordinated approach to projects and programmes, and advises on river-related works which do not require planning permission, consistent with Scottish Planning Policy 7.

## **Highland Flood Liaison and Appraisal Group**

Highland Flood Liaison and Advisory Group (FLAG) was set up in November 2002 and is an informal and advisory group tasked with promoting sustainable flood management for the whole of the Highland Council administrative area.

Highland FLAG is convened by the Council and meets on an occasional basis. A variety of people, from several different organisations, attend the group. These include planners, emergency planners and engineers from Highland Council, representatives from SEPA, SNH and Scottish Water and also an insurance representative.

The FLAG has been set up in order to obtain information on flood risk areas to be used in such things as formulating planning policies and advising on planning applications and land allocations. The group will also contribute to a range of other work including Catchment Management Planning, Sustainable Drainage Systems and other Building Control Matters

The Remit for the Flood Liaison and Appraisal Group is:-

- To assist and promote sustainable flood management over the whole of The Highland Council administrative area.
- To obtain information on flood risk areas and to prepare maps for inclusion in both Emergency and Local Plans.
- To assist with the formulation of planning policy in relation to flooding issues with a view to preparation of a Guidance Note.
- To advise on significant planning applications, development briefs and proposed land allocations within or affecting areas of flood risk.
- To advise on proposals for flood prevention and alleviation works to make recommendations with regard to the desirability of such works.
- To seek ways of enhancing flood warning systems for example, by promotion of the use of Automatic Voice Messaging Systems.
- To identify, support or commission research into flood related matters.
- To provide a forum for reaching an integrated view on flood risk and its consequences, including coastal erosion and inundation.
- To contribute to the biennial preparation of the report under the Flood Prevention and Land Drainage (Scotland) Act 1997.
- To contribute to any other relevant work, including Catchment Management Planning, Sustainable Drainage Systems and any relevant Building Control matters.
- To set an annual work programme for actions.

For further information on Highland FLAG, please contact:

Tim Stott,  
Telephone: (01463) 702 265  
Email: [tim.stott@highland.gov.uk](mailto:tim.stott@highland.gov.uk)

## **Major Flood Prevention Schemes**

In response to known flood risk areas The Highland Council is currently appraising a number of flood prevention/alleviation schemes, for progression of statutory consents and future implementation, subject to the availability of finance. Schemes currently being evaluated are detailed below.

In September 2007 the Council's Transport, Environmental and Community Services Committee approved the progress of Flood Prevention Orders for areas where there is a history of major flooding.

### **Inverness, Nairn, Badenoch & Strathspey**

#### **River Ness**

Properties adjacent to the River Ness have been affected by flooding for a number of years and Mott Macdonald, specialist civil engineering consultants, were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. This feasibility study is now complete, the Flood Prevention Order which permits construction has been approved and planning approval is being sought.

#### **River Lochy and Caol**

Caol and Lochyside near Fort William has been the subject of increased and more frequent flooding in recent years. The flooding arises from both flood water in the River Lochy and tidal surge in Loch Linnhe combined to give an increased level of flooding in the adjacent residential areas. Scott Wilson, Scotland Ltd were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. The feasibility study is complete, and the next stage in the process is to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken. Consultants are studying tidal surges and an investigation is being undertaken to see if it is possible to give tide surge warnings.

#### **Dell Burn**

The Dell Burn in Inverness has a history of flooding; impacting on local residential properties. The frequency of this flooding appears to have increased in recent years. Mouchel Parkman Consultants were appointed to carry out a feasibility study into potential flood mitigation measures in the area of Dell Burn. The feasibility study is now complete. It is proposed to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken.

## **Millburn**

The Millburn has been the subject of increased flooding in recent years which has impacted on adjacent residential housing, commercial property and Millburn Academy. The Millburn is a small steep catchment which has seen high intensity rainfall with increased frequency in recent years, a common feature of global warming and climate change throughout the UK. Mouchel Parkman were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. The feasibility study is now complete, and the next stage in the process is to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken.

## **Inverness South West Flood Relief Channel**

There has been a history of flooding which has affected properties in the Lochardil area of Inverness. The flood risk will be reduced by the construction of a relief channel which will intercept and divert excess water in the burns during flood conditions. A Flood Prevention Scheme was published in July 2006. The Flood Prevention Order is approved and has been confirmed along with the relevant planning approval. It is anticipated that construction works will be undertaken in 2010.

## **Ross, Skye & Lochaber**

### **Acharacle Flood Prevention**

Recommendations were approved for the development of an alternative solution to the flooding at Moss Road, Acharacle. The current proposal to reduce the risk of flooding at Acharacle, which involves lowering the level of Loch Shiel during times of flooding and increasing the flow in the River Shiel, is no longer pursued due to the difficulties in resolving environmental issues. As an alternative to the original proposal, the development of a scheme to raise the level of Moss Road to ensure access is maintained during periods of flooding

## **Caithness, Sutherland & Easter Ross**

### **Wick Harbour River Piers**

The Council are currently reassessing the economic study undertaken for the previous improvements of the river piers so that the Scottish Government will be enabled to approve the construction of the final phase of the improvements to the piers to ensure their long term viability.

## Minor Flood Prevention Measures

### Ross, Skye & Lochaber

#### 1. Precautionary Measurers Undertaken

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

#### **NORTH & TOWN AREA**

- A82 Caledonian Hotel, Achintore Road
- A830 Duncan MacDougals, Corpach (2 No.)
- A830 Treasurers of the Earth, Corpach (2 No.)
- A830 Opposite Hillview Drive, Corpach
- A830 Opposite Banavie School
- A830 Craignish, Corpach
- A830 Drumbuie, Corpach
- "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
- 2 Seafield Gardens, Fort William
- Corpach Kilmallie Cemetery
- Caol Service Road (adj to Canal)
- Caol BMX Track area
- Caol Foreshore Outfall pipes
- Invergarry – Garry Crescent
- Invergarry – School (Culvert)

#### **SOUTH – MONTHLY INSPECTIONS**

- Glencoe Village
- Oldtown, North Ballachulish

#### **BALLACHULISH**

- Argyll Cottages
- West Laroch Play Park
- St Brides School
- 36a West Laroch
- Tourist Information Office
- MacColl Terrace
- Between Lyn Leven guest house and Buckie Breer

## KINLOCHLEVEN

- Lovat Road
- Garbhein Crescent
- Brown Terrace
- Wades Road
- Foyers Road

## 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**
  - There is a potential for more flooding when high tide combines with flood flows in River Lochy, resulting in flooding of adjacent roads and properties in a highly populated area.
- **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.
- **Garry Crescent, Invergarry** – **Drains at the rear, system currently under investigation. Surface water problems.**
- **Invergarry** – **Primary School Culvert, system currently under investigation.**

## 2. Minor Flood Prevention Measures – Programmed for 2009/10

Precautionary measures as above

- The Birches, Achintore – Pipe size upgrade
- Bank Street, Fort William – Pipe system survey
- Invergarry Primary School – Pipe size upgrade
- Tomonie, Fort William – Contribution to drainage solution
- Garry Crescent, Invergarry – Relocate 1 gully and install 1-2 additional gullies and new pipe for discharging the surface water.

## **Inverness, Nairn, Badenoch & Strathspey**

Gynack Burn, Kingussie - Debris clearing works carried out to Gynack Burn from A86 High Street Bridge to Gynack Burn/River Spey confluence. These works were carried out during January/February 2008 following spate conditions in the Gynack Burn on Friday 25<sup>th</sup> January 2008. These works were carried out under the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR Reference Number: CAR/L/1018654).

## **Caithness, Sutherland & Easter Ross**

### **Evelix**

Minor drainage improvements an flood relief drainage were implemented in the vicinity of Evelix and Camore in 2009.

### **Evanton**

Drainage improvements and repairs are in progress in the vicinity of Swordale Road in Evanton.

### **Watten Bridge Invert**

Following the Oct 2006 floods one of the inverts was completely washed away exposing and undermining the masonry pier. The 1.7m deep scour hole was flooded in concrete and a new apron formed. Additional the overflow channel was cleared of silt and vegetation. The work was undertaken by John Gunn & Son Ltd for £35,000.

### **Dunnet Drainage Improvements**

Improvements to the road drainage system were undertaken by the DLO to prevent flooding to two houses. This include excavating ditches, renewing existing pipes. Cost of works was approximately £40,000.

### **Broubster Drainage Improvements**

Following the Sep 09 flooding the Brawlin to Shurerry Road was flooded due to road water not discharging to the tailway. The DLO cleared the tailway at minimal costs.

### **Camilla St Drainage, Halkirk**

Over the years, residential development outstripped Camilla Street's ability to deal with the increased run off. This resulted in one property being flooded on a regular basis. The DLO installed new gullies and carrier drains to allow the road surface water to outfall to an existing water course. Cost of works was £70,000

### **B876 Bower Culvert**

The existing Bower culvert was responsible for flooding both the B876 and two adjacent houses. One house was under severe threat of repeated flooding. The existing masonry 450mm square B876 Bower Culvert was replaced with a 600 mm & 450 mm dia twin walled upvc pipes surrounded in C40 concrete. Downstream of the B876 the existing culvert which extended some distance was replaced with an open

watercourse to improve flow and aid inspection. The works were undertaken the DLO for £10,000.

## **Measures Taken to Prevent or Mitigate the Flooding of Non Agricultural Land Since November 2007**

### **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.

A thorough review of the requirements of the 'Act' was undertaken by The Highland Council, to ensure both compliance with the Act and also ensure a consistent approach to implementation by the Area Roads & Community Works Managers.

National guidance for the format of the biennial report 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.

### **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 and internet Helpline, where members of the public can telephone or visit the SEPA website 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

"Floodline" can also be accessed on-line at the SEPA website [www.sepa.org.uk](http://www.sepa.org.uk)

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

## **Flood Alleviation Maintenance Works**

The Highland Council is divided into 3 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 gulley 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**

### **Ross, Skye & Lochaber**

#### **Measures Taken For Flood Prevention since October 2007**

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

- Glasdrum, Fort William – Flood prevention improvements
- B849 Tigh Beagh – Flood prevention improvements
- Hillside Estate, Fort William – Inlet improvements
- Glencoe Village(Police Station) – Installed additional culvert in addition to existing.

## **APPENDIX A**

### **ROADS AND TRANSPORT FLOOD PREVENTION POLICY**



## ROADS AND TRANSPORT COMMITTEE

### FLOOD PREVENTION POLICY

The Council's general policy on Flood Prevention Maintenance and assessment was agreed at the Roads and Transport Services Committee of 11/06/97.

The general policy is as follows:-

#### 1. Assessment

- 1.1 It is proposed that formal assessments are carried out by a member of staff in Network Management with close involvement of Area staff. These assessments will be prioritised as follows:-
  - a Know areas of flooding
  - b Urban areas, in order of size of population and possible risk of flooding
  - c Rural areas, in order of possible risk of flooding
- 1.2 The assessments shall be carried out when resources permit. Given the magnitude of the task the requirement to carry out the assessments "from time to time" is likely to lead to the intervals between assessments to be several years. It is also unlikely that all the watercourses that require to be assessed will be completed in less than 3 years.
- 1.3 SEPA have responsibilities to also carry out formal assessments. Co-operation between the Council and SEPA will be instigated to reduce duplication of effect.

#### 2 Works

- 2.1 Where the need for work is identified by the assessment process then the works will be carried out in order of priority within available resources. Prioritisation will consider the following:-
  - a Where there is risk to life.
  - b Where there is risk to property which shall be prioritised in the order of residential premises; commercial premises; residential land; commercial land.
  - c Areas of denser population will be given higher priority than single residences.

- 2.2 The prioritisation will take into account the frequency of the risk. Flood frequencies are expressed in terms of statistical return periods which are expressed in terms of 1 in 5 years, 1 in 20 years return periods, etc. These indicate that a 1 in 20 year flood is likely to occur, once during a 20 year period.

However with all statistical analysis the actual occurrence of flooding may be more or less frequent than the prediction. There is also no method of predicting when a 1 in 20 year flood may occur - the lower the return period, the higher the risk of flooding.

- 2.3 The prioritisation will take into account the possible magnitude of the effects of a flood event.
- 2.4 Works will be carried out when resources are available.

### 3 **Formal Flood Prevention Schemes**

Where the assessment identifies a potential problem which will not be alleviated solely by works under Section 2 of 'The Flood Prevention (Scotland) Act 1961', but would be alleviated by a formal flood prevention scheme, the feasibility of such a scheme will be investigated with a view to considering such a scheme in the Service capital Expenditure Plan.

### 4 **Review**

- 4.1 In consideration that these are new duties imposed on the Council, it is proposed to review this strategy at suitable intervals as necessary.

At the meeting of the Roads and Transport Services Committee on 27/08/97, the minutes of the Roads and Transport Strategy Group of 19/06/97 were agreed which included the following policy:-

- Procure flood prevention works only for residential properties and public roads.
- Allocate capital and revenue funds to flood prevention schemes within the budget constraints imposed on the Service, along with adequate resources to procure schemes within the required timescale, taking into account the Statutory requirements.
- Maintain flood prevention schemes constructed by The Highland Council or the previous authority, but not those constructed by other parties except where failure to do so would threaten property.
- Make discretionary contributions to flood prevention works procured by others as deemed appropriate in order to procure flood prevention works.

- Those parties promoting Flood Prevention schemes be informed of the Council's inability to fund their schemes in view of the restricted availability of capital expenditure and the schemes already programmed in order that alternative funds could be investigated by them.

## **APPENDIX B**

### **EXTRACT FROM THE HIGHLAND COUNCIL STRUCTURE PLAN NATURAL HAZARDS**

## 2.19 NATURAL HAZARDS

2.19.1 In creating the infrastructure for Highland communities, it is essential that full regard is taken of the constraints that exist because of natural hazards. This is a fundamental component of sustainable development, because insufficient attention to natural hazards at the outset can require considerable remedial expenditure in the future. There may also be difficulty in reconciling remedial action with the quality of the natural environment. Some natural hazards have increased in prominence as a result of the consequences of global warming. The issue relates strongly to the strategic themes of proactively planning for Highland's natural environment and of providing for quality living environments.

### Flooding

2.19.2 Combinations of high rainfall, snow melt, high tides and "storm surges" can lead to serious flood occurrences at lower-lying, near-coastal locations. Localised flooding can occur after periods of very heavy rainfall, abetted perhaps by river defence works upstream or the limited capacity of culverts and drainage infrastructure. Recent years have seen flood incidents on, for example, the Rivers Spey, Ness and Kerry. Given the geography of Highland and its land use pattern, The Council believes flooding to be a localised issue, and so the over-riding strategic approach is included within Strategic Policy G2.

2.19.3 Flood consultation areas will be indicated in Local Plans. One source of information can be 1:50,000 scale flood frequency maps prepared for the Scottish Environment Protection Agency, based on current hydrological datasets. Within such areas, development should be assessed for its compatibility with the flood risk in terms, for example, of its permanency of occupation, associated flood alleviation measures, and consequences for downstream flows/flow back-up.

### Proposal NH1 Flood consultation areas

Local Plans will identify areas with a perceptible risk of flooding. Within these areas, all development proposals will be assessed for their compatibility with the flood risk and with the flow character of the watercourse.

2.19.4 The Council has statutory responsibilities in respect of flood protection for non-agricultural land. Flood Appraisal Groups have been set up elsewhere in Scotland where flooding is a major issue and a co-ordinated integrated approach is essential. Whilst the problem is not so acute and concentrated in Highland, the anticipated scale of future development in the Inverness area lends The Council to believe that such a Group for this area may be prudent.



### INFRASTRUCTURE

#### Policy Links

- GENERAL STRATEGIC POLICIES
- INTEGRATED RURAL DEVELOPMENT

#### COMMUNITY

- HOUSING
- RETAILING
- SERVICES AND FACILITIES
- SPORT AND RECREATION

#### ECONOMY

- BUSINESS AND INDUSTRY
- TOURISM
- AGRICULTURE AND CROFTING
- FISHERIES AND AQUACULTURE
- FORESTRY
- MINERALS AND PEAT
- ENERGY PRODUCTION

#### ENVIRONMENT

- NATURE CONSERVATION
- LANDSCAPE
- BUILT AND CULTURAL HERITAGE

#### INFRASTRUCTURE

- TRANSPORT & COMMUNICATIONS
- WASTE
- UTILITIES
- NATURAL HAZARDS



## PART TWO: THE POLICIES

## NATURAL HAZARDS

### **Proposal NH2 Flood Appraisal Group**

The Council will establish a Flood Appraisal Group, in partnership with key agencies, to provide a co-ordinated approach to flood management and inform Local Plans. This will focus initially within the Inverness area.

2.19.5 Flooding will be one issue covered within Integrated Catchment Management Plans. The Council will support the production and implementation of these strategies (see Policy RD1). In view of the impending designation of the Rivers Spey and Kerry as Special Areas of Conservation under the EU Habitats Directive, the catchments of these rivers should be a priority for integrated strategies. The Council would expect central funding to be made available to facilitate this.

### **Policy NH3 Integrated Catchment Management Plans**

The Council will support the production of Integrated Catchment Management Plans, to include flood management. In view of the prospect of securing EU assistance for preparation, past flood events and the implications of Natura 2000 designation, The Council will support early work on the Rivers Spey and Kerry.

#### **Coastal erosion**

2.19.6 The future threat of rising sea levels has increased concern generally regarding coastal erosion where shorelines are low-lying and formed of soft material. There is much uncertainty over this issue, partly in view of the counter-acting force of isostatic rising of land for Scotland as a whole. Broad advice in Government guidance is that natural processes should be allowed to proceed, since eroded materials may form natural offshore defence mechanisms in the longer term. Coastal defence works may, however, be necessary where the economic and social consequences of inundation would be unacceptable.

2.19.7 On a strategic basis, the shoreline of the Inner Moray Firth area around the Beauly, Cromarty and Dornoch Firths has tentatively been identified as at risk from sea level rising (Natural Environment Research Council Report, 1989). Strategic Policy G2, therefore, allows for consideration of resisting developments in coastal zones where the implications in respect of coastal erosion would be unacceptable. This may be either because of future hazard to the development itself, or because development would inhibit the natural opportunity for landward materials to migrate offshore for natural defence purposes.

2.19.8 Detailed work in respect of Nairn and Burghead to the Souters Gap has already been carried out with the preparation of Shoreline Management Plans. Continued monitoring of the situation is recommended to determine appropriate action. The Moray Firth Partnership and the Cromarty Firth Liaison Group provide vehicles for discussion on appropriate measures.

### **Policy NH4 Coastal erosion**

The Council will work with the Moray Firth Partnership and the Cromarty Firth Liaison Group to ensure that coastal management along the Inner Moray Firth is sustainable bearing in mind climate change, particularly the increased incidence of storm damage.

#### **Land instability**

2.19.9 Development proposals on steeply sloping land not only face the possible risk of future slope failure, but also the costs of relevant servicing (particularly roads) tends to be high. For these reasons, as a general rule of thumb, land of more than 1 in 7 gradient is not regarded as appropriate for development. Development proposals on ground steeper than this should be accompanied by engineering reports.

#### **Proposal NH5 Land instability**

Local Plans will identify land slopes of greater than 1 in 7 gradient within settlement areas, within which Strategic Policy G2 will apply.

#### **Radon gas**

2.19.10 Radon is a radioactive gas which occurs naturally in low-concentration uranium within general rocks and soils. Some level of radon is found everywhere, but in certain areas it is released in greater volumes. Inside homes and other buildings the gas can accumulate and become a health risk. The Government advises that when recorded levels exceed 200 becquerels per cubic metre of air, the exposure to the gas should be reduced.

2.19.11 While this level can be exceeded in any building wherever located, householder measurements to date have indicated that a particular concentration occurs in South East Sutherland and South East Caithness. These areas have been designated as a "Radon Affected Area", where radon measurements are particularly recommended. Existing and new buildings can reduce internal exposure to the gas by the installation of an extractor sump or enhanced methods of ventilation.

#### **Policy NH6 Radon gas**

Local Plans should identify designated Radon Affected Areas. Within these areas, proposed occupied buildings should incorporate provision for reduction of exposure to the gas.

## **APPENDIX C**

### **WATERCOURSE REFERENCE SCHEDULES & ASSESSMENT CHECK CHART EXAMPLES**

**WATERCOURSE REFERENCE SCHEDULE**

(To be reviewed and updated as required)

**AREA: INVERNESS**

Reference No.	Watercourse	Location	Origin Ref.	Grid	Outfall Ref.	Grid	Priority	Comments	Date File Opened
I/1	River Ness	Weirs at Dochfour to Moray Firth	2612 8395		2660 8470		3	Known flooding at Ness Bank. High river levels and high tides known to cause flooding at Douglas Row.	Ongoing
I/2	Holm Burn	Loch Ashie to River Ness	2638 8359		2644 8422		2	Propping of Holm Bridge on the B862 has been modified and is now less susceptible to flooding.	July 2001 Photographs only
I/3	Lochardil Burn	Balmore of Leys to Lodge Road, Inverness	2668 8406		2679 8432		1	Flooding of 5 houses several times in last four years, Drumdevan Road.	May 2001 Photographs only
I/4	Slackbuie	Lower Slackbuie to 11 Green Drive, Inverness	2672 8421		2669 8428		1	2 houses flooded opposite Green Drive.	July 2001 Photographs only
I/5	Ault na skiah	East of Leys castle to River Ness	2687 8412		2665 8441		1	Known flooding of 12 Lodge Road.	July 2001 Photographs only
I/6	Druid Burn	Druid Temple to 20 Heather Road, Inverness	2688 8421		2680 8437		1	Flooding of Sir Walter Scott Drive/Old Edinburgh roundabout due to culvert blockages.	July 2001 Photographs only
I/7	Mill Burn West	Parks to rear of 28 Grebe Avenue, Inverness	2690 8426		2680 8436		1	Known flooding to several houses once in last 6 years.	July 2001 Photographs only
I/8	Mill Burn	Milton of Leys to Moray Firth	2698 8418		2684 8459		1	Houses at end of Dirieburgh Road flooded several times over the years.	July 2001 Photographs only
I/9	Dell Burn	Inshes Smallholdings to A9	2695 8434		2688 8454		3	Major realignment at A9/Raigmore in 2003 after September 2002 heavy flooding	Ongoing: 2005 to 2009 Photographs, Observations, Reports

Reference No.	Watercourse	Location	Origin Ref.	Grid	Outfall Ref.	Grid Ref.	Priority	Comments	Date File Opened
I/10	Scretan Burn	Woodlands Place to Cradlehall Farm Drive	27035 84387	26984 84475	3		Ongoing inspection and maintenance	2004: Last inspected July '09 *	
I/11	Muckovie Burn	Culloden Road at Cradlehall Park to Caulfield Road North	27072 84429	27043 84492	3		Ongoing inspection and maintenance	2004: Last inspected July '09 *	
I/12	Tower Burn	Culloden Road at the Tower to Cranmore Drive , Smithton	27148 84423	27082 84542	3		Ongoing inspection and maintenance - upgraded in 2007/2008	2004: Last inspected July '09 *	
I/13	Smithton Burn	Woodside of Culloden to Keppoch Road	27213 84441	27144 84598	3		Ongoing inspection and maintenance/upgrade	2004: Last inspected July '09 *	
I/14	Culloden Burn North	Keppoch Road to Milton of Culloden Smallholdings	27165 84655	27116 84687	3		Ongoing inspection and maintenance	2004: Last inspected July '09 *	
I/15	Culloden Burn West	Culloden Wood to Keppoch Road	27218 84563	27165 84653	3		Ongoing inspection and maintenance	2004: Last inspected July '09 *	
I/16	Culloden Burn South	Culloden Wood to Keppoch Road	27271 84596	27166 84654	3		Ongoing inspection and maintenance – part upgraded in 2004	2004: Last inspected July '09 *	
I/17	Culloden Burn East	Moraypark Gardens to Keppoch Road	27266 84611	27180 84665	3		Ongoing inspection and maintenance	2004: Last inspected July '09 *	
I/18	Fiddler's Burn	Torris Road to Barn Church Road, Balloch	27336 84673	27294 84729	3		Ongoing inspection and maintenance - upgraded in 2004	2004: Last inspected July '09 *	

**\*Photographs/observations**

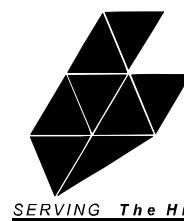
**ROUTINE FLOOD ASSESSMENT CHECK CHART**

Watercourse Ref	Watercourse	Assessment Requirement	YEAR: 2001												
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
C1	Dunbeath Water Portormin Rd	Biennial													
C2A	Wick River Safeway Car Park	Annual													
C2B	Wick River Distillery Lade	Annual													
C3	Castletown East (Unknown)	Biennial													
C4	Castletown West (Unknown)	Biennial													
C5A	Thurso River (Thurso)	Annual													
C5B	Thurso River (Gerston)	Biennial													
C5C	Thurso River (Braal)	Biennial													
<b>Key: Assessment due and date:</b>					<b>Assessment complete</b>										
Assessment due and date:															

**Note:** All assessment records shall be filed in the appropriate Watercourse Reference File.

## **APPENDIX D**

### **ASSESSMENT EXAMPLE**



**The  
Highland  
Council**

Comhairle na  
Gaidhealtachd

## WATERCOURSE ASSESSMENT RECORD

Watercourse:	Wick River
Watercourse Ref:	C2B Pulteney Distillery Lade
Section under assessment:	
From:	3195,9677
To:	3202, 9682
Date:	5 October 2001
Assessment Officer:	I Moncrieff
Reason for Assessment:	Annual inspection
Observations: (Note this to include comment on all:- a Structures/culverts b Debris/Location/Nature c Vegetation Growth)	<p>The lade appears heavily overgrown with vegetation. The stilling pond upstream is overgrown and the outfall sluice gate has collapsed. However, the burn does flow past the remains of the gate freely.</p> <p>The culvert beneath Roxburgh Road is approx. running 50% full after heavy rain (although heavy it wasn't considered to be the annual rain fall event).</p> <p>Screen at the distillery is free of debris.</p>
Recommendations:	Lade should be monitored closely. Any works will need permission of distillery as they abstract water.

## APPENDIX E

### **REPORTED FLOODING OCCURRENCES NOVEMBER 2007 TO NOVEMBER 2009**

(Note the following is a summary of the information collated for each flooding incident)

**Caithness, Sutherland & Easter Ross**

<b>Date</b>	10/11/2007
<b>Location</b>	U224 at Oykel Bailey Bridge
<b>Description</b>	River Oykel in spate flooding up and over Strath Oykel road
<b>Work Undertaken</b>	Closed road with flooding signs
<b>Work Required</b>	None
<b>History of flooding?</b>	Yes

<b>Date</b>	10/01/2008
<b>Location</b>	213 Lednabirichen
<b>Description</b>	Pipe watercourse blocked. Water burst to surface and ran into 213. Water reported in underbuilding. Vents blocked by sandbags to prevent damage.
<b>Work Undertaken</b>	Sandbags delivered to property owner
<b>Work Required</b>	Piped watercourse should be opened up to open ditch; driveway has been realigned to cross watercourse causing problem.
<b>History of flooding?</b>	No. Advised householder to open up ditch to prevent recurrence.

<b>Date</b>	10/01/2008
<b>Location</b>	Rheguile
<b>Description</b>	Pond over-topped and flooded the road to depth of 450mm – 2 householders unable to get vehicles out other than 4X4s.
<b>Work Undertaken</b>	Unable to access outfall due to depth of water.
<b>Work Required</b>	Investigate after flood waters recede
<b>History of flooding?</b>	Yes

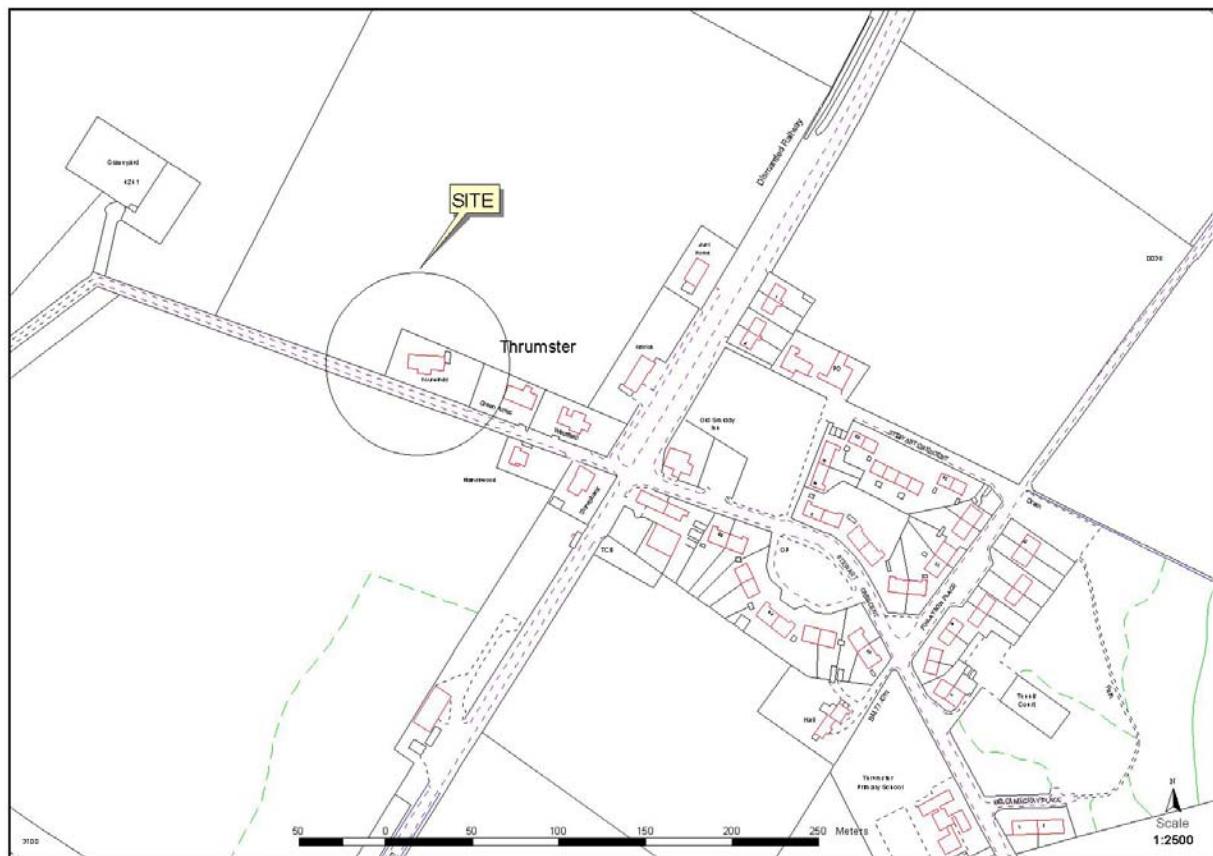
**Caithness, Sutherland & Easter Ross**

<b>Date</b>	14/01/2008
<b>Location</b>	Rheguile
<b>Description</b>	Pond over-topped again and flooded the road to depth of 450mm – 2 householders unable to get vehicles out other than 4X4s.
<b>Work Undertaken</b>	Unable to access outfall due to depth of water due to further rain
<b>Work Required</b>	Investigate after flood waters recede
<b>History of flooding?</b>	Yes

<b>Date</b>	19/11/2008
<b>Location</b>	River Oykell
<b>Description</b>	High river levels over-topped banks flooding road U224 – road closed
<b>Work Undertaken</b>	Road closed
<b>Work Required</b>	Monitor
<b>History of flooding?</b>	Yes – regular occurrence

**FLOODING INCIDENT REPORT****RECORDING FORM: (Mark all applicable options)**

Location of Flood:	Fourwinds, Cemetery road, Thrumster
Water Course Name/Ref:	Surface water drain
Grid Reference:	333569, 945285
Description of Flood:	Water was surcharging from a gully in front of the house and running into the garden. The water was a few inches deep in places. Pieces of tree roots had washed down and blocked the pipe at the gully connection. Stopping water from continuing along drain and causing to surcharge out of the gully.
Date/Time of Start/Duration of Flood:	13 October 2009 11.00am to 15 October 2009 12.00 noon
Threat to People and Properties? (Please give details)	Garden had a few inches of water in it.
Source of Notification: Name: Address: Tel No:	Mr Scott Fourwinds Cemetery Road Thrumster
Works Undertaken: (Please give details)	Rodding and jetting of the a surface water drain.
Works Required:	
Does the site have a history of flooding? (Please give details)	Has had a similar problem in the past. Works were undertaken 2 years ago to remove tree roots growing through joints in the pipes.
Recording Officer: Date Completed:	J S Gunn 15 October 2009
Comments:	



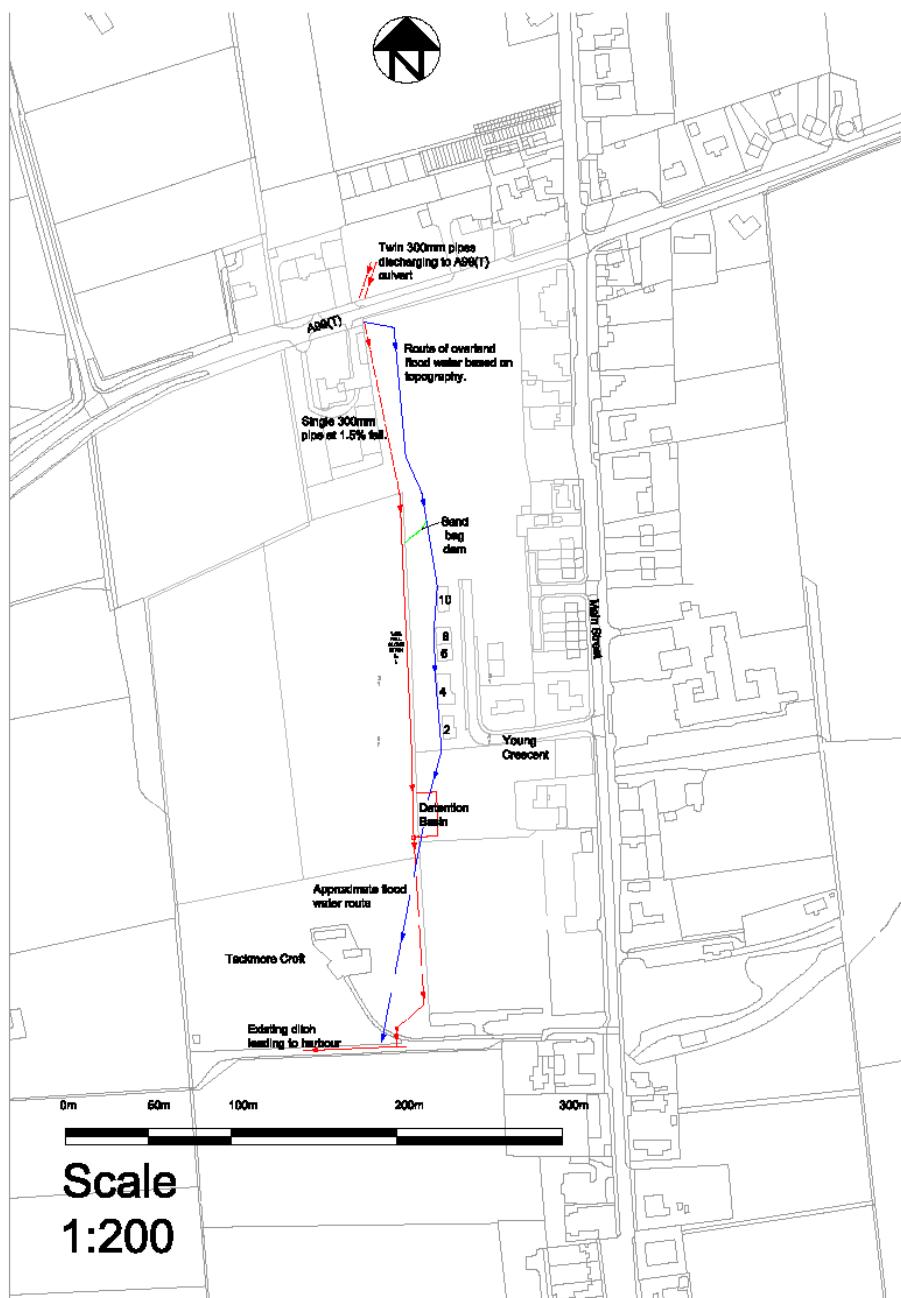
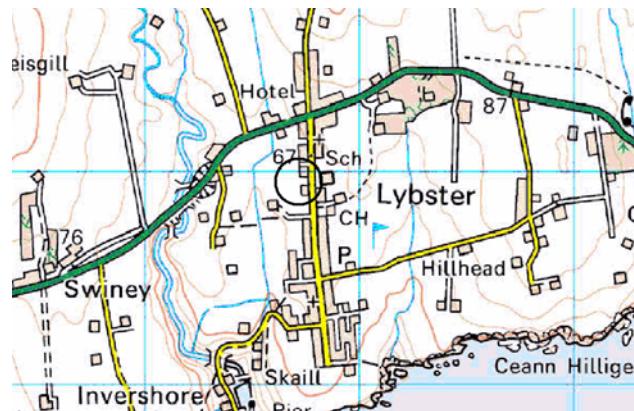


## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Young Crescent, Lybster
Water Course Name/Ref:	Unknown
Grid Reference:	Young Crescent OSGR 324694, 935990 Tackmore Croft OSGR 324619, 935813
Description of Flood:	Approx 300mm ponded water at the back of Nos 2,4, 6 & 8 Young Crescent. House No 2 also flooded with foul water from the sewer to a depth of 50mm.
Date/Time of Start/Duration of Flood:	24 Jul 2009 Flood started approx 1100 & ended 3 hours later
Threat to People and Properties? (Please give details)	<p><b>House No 2</b> Flooding to 50mm above floor level. Foundations flooded to approx 300mm, at floor level. Garden flooded with ponded water to approx 300 – 400 mm depth.</p> <p><b>House Nos 4, 6 &amp; 8</b> Foundations flooded to approx 300mm, just below floor level. Garden flooded with ponded water to approx 300 – 400 mm depth.</p> <p><b>House No 10</b> Flood water flowed over the garden with minimal impact.</p> <p><b>Tackmore Croft</b> Flooding to fields &amp; access track with erosion to track.</p>
Source of Notification: Name: Address: Tel No:	J Hindmarch CWO TECS
Works Undertaken: (Please give details)	Sand bag dam built by TECS on the field to the north of the houses to divert the flood water back into the ditch. Fire Brigade pumped out foundations & gardens. Scotland Transerv cleared the collapsed manhole. Scottish Water removed solids from surcharged sewer manholes.
Works Required:	Replace the existing pipe from the A99 – Young Crescent. Replace the existing pipes from downstream of the houses to tie into the ditch running east to west which is located to the south of Tackmore Croft. Clean out the ditch to the south of Tackmore Croft.

Does the site have a history of flooding? (Please give details)	The site flooded in October 2006 during the widespread flooding. This was later confirmed as a 1 in 50 year event of rainfall over the preceding 10 days.
Recording Officer: Date Completed:	Iain Moncrieff 20 Aug 2009
Comments:	<p>During the Planning Application for this development Mr Spencer &amp; Miss Lucas of Tackmore Croft noted the area was subject to flooding. As a result TECS recommended the solum levels of houses 2,4,6,8 &amp; 10 were to be 1m higher than the adjacent burn. Following a survey it was determined that the floor levels of No 2 &amp; 4 were 0.49m &amp; 0.27m <b>below</b> the adjacent burn. It is considered that the risk of flooding to the foundations would have been reduced if this planning condition had been met.</p> <p>At the planning stage it was considered that the main risk of flooding to the housing development would be from the ditch &amp; not from the 300mm pipe upstream. Raising the floor levels to +1m on top of the adjacent ditch would not have prevented the gardens from ponding or from flooding the detention basin &amp; Tackmore Croft.</p> <p>Based on the Institute of Hydrology's Report No 124 Flood Estimation for Small Catchments, the annual flow from the catchment area was calculated as 0.3 cu m/s. For a return period of 30 years the flow increases to 0.6 cu m/s and 0.9 cu m/s for a 200 year return period. However the 300mm pipe between the A99(T) and Young Crescent will only carry 0.14 cu m/s. The ditch opposite the houses can carry 2.5 cu m/s but the 225mm pipe downstream of the Young Crescent can only carry 0.06 cu m/s. Consequently the 225mm &amp; 300mm pipes will surcharge under the annual flood flow.</p> <p>On the 24 Jul 09, the 300mm pipe surcharged at the manhole at the A99(T). The force of the water caused the partial collapse of the manhole aggravating the situation. Once the manhole surcharged the flood water flowed over land as illustrated, flooding the gardens at the rear of No 2-8 Young Crescent. As the depth of the ponded water increased the flood water entered the house foundations through the air bricks.</p> <p>The flood water continued to flow over land &amp; surcharged the detention basin built as part of the scheme &amp; then continued to flood Tackmore Croft &amp; cause erosion to the track. At the same time the 225mm pipe downstream of the development which accepts water from the ditch &amp; the scheme's detention basin surcharged at the manhole connecting the detention basin to the upstream end of the 225mm pipe. This increased the volume of flood water running over land onto Tackmore Croft.</p> <p>House No 2 at Young Crescent was flooded internally with foul water from the sewer. This occurred as the manhole level at the front of the house is approximately at the same level as the floor. When the Main St sewer surcharged the water backed up into the Young Crescent sewer which then surcharged the manholes at No 2 – 8. However as No 2 is the lowest property the foul water also surcharged out the shower tray drain &amp; flooded the house. This aspect falls out with of TECS remit under the Flood Prevention &amp; Land Drainage (Scotland)Act 1997 &amp; is a matter for Scottish Water to address in more detail.</p>





## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	A99(T) at Clyth & Ulbster
Water Course Name/Ref:	Unknown C21
Grid Reference:	OSGR 332030, 940487
Description of Flood:	The Lybster to Wick road especially in Clyth and Ulbster is really badly flooded and no signs or anything to the flooding.
Date/Time of Start/Duration of Flood:	3 September 2009
Threat to People and Properties? (Please give details)	Road Closed
Source of Notification: Name: Address: Tel No:	Mrs Sheena MacBeath 11 Mowat Place, Main Street Lybster, KW3 6AJ 01593 721509
Works Undertaken: (Please give details)	Passed to Transerv. Road closed
Works Required:	May need ditch to sea cleaned out.
Does the site have a history of flooding? (Please give details)	Flooded in general area – Elm Cottage 02 Oct 01 See Biennial Flood Report No 3 2001. Also Smithy Cottage – date unknown. See Biennial Report No 5 2005 & 20 Oct 06. See Biennial Report No 7.
Recording Officer: Date Completed:	I Moncrieff 16 Sep 09
Comments:	See CC 11436 This property is at risk of further flooding.

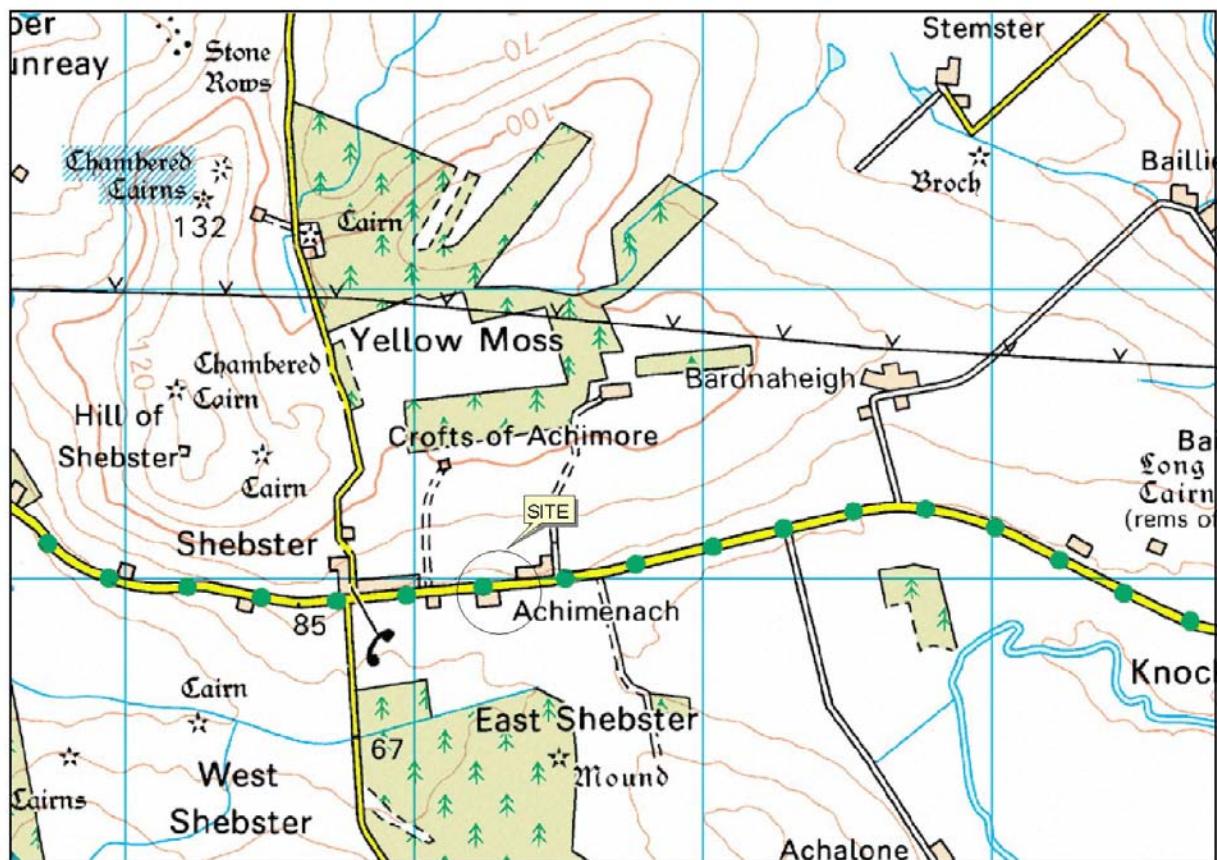




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Achiebeg Farm, Shebster, Reay
Water Course Name/Ref:	Roadside drains
Grid Reference:	302249, 963979
Description of Flood:	Surface water from the road ran into the farm yard and buildings
Date/Time of Start/Duration of Flood:	July 2009
Threat to People and Properties? (Please give details)	Water was running into some of the farm buildings
Source of Notification: Name: Address: Tel No:	Mrs A Oag Brims Mains Thurso KW14 7XU
Works Undertaken: (Please give details)	No works undertaken
Works Required:	Kerbing and verging along frontage of farm yard and replace filter material on roadside drains
Does the site have a history of flooding? (Please give details)	None reported
Recording Officer: Date Completed:	J Gunn 29 July 2009
Comments:	

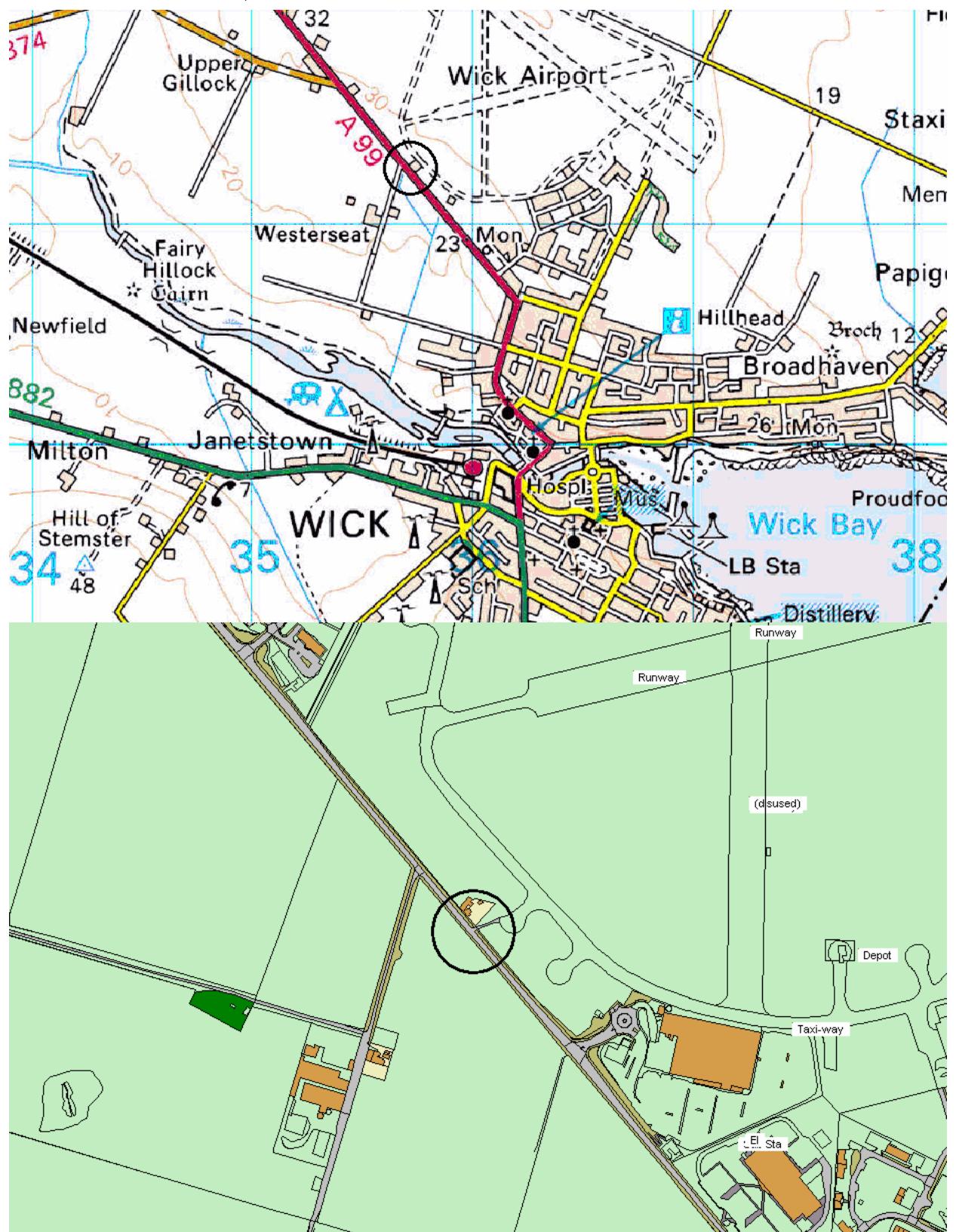




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Aikerness Cottages on A99 off Westerseat Entrance
Water Course Name/Ref:	
Grid Reference:	335749/952203
Description of Flood:	Airport Surface Water Flowing Down Track (SE of Cottages) on to A99 Carriageway
Date/Time of Start/Duration of Flood:	4 September 2009 - 10.30am
Threat to People and Properties? (Please give details)	Affecting Part of the Carriageway Road Users
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	None
Works Required:	.
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	

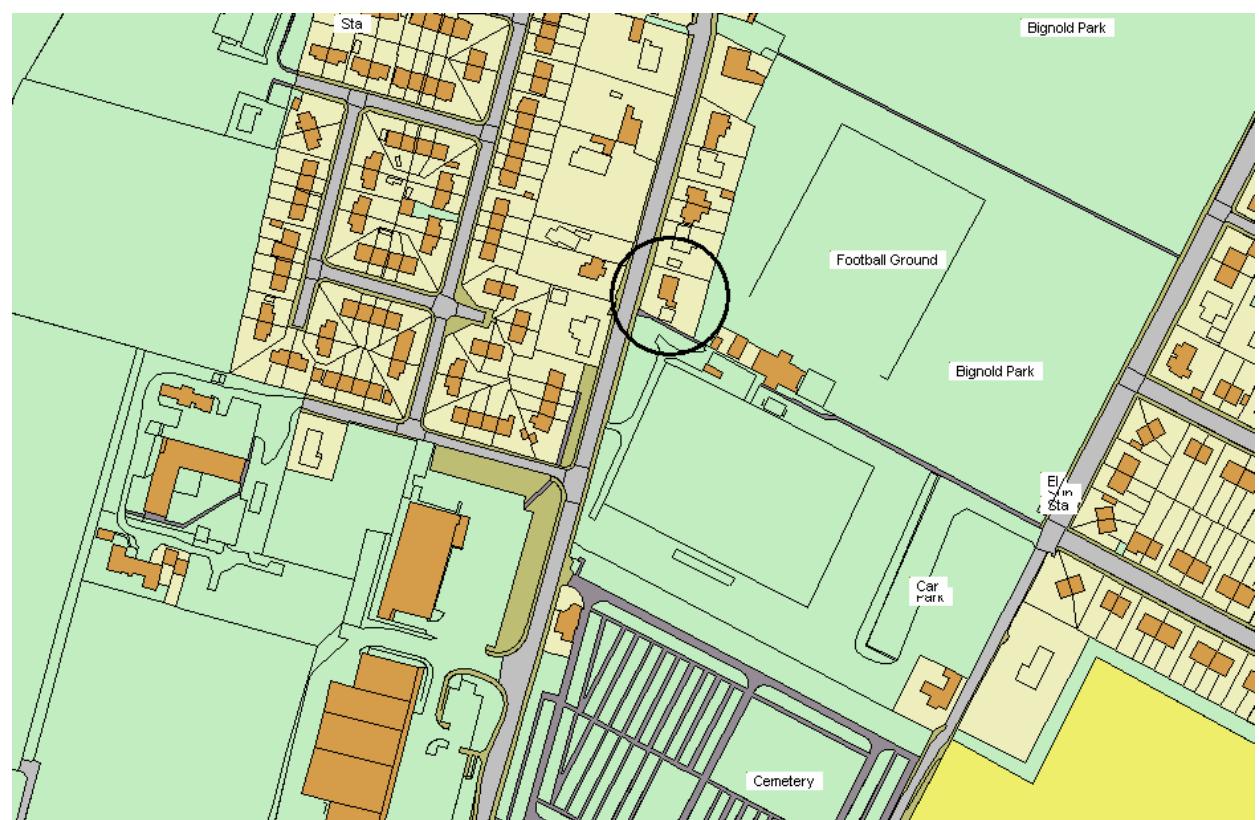
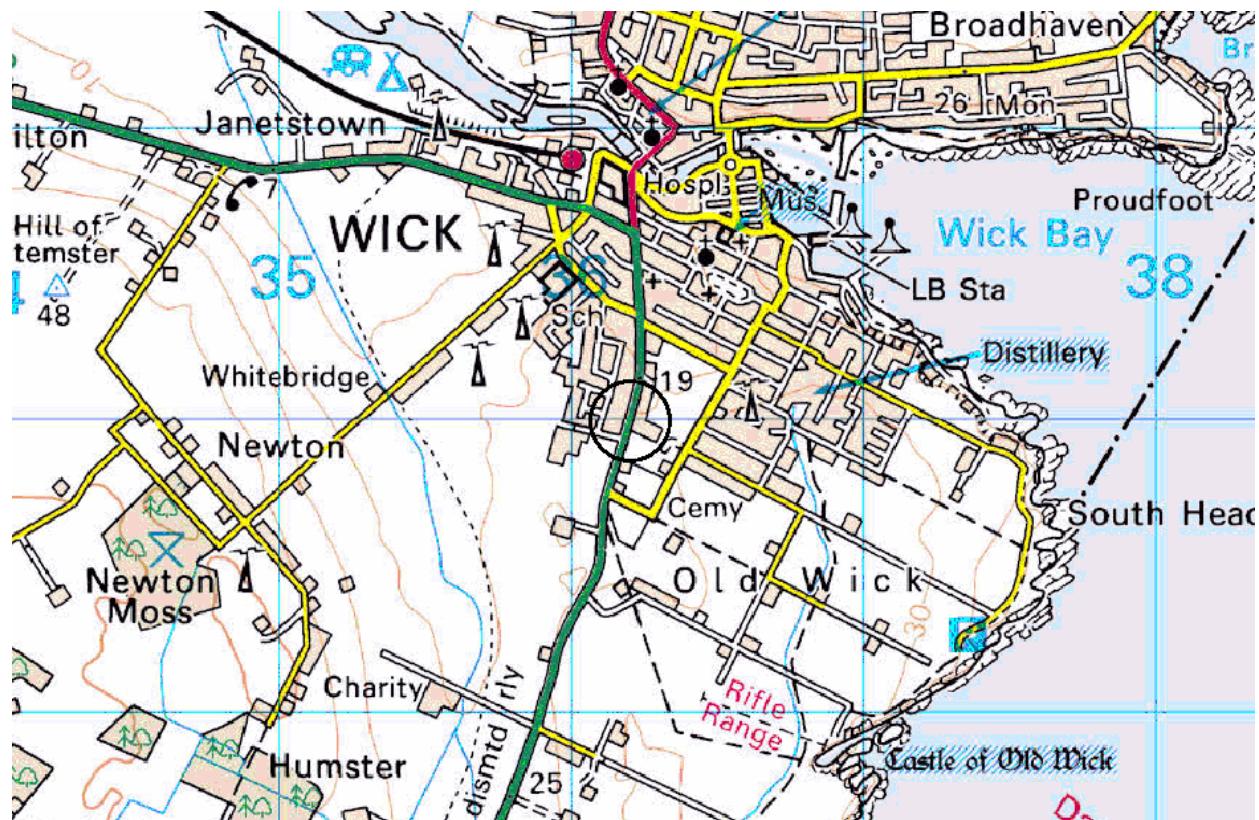




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	B & B Adjacent to Harmsworth Park, Wick
Water Course Name/Ref:	
Grid Reference:	336213/950009
Description of Flood:	Surface Water From A99 due to Burn Bursting its Banks
Date/Time of Start/Duration of Flood:	3 September 2009 – 18.00pm
Threat to People and Properties? (Please give details)	The House
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	Fire Brigade with Pumps
Works Required:	Awaiting Major A99 Drainage Works
Does the site have a history of flooding? (Please give details)	October 2006 and Others
Recording Officer: Date Completed:	
Comments:	



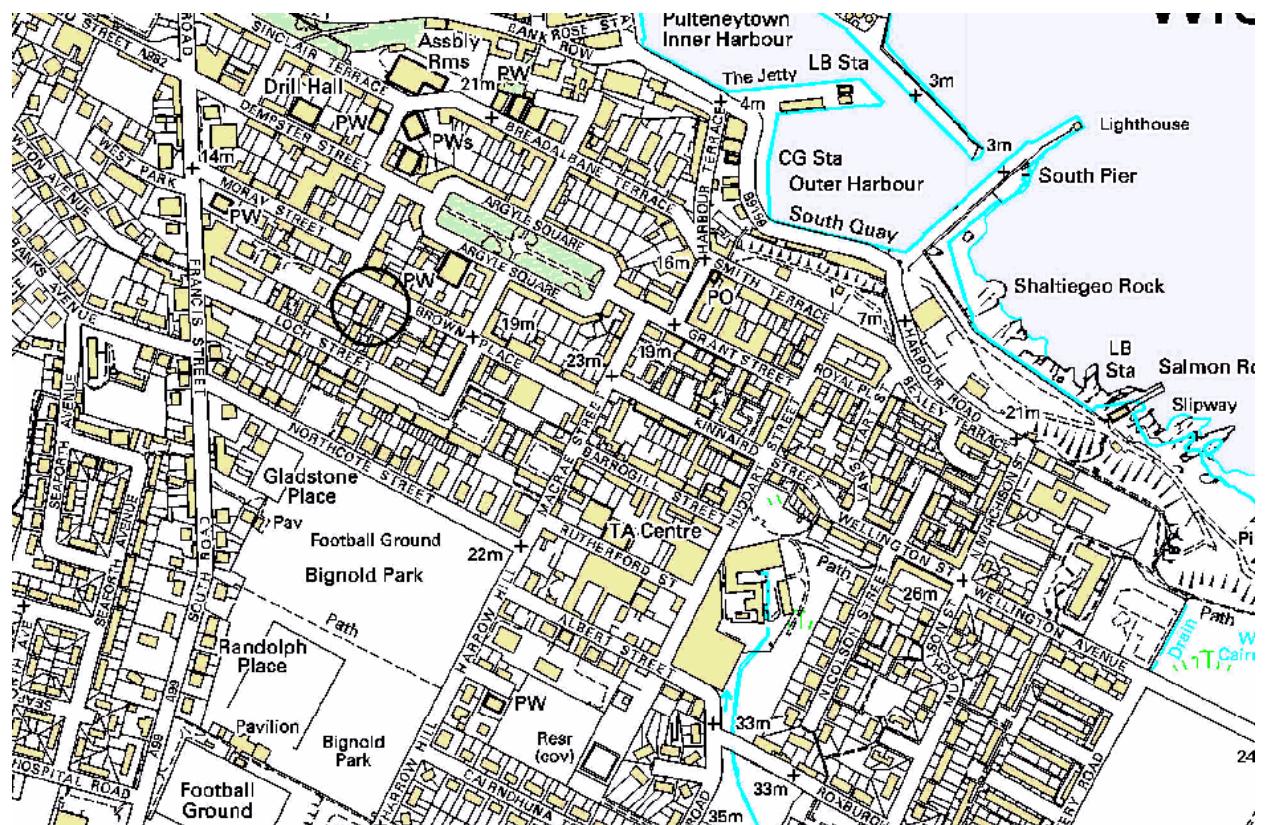


## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	37 Brown Pl, Wick
Water Course Name/Ref:	N/A
Grid Reference:	
Description of Flood:	Footway flooded at above property
Date/Time of Start/Duration of Flood:	3 September 2009
Threat to People and Properties? (Please give details)	Threatening to flood house
Source of Notification: Name: Address: Tel No:	Mrs Taylor 37 Brown Pl Wick 01955 603063
Works Undertaken: (Please give details)	None
Works Required:	Check footway is falling towards kerb.
Does the site have a history of flooding? (Please give details)	No previous records
Recording Officer: Date Completed:	I Moncrieff 16 Sep 09
Comments:	See CC 11435 Surface water gathering on the road and pavements causing great difficulty as the pavement slopes resulting in the water gathering at the doorstep and surrounding area - the water has no channels to go down to drain away basically so it just gathers.

## BIENNIAL REPORT No. 7, November 2009

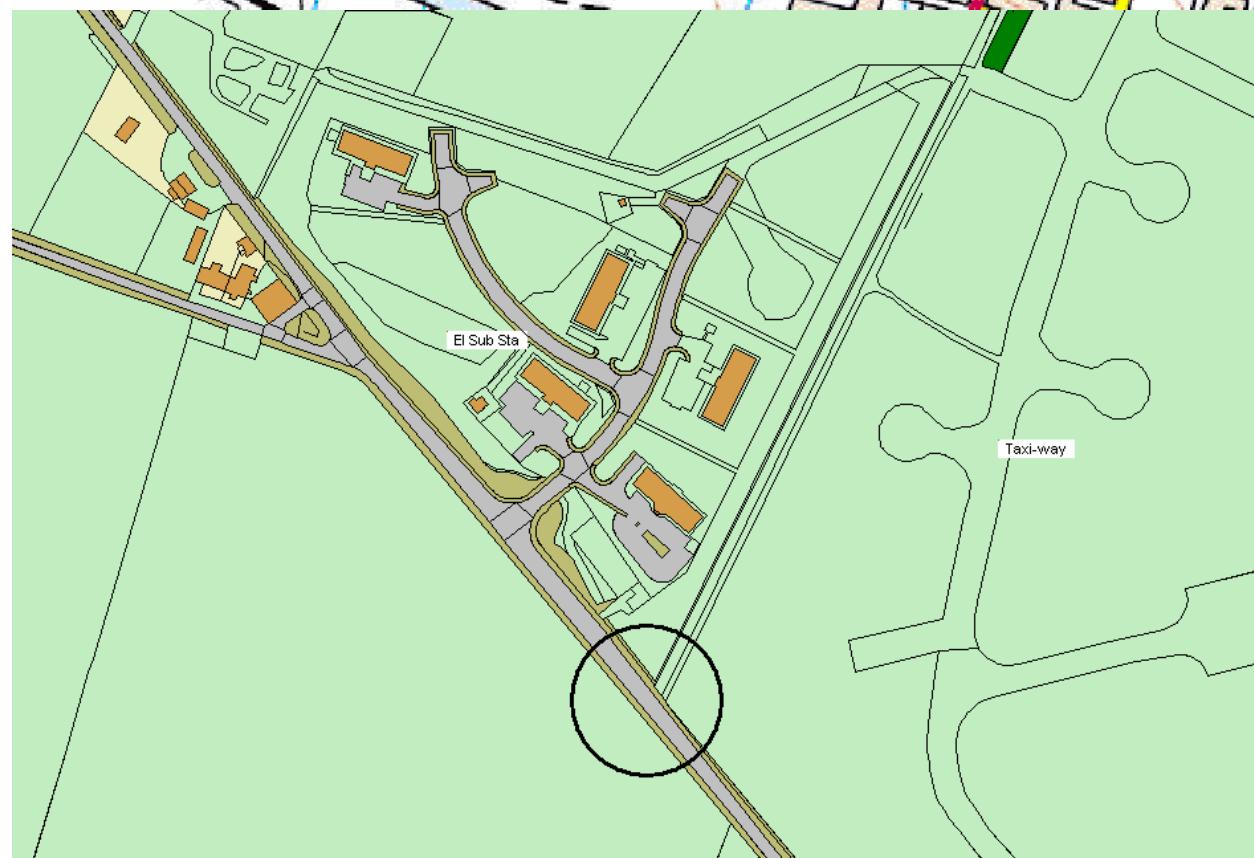




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	SE Boundary of Business Park, Lochshell
Water Course Name/Ref:	
Grid Reference:	335541/952447
Description of Flood:	Ditch overflowing on to A99 partly covering carriageway
Date/Time of Start/Duration of Flood:	4 September 2009
Threat to People and Properties? (Please give details)	Road Users
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	.
Works Required:	.
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	

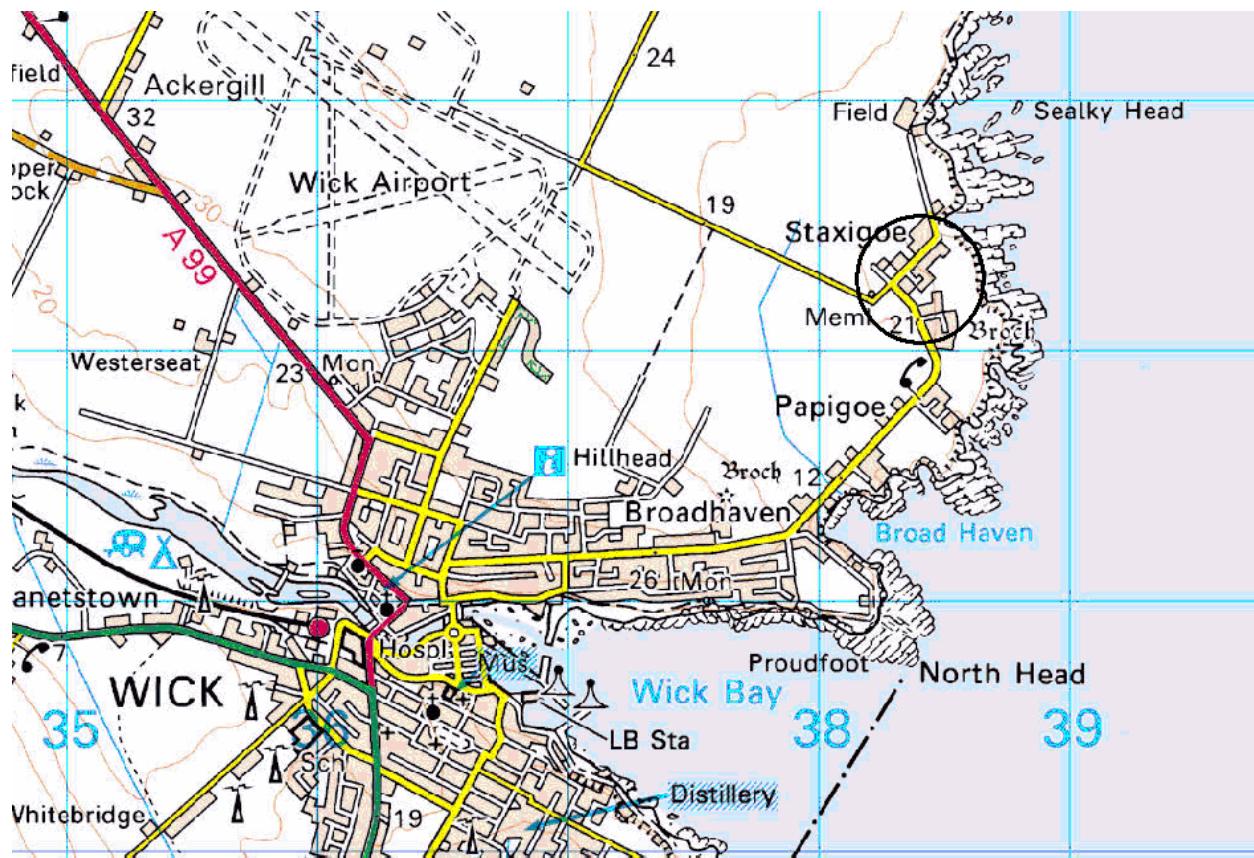




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Elzy Grove, Staxigoe Turning Head
Water Course Name/Ref:	
Grid Reference:	338413/952286
Description of Flood:	Kerbed Turning Head in Housing Scheme Water Level Rose, Slow to Drain
Date/Time of Start/Duration of Flood:	3 September 2009 - 17.00pm
Threat to People and Properties? (Please give details)	Possible Threat to Properties
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	
Works Required:	Clean Out Gullies
Does the site have a history of flooding? (Please give details)	?
Recording Officer: Date Completed:	
Comments:	

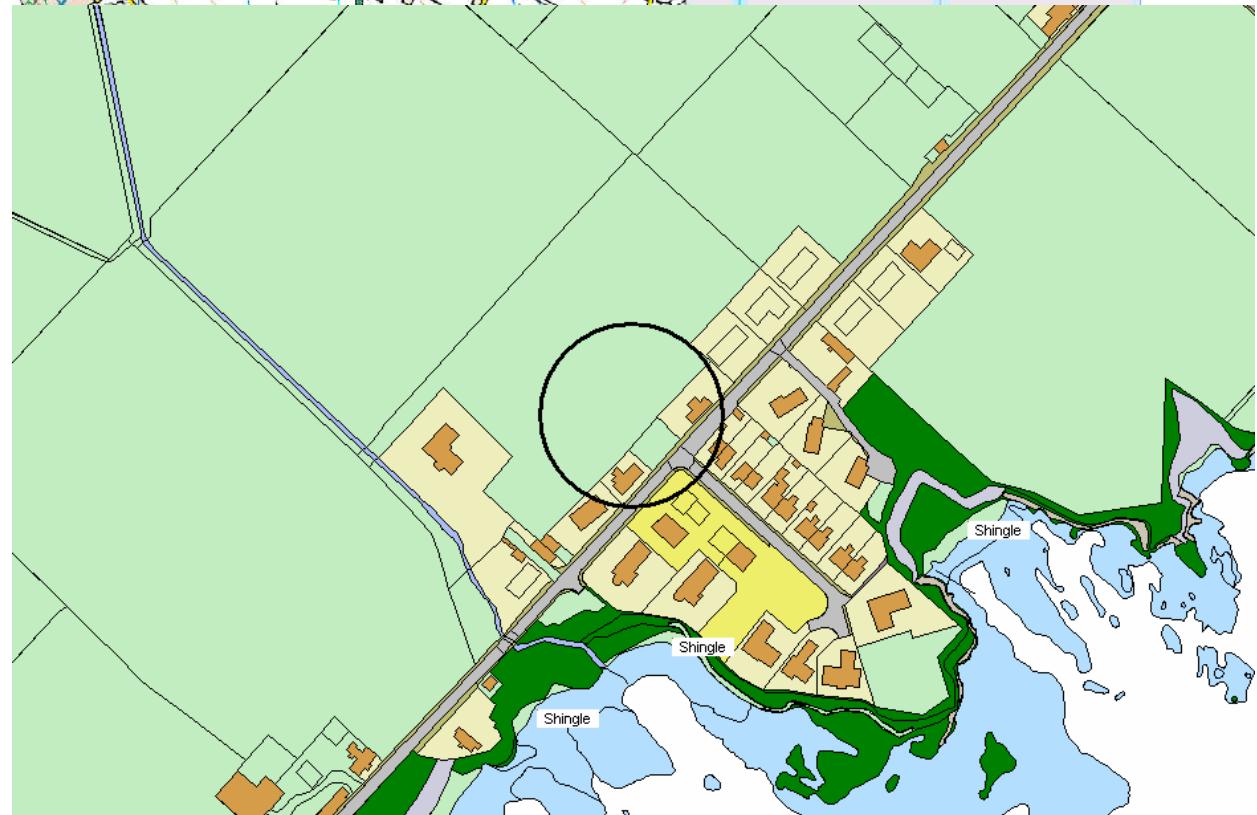
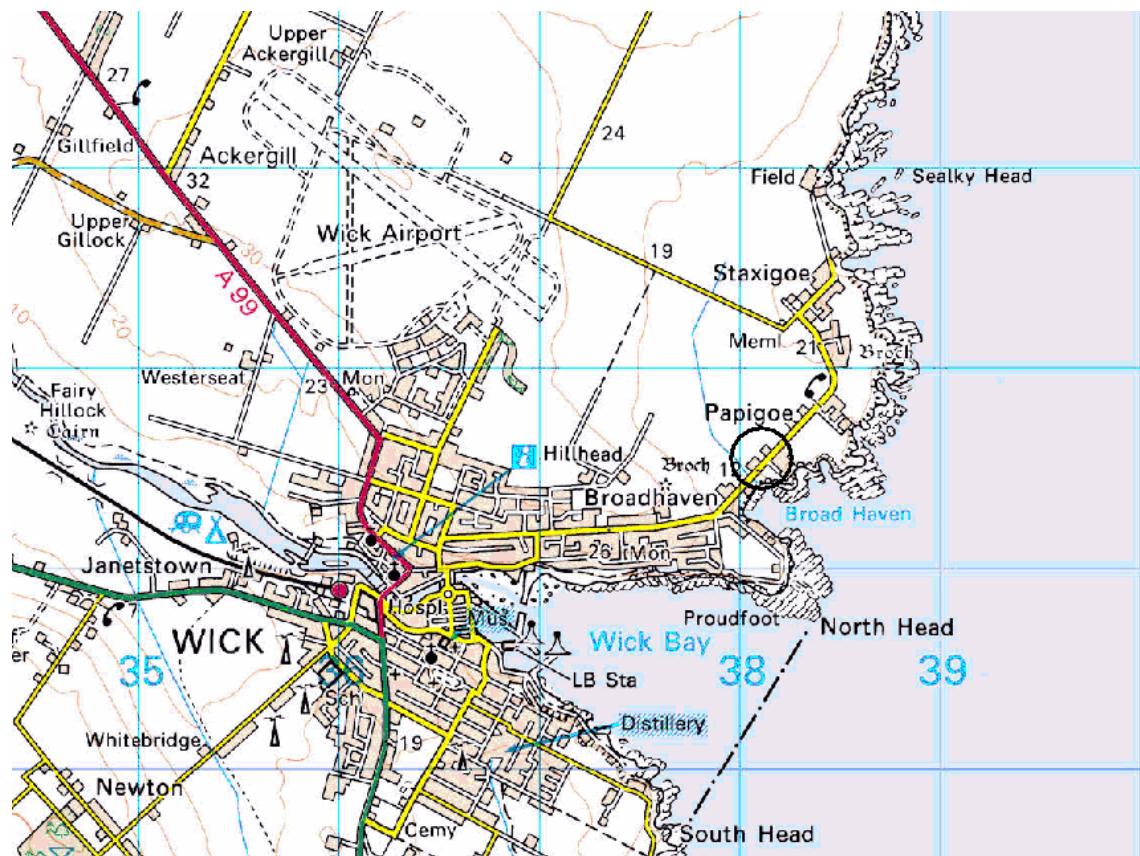




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Fas Skerry, Papigoe
Water Course Name/Ref:	
Grid Reference:	338114/951565
Description of Flood:	Road Channel Water Ponding at Front Door
Date/Time of Start/Duration of Flood:	3 September 2009 - 16.00pm
Threat to People and Properties? (Please give details)	Could Flood House
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	Sand Bags Deployed
Works Required:	
Does the site have a history of flooding? (Please give details)	Yes - 2006
Recording Officer: Date Completed:	
Comments:	

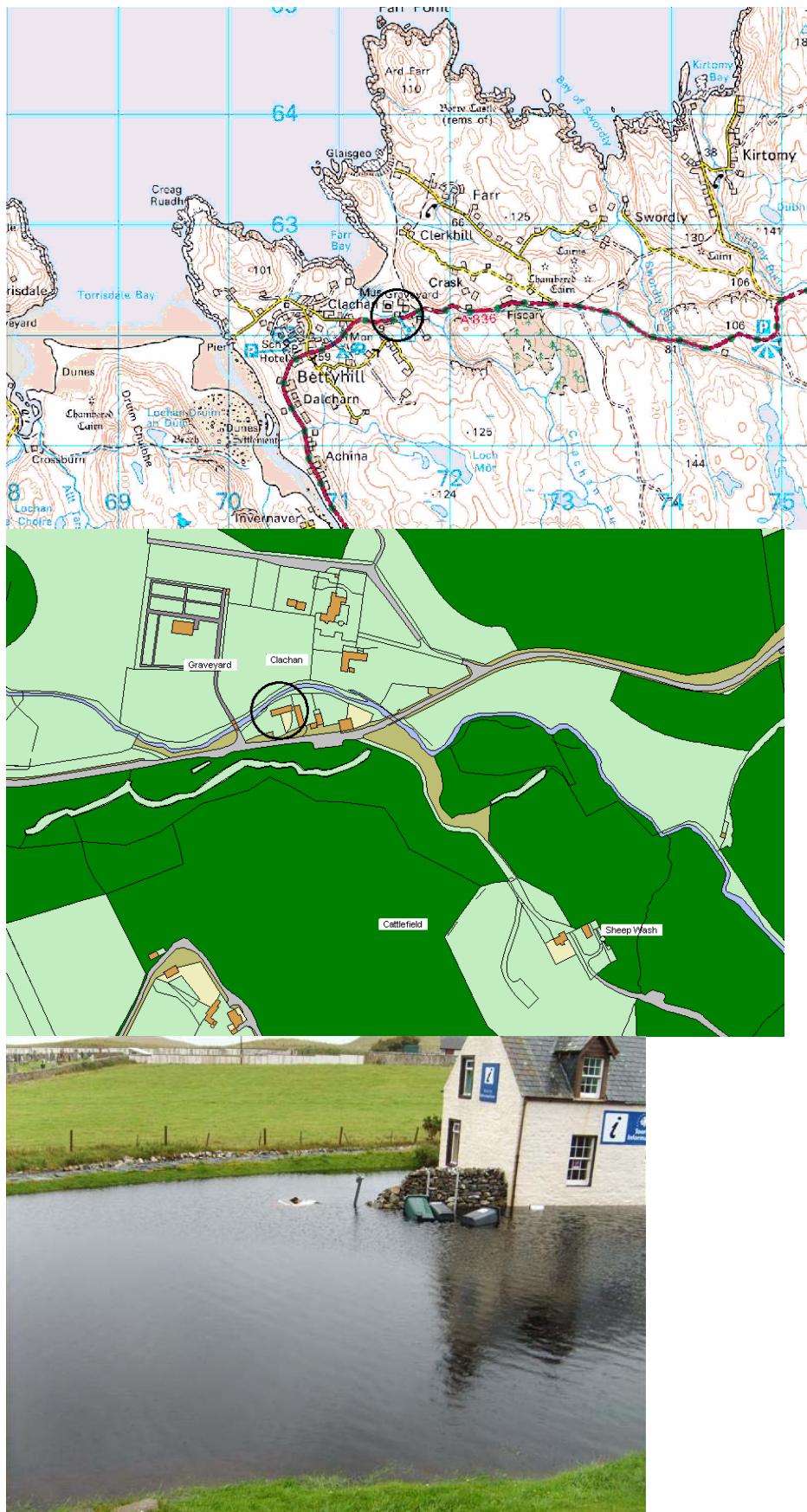




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Bettyhill Café & Tourist Information Bettyhill
Water Course Name/Ref:	Clachan Burn
Grid Reference:	OSGR 271538, 962181
Description of Flood:	Car park & ground floor of café flooded out to approx 150mm. Cause of flood uncertain. Previous floodings caused by adjacent burn overtopping & flap valve rusted open.
Date/Time of Start/Duration of Flood:	03 Sep 09 Started sometime after 5.30pm & continued through the night.
Threat to People and Properties? (Please give details)	Café car park & ground floor flooded out. Café closed to business.
Source of Notification: Name: Address: Tel No:	Mr Boyle Bettyhill Café Bettyhill
Works Undertaken: (Please give details)	Fire Brigade in attendance on 04 Sep 09 to pump out car park & café.
Works Required:	Inspect & replace flap valve. Possibly raise gabion wall Possibly kerb road.
Does the site have a history of flooding? (Please give details)	Flooded circa 1985 with gabion flood defence wall constructed. Flooded on 28 Jun 2004 possibly due to flap valve. Flooded on 26 Oct 2006. Flood defence wall over topped.
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	The property is at risk of further flooding.

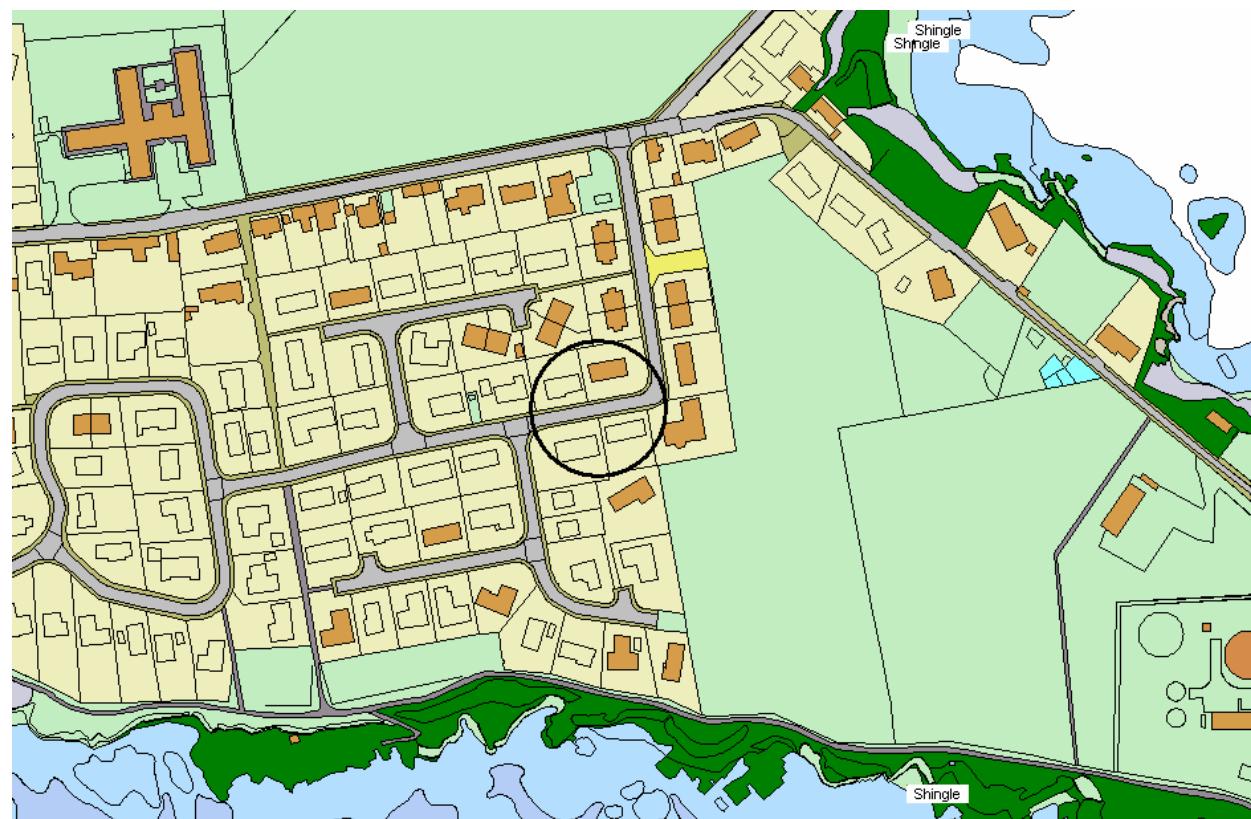
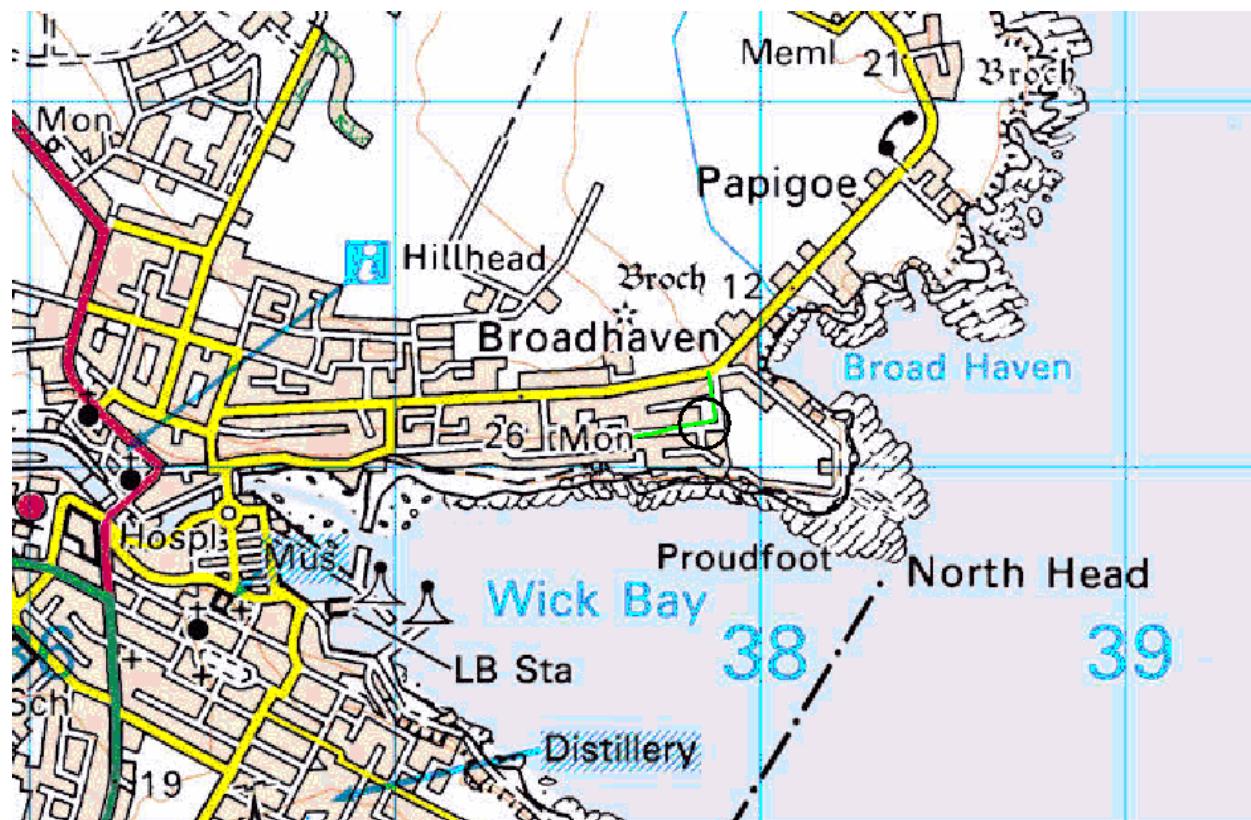




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	No 10 & 12 Murray Avenue, Wick
Water Course Name/Ref:	Unknown N/A
Grid Reference:	OSGR 337847, 951122
Description of Flood:	Gully surcharged, with flood water flowing down driveways.
Date/Time of Start/Duration of Flood:	03 Sep 09 circa 2000 hrs, peaked in 3hrs
Threat to People and Properties? (Please give details)	Garages & gardens flooded
Source of Notification: Name: Address: Tel No:	Mr Doull 10 Murray Ave Wick 01955 605458
Works Undertaken: (Please give details)	Sand bags delivered.
Works Required:	Extra gully required.
Does the site have a history of flooding? (Please give details)	Previous flooded on: 16 Sep 07. See 2007 Biennial Flood Report 01 Aug 06
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	Gullies connect to 150mm Scottish Water surface water sewer. SW consider that 100mm tail from gully to sewer is too small. These properties are at risk of further flooding.

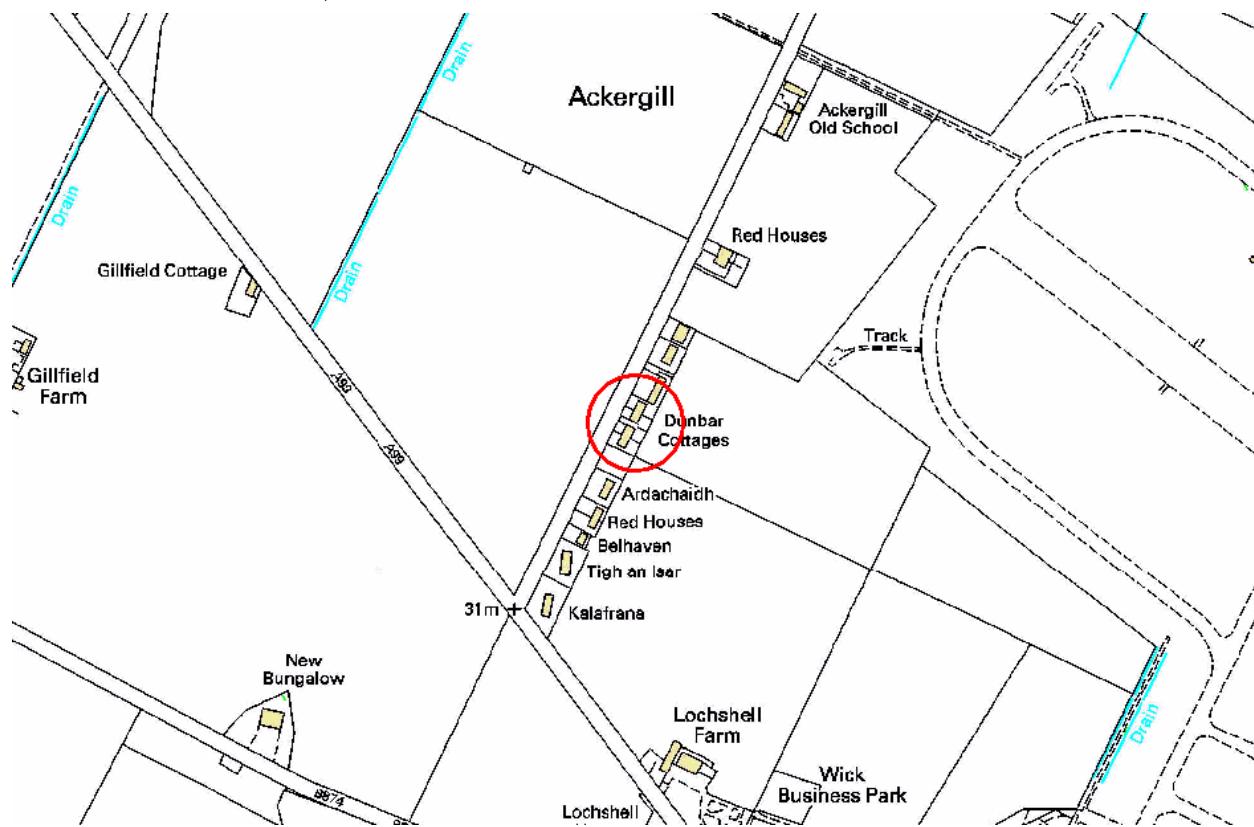




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Nos 1 & 2 Dunbar Cottages, Ackergill Wick
Water Course Name/Ref:	N//A
Grid Reference:	OSGR 335248, 953130
Description of Flood:	Park slopes down to rear of houses. Overland flow caused gardens to flood to 2' to back & front of houses.
Date/Time of Start/Duration of Flood:	03 Sep 09 circa 2000 hrs, peaked in 3hrs
Threat to People and Properties? (Please give details)	2 no houses nearly flooded to foundations through air vents. 2' deep. No 1 Mr C MacLeod No 2 Miss K Reid
Source of Notification: Name: Address: Tel No:	Mr C MacLeod No 1 Dunbar Cottages Ackergill
Works Undertaken: (Please give details)	Fire Brigade in attendance last night. Mr MacLeod pumping water away himself.
Works Required:	Unable to extend recent drain to rear of houses due to gradient & topography. May be able to install cut off drain in park. Further studies required.
Does the site have a history of flooding? (Please give details)	Flooded in Oct 06. See 2007 Biennial Flood Report
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	The property is at risk of further flooding. Park owned by Mr W Mackay, Upper Ackergill. Adjacent park owned by GMR Henderson. Input from airport?

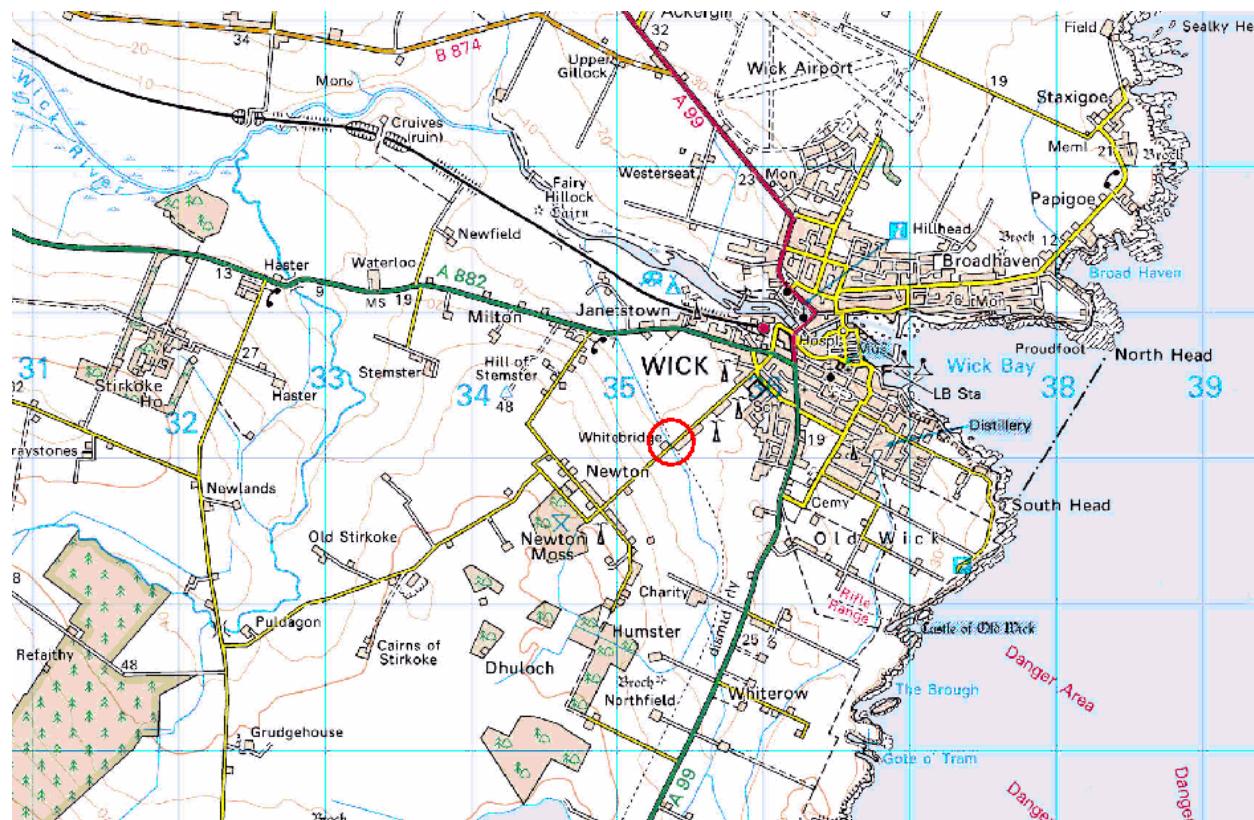




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Burnside, Whitebridge, Newton Hill
Water Course Name/Ref:	
Grid Reference:	OSGR 335405, 950086
Description of Flood:	Burn flooded from approx 0.5 cum /s to 7 cu m/s. Bridge & recently installed bypass culvert still couldn't take the flow & burn overtopped its banks. This caused the house to be flooded again (see Oct 2006).
Date/Time of Start/Duration of Flood:	03 Sep 09 circa 2000 hrs
Threat to People and Properties? (Please give details)	House adjacent to burn.
Source of Notification: Name: Address:  Tel No:	I Moncrieff Principal Engineer TECS  01955 609996
Works Undertaken: (Please give details)	House pumped out.
Works Required:	Previously suggested to Mr Falconer to build a pc block wall sunk into the ground to try to keep the water out.
Does the site have a history of flooding? (Please give details)	Flooded twice in Oct 06. See 2007 Biennial Flood Report
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	The property is at risk of further flooding.





## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Elm Cottage Ulbster
Water Course Name/Ref:	C21 Ulbster
Grid Reference:	OSGR 332042, 940528
Description of Flood:	Garden & surrounding low lying fields flooded with ponded water.
Date/Time of Start/Duration of Flood:	03 Sep 09 circa 2000 hrs, peaked in 3hrs Flooded till 4 <sup>th</sup> Sep 09.
Threat to People and Properties? (Please give details)	1 no houses nearly flooded, garden under water.
Source of Notification: Name: Address: Tel No:	I Moncrieff Principal Engineer TECS 01955 607796
Works Undertaken: (Please give details)	?
Works Required:	?
Does the site have a history of flooding? (Please give details)	Repeatedly flooded in recent years. Old filled in ditch recently reopened to take excess flow but overtopped. See 2005 Biennial Flood Report 'Smithy Cottage'
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	The property is at risk of further flooding.

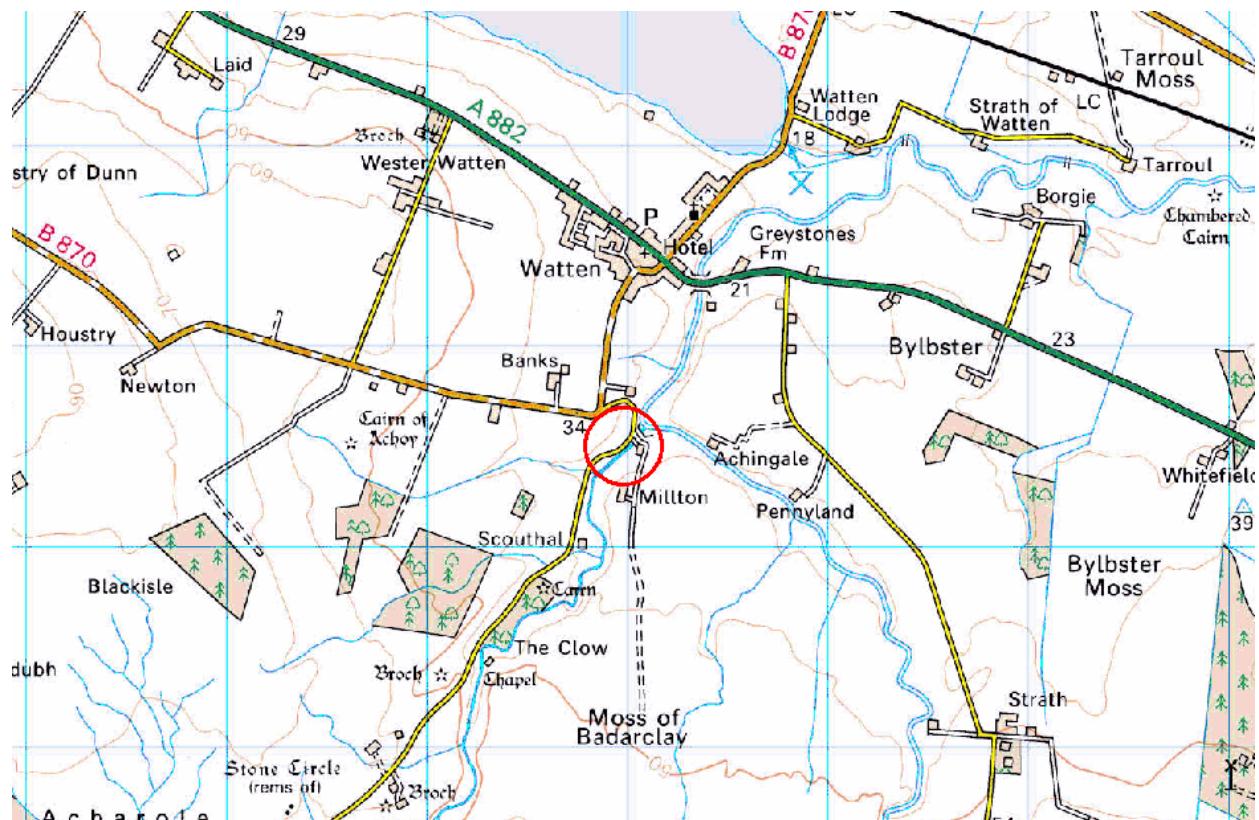




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	U1276 Banks – Scouthal – Shielton Rd Watten Caithness
Water Course Name/Ref:	Burn of Acharole
Grid Reference:	OSGR 324030, 953682 to 323920, 953448
Description of Flood:	Acharole Burn flooded park to west of road & then crossed back over to rejoin main flow. Cross road flow was significant and the main channel had overtopped its banks. Couldn't distinguish c/w from channel.
Date/Time of Start/Duration of Flood:	03 Sep 09 circa 2000 hrs, peaked in 3hrs Burn in spate all of 04 Sep. Flow dropped by 1400 hrs on 4 <sup>th</sup> .
Threat to People and Properties? (Please give details)	Road nearly impassable except by 4WD. Severe danger if vehicle left the road. Road closed at 1000 hrs till 1400 hrs on 4 <sup>th</sup> .
Source of Notification: Name: Address:  Tel No:	I Moncrieff Principal Engineer TECS  01955 607796
Works Undertaken: (Please give details)	Road Closed signs erected.
Works Required:	No further works required.
Does the site have a history of flooding? (Please give details)	Possibly flooded in Oct 06. Road built on a flood plain.
Recording Officer: Date Completed:	Iain Moncrieff
Comments:	



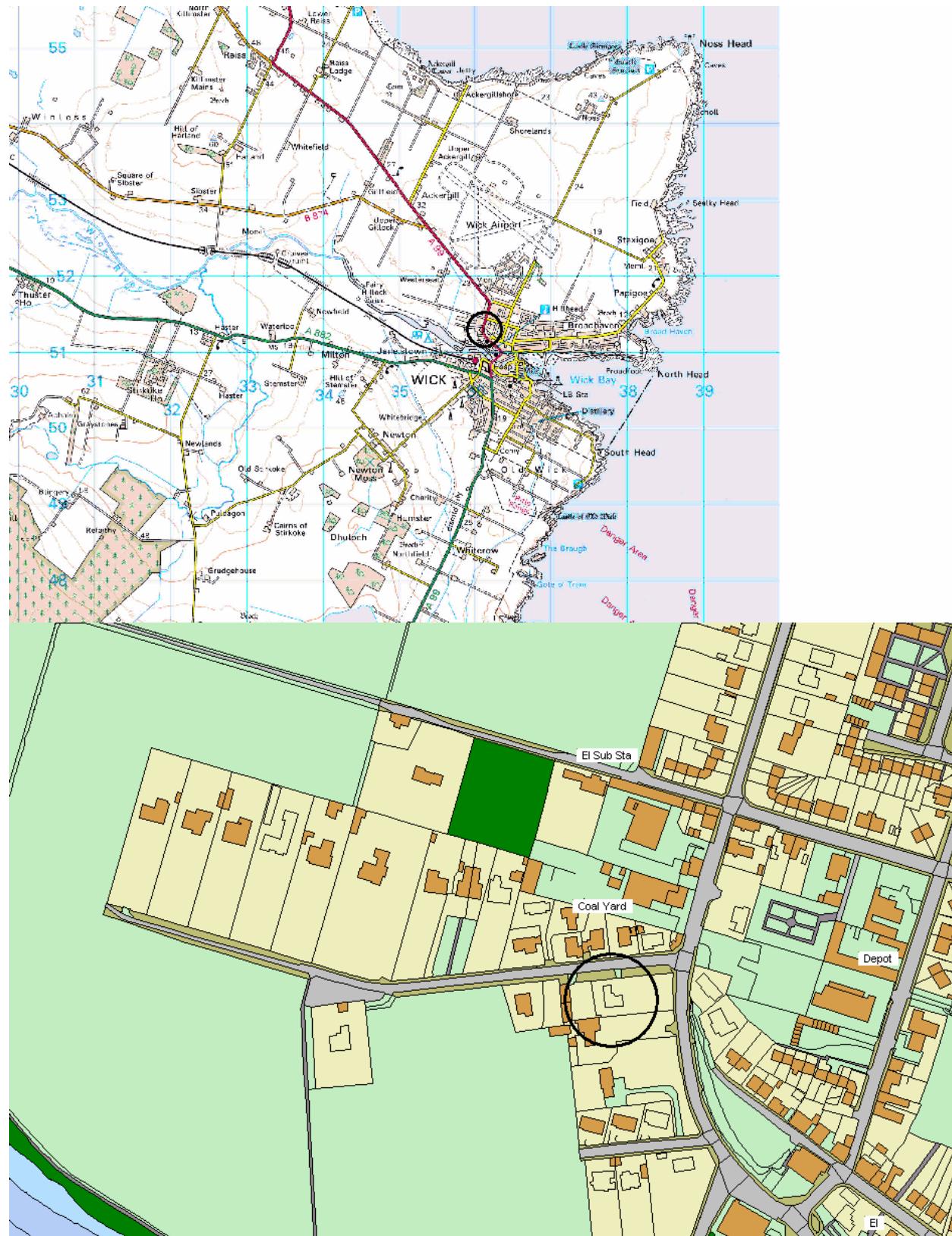


## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Roadside Cottage, Gillfield
Water Course Name/Ref:	N/A Unknown
Grid Reference:	
Description of Flood:	Water running into garden
Date/Time of Start/Duration of Flood:	3 September 2009 Evening
Threat to People and Properties? (Please give details)	Garden & shed
Source of Notification: Name: Address: Tel No:	Mr Ross Roadside Cottage Gillfield by Wick KW1 4TB  01955 604488
Works Undertaken: (Please give details)	Sand bags provided.
Works Required:	
Does the site have a history of flooding? (Please give details)	No
Recording Officer: Date Completed:	I Moncrieff 16 Sep 09
Comments:	

## BIENNIAL REPORT No. 7, November 2009

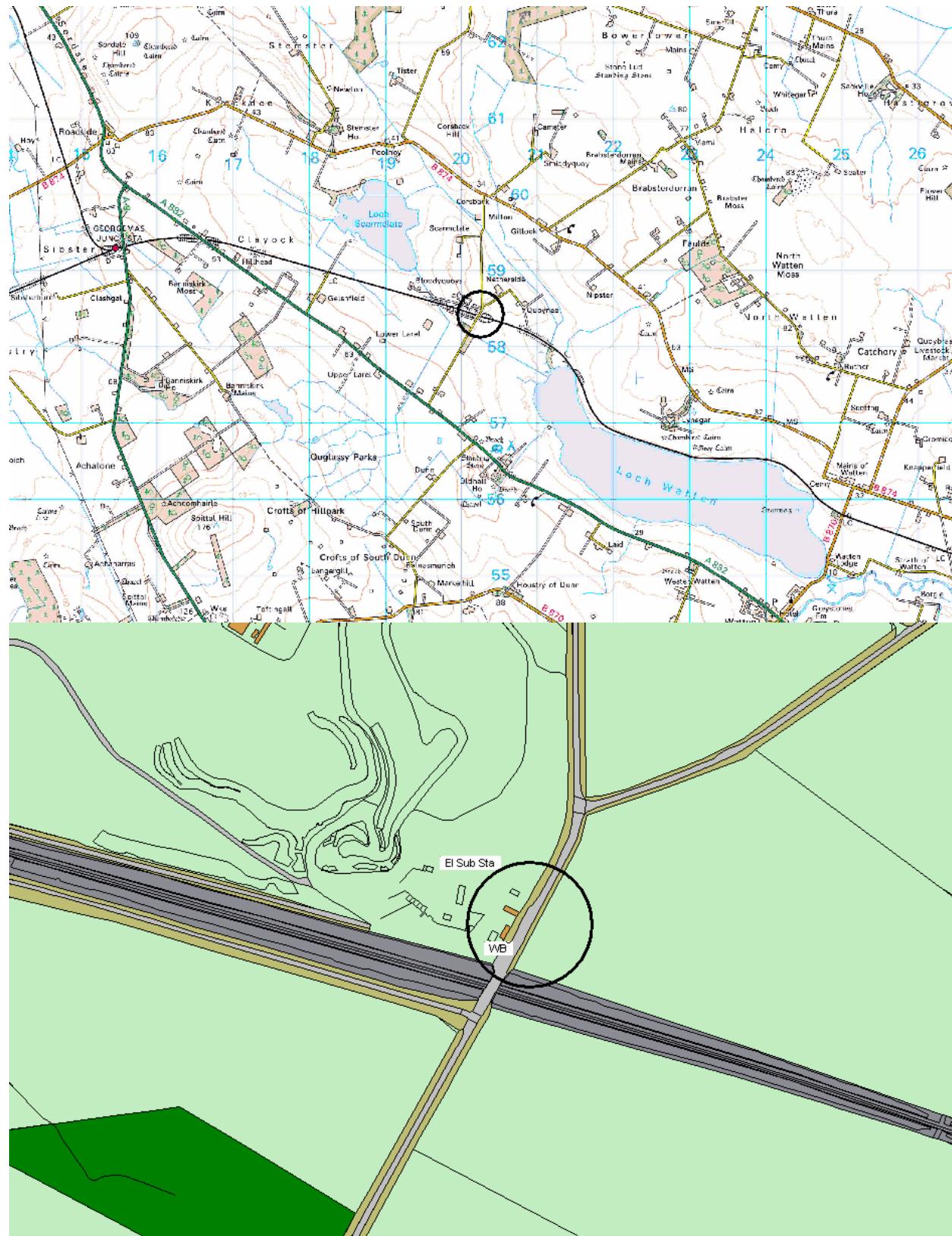




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	U1782 Dunn – Corsback Rd Opposite Entrance to Gunn's Quarry, Bower
Water Course Name/Ref:	
Grid Reference:	320269/958478
Description of Flood:	Water From Quarry Access and Roadside Ditch Flowing on to Carriageway
Date/Time of Start/Duration of Flood:	4 September 2009
Threat to People and Properties? (Please give details)	Road Users
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	
Works Required:	
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	

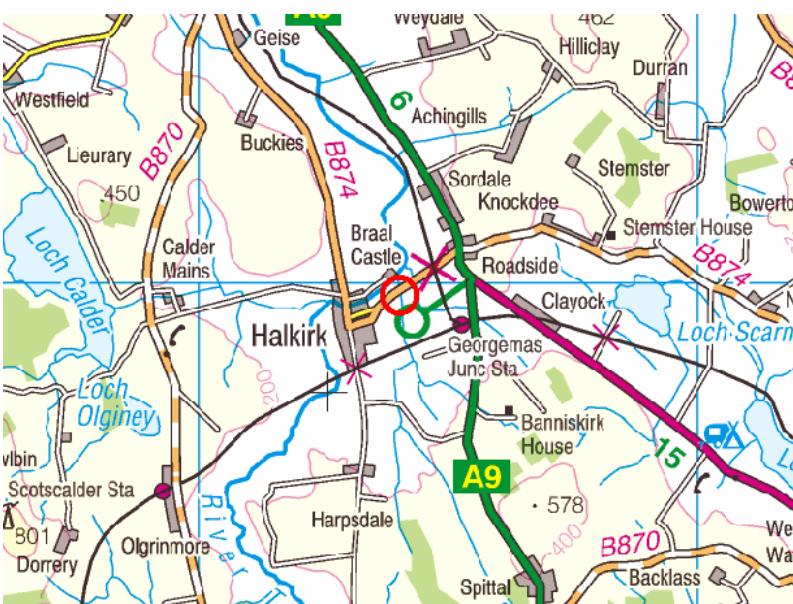




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Halkirk, (Scottish Water Entrance)
Water Course Name/Ref:	
Grid Reference:	OSGR 314036, 959951
Description of Flood:	Burn flooded bridge not able to cope with volume of water. Bridge bypassed with overflow spreading across road.
Date/Time of Start/Duration of Flood:	3-4/8/2009
Threat to People and Properties? (Please give details)	Very minor chance of backing up and flooding surrounding Scottish water building
Source of Notification: Name: Address: Tel No:	Inspection during flood (04/8/2009)
Works Undertaken: (Please give details)	
Works Required:	
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	Steven Mackenzie 04/8/2009
Comments:	Water levels had dropped substantially in photos in comparison to when the event was in progress.

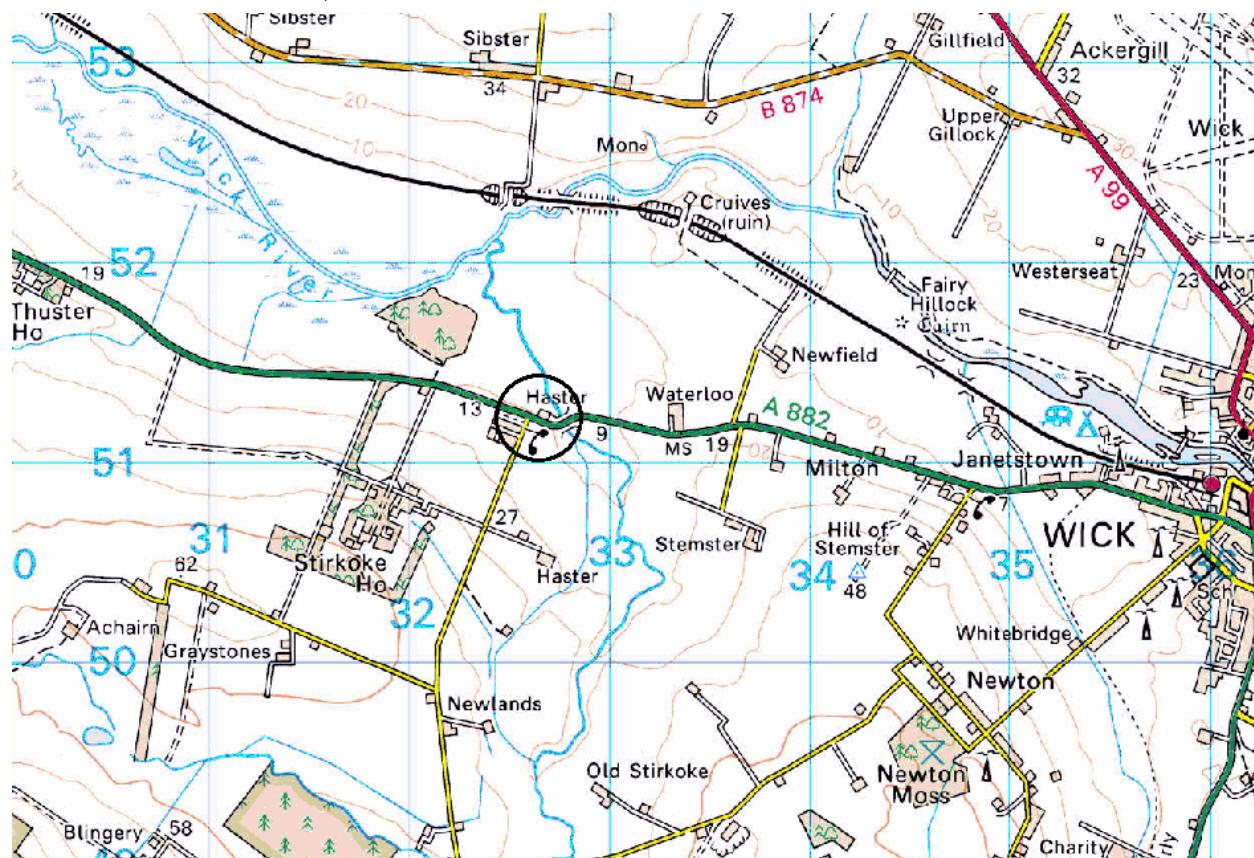




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Haster Smithy
Water Course Name/Ref:	
Grid Reference:	332656/951198
Description of Flood:	Haster Road Ditch Overflowed on to A882
Date/Time of Start/Duration of Flood:	3 September 2009 – 18.00pm
Threat to People and Properties? (Please give details)	Smithy Threatened or Flooded
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	Sand Bags Deployed
Works Required:	
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	

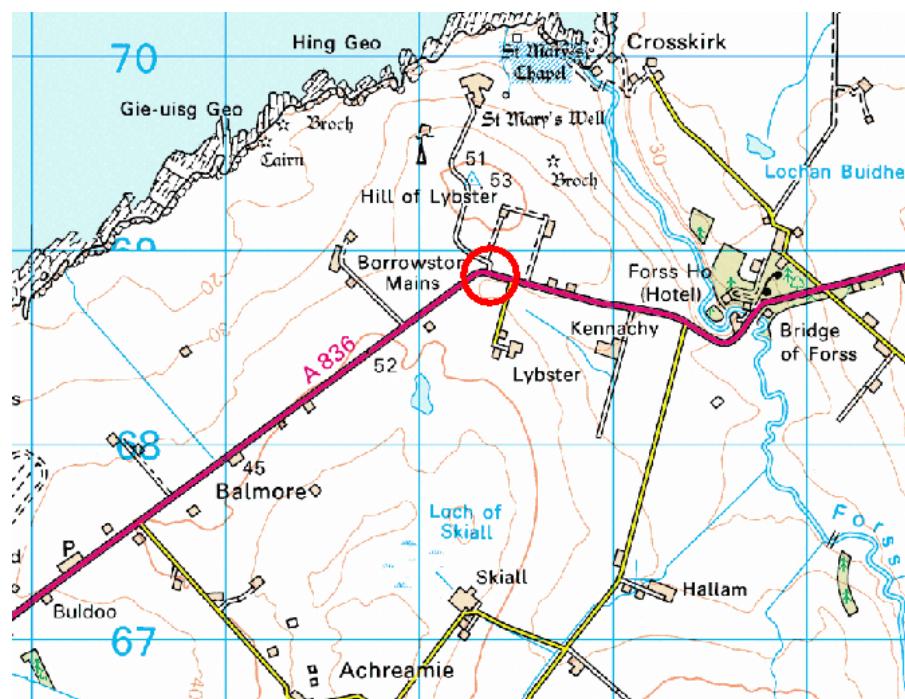




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Hill of Lybster – Forss. Flooding at the junction off A836 to Hill of Lybster. (Wind Farm Junction)
Water Course Name/Ref:	
Grid Reference:	OSGR 302343, 968911
Description of Flood:	Water off surrounding fields lying in low spot at junction. Progressive rain causing ponding across both lanes of carriage way. Approx 150mm deep at lowest point.
Date/Time of Start/Duration of Flood:	3-4/8/2009
Threat to People and Properties? (Please give details)	Hazard for vehicles using the A836 as flood is located next to a very tight bend of the road.
Source of Notification: Name: Address: Tel No:	Inspection during flood (04/8/2009)
Works Undertaken: (Please give details)	
Works Required:	
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	Steven Mackenzie 04/8/2009
Comments:	Water levels had dropped substantially in photos in comparison to when the event was in progress.





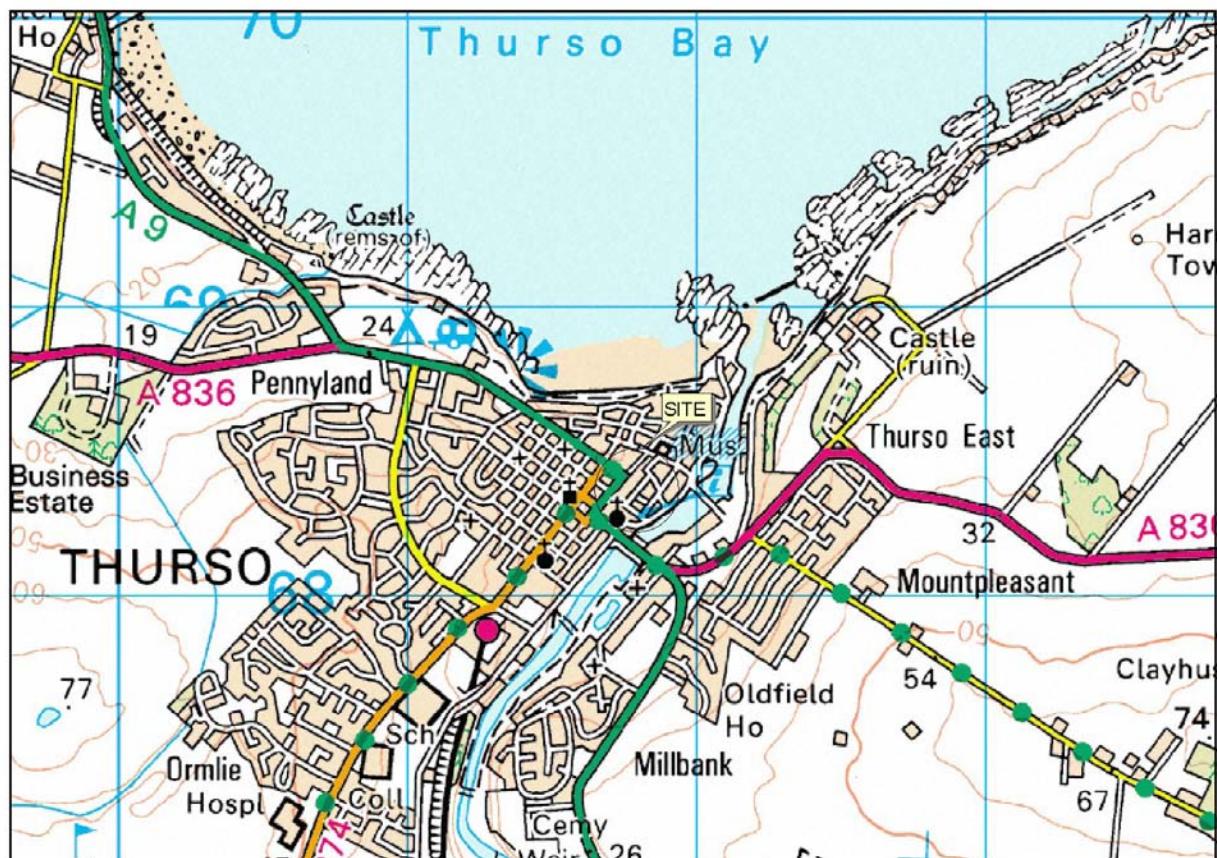
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## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Le Bistro, Traill St, Thurso
Water Course Name/Ref:	N/A
Grid Reference:	311744, 968398
Description of Flood:	Water flooded from the trunk rd, down the lane and into the rear of the Bistro
Date/Time of Start/Duration of Flood:	15/07/2009
Threat to People and Properties? (Please give details)	Water collecting at the rear of the property over 2 foot deep in yard behind the Bistro
Source of Notification: Name: Address: Tel No:	Mrs Polson Le Bistro, 2 Traill ST, Thurso or Lower Thura Farm, Bower 01847 893737 or 01955 641230
Works Undertaken: (Please give details)	Sand Bags Provided to prevent water flooding running the back of the building
Works Required:	Kerbing to prevent water entering land to the rear of the Bistro. Subject to level survey to determine where flood water would then go.
Does the site have a history of flooding? (Please give details)	No previous reports
Recording Officer: Date Completed:	J Gunn 20/07/2009
Comments:	

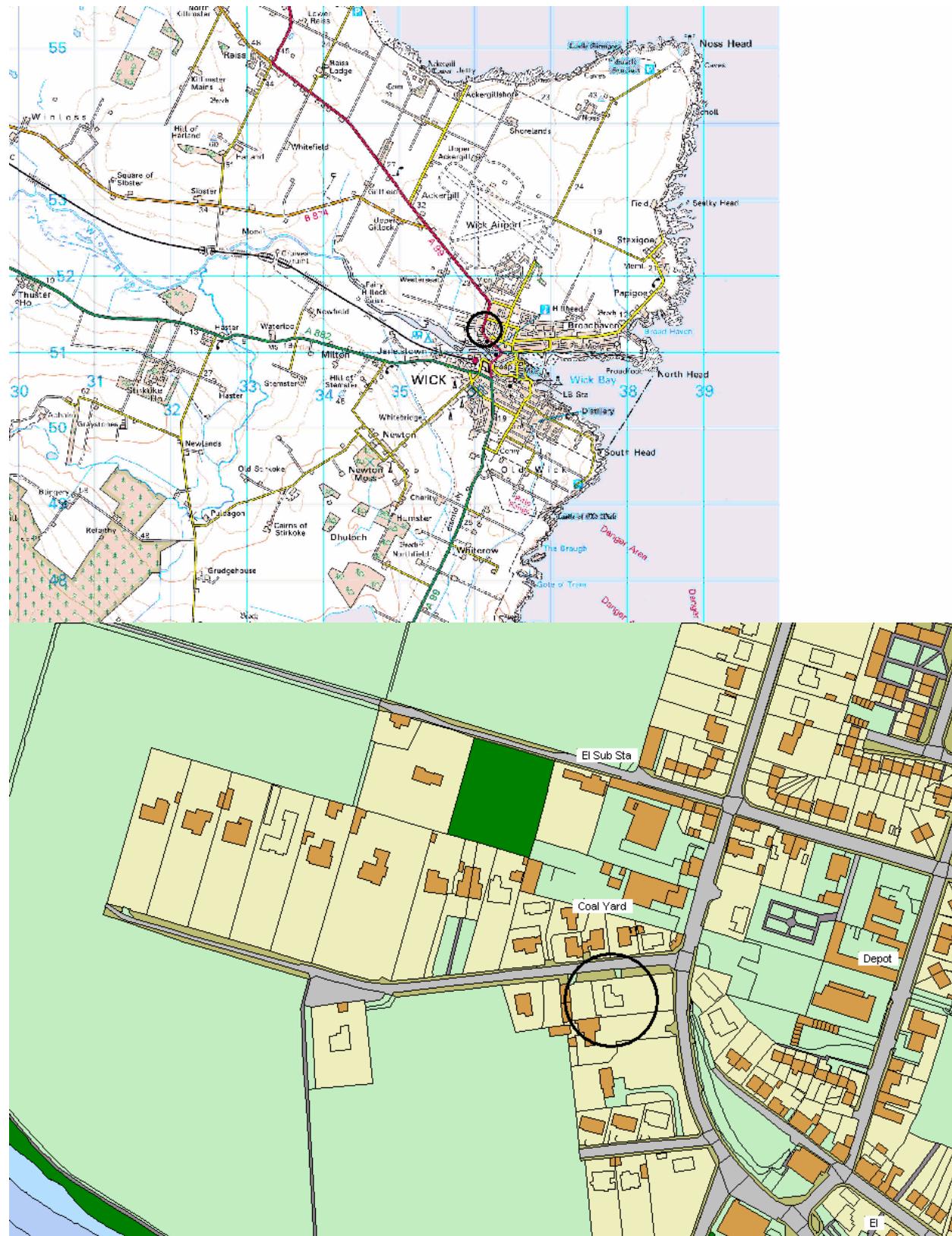




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	2 Miller Ave, Wick
Water Course Name/Ref:	N/A Unknown
Grid Reference:	336068, 951315
Description of Flood:	Blocked culvert at bottom of garden causing flooding
Date/Time of Start/Duration of Flood:	3 September 2009 Evening
Threat to People and Properties? (Please give details)	Garden
Source of Notification: Name: Address:  Tel No:	Mr Robertson 2 Miller Ave, Wick  01955 602372
Works Undertaken: (Please give details)	Site visit during the night. No further action till tomorrow.
Works Required:	Culvert requires further study
Does the site have a history of flooding? (Please give details)	No
Recording Officer: Date Completed:	I Moncrieff 16 Sep 09
Comments:	

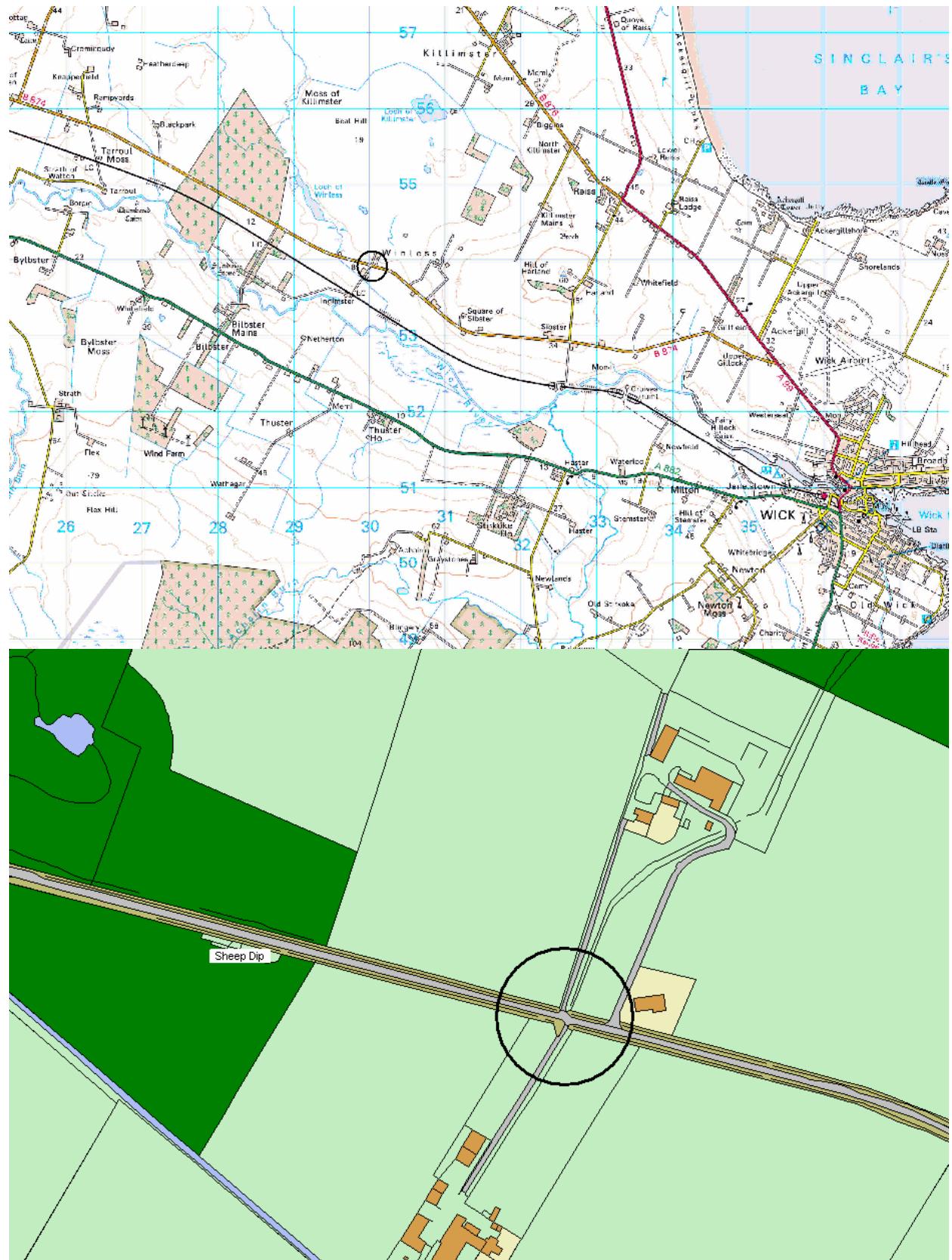




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	B874 Entrance to North Winless Farm on Sibster Road
Water Course Name/Ref:	Ditch Parallel to Farm Track
Grid Reference:	330027/953927
Description of Flood:	Sibster Road Completely Flooded to 250mm for 50m
Date/Time of Start/Duration of Flood:	4 September 2009 – 11.00am
Threat to People and Properties? (Please give details)	Road Users
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	.
Works Required:	.
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	

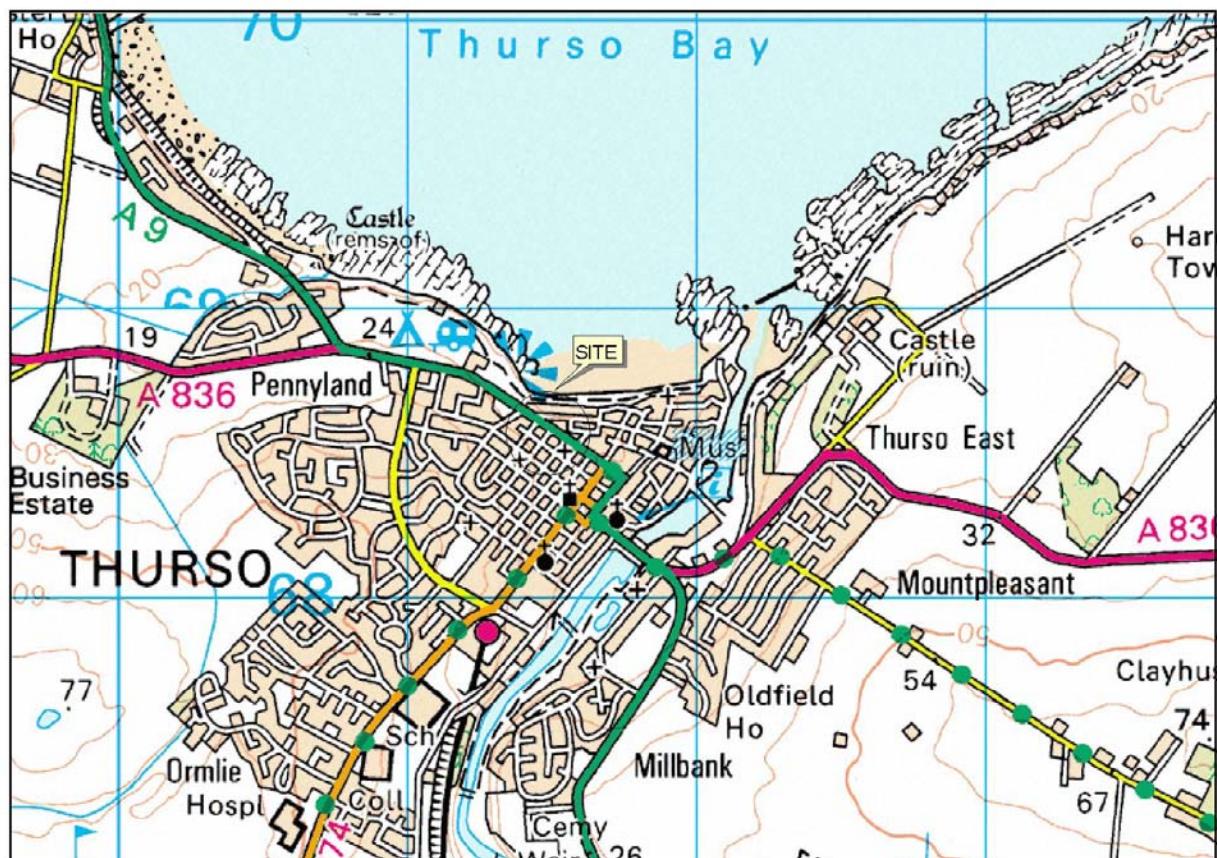




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	26 Orlig St, Thurso
Water Course Name/Ref:	N/A
Grid Reference:	311498, 968562
Description of Flood:	Surface water from the road ran down the parking area behind the property and into the house
Date/Time of Start/Duration of Flood:	06/07/2009
Threat to People and Properties? (Please give details)	Part of the house was flooded
Source of Notification: Name: Address: Tel No:	Mrs F Maclean 26 Orlig St Thurso KW 14 7JA 01847 896463
Works Undertaken: (Please give details)	No works undertaken
Works Required:	Kerbing across driveway and additional gullies on the corners of the lanes behind the property.
Does the site have a history of flooding? (Please give details)	None reported
Recording Officer: Date Completed:	J Gunn 14 July 2009
Comments:	





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## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Smithy House Bowermadden
Water Course Name/Ref:	N/A
Grid Reference:	323454, 963040
Description of Flood:	Surface Water from the road ran in the driveway and came close to entering house
Date/Time of Start/Duration of Flood:	09/08/2009
Threat to People and Properties? (Please give details)	House came close to be flooded
Source of Notification: Name: Address:  Tel No:	Mr G Mackay Smithy House Bowermadden  01955 641 385
Works Undertaken: (Please give details)	No works undertaken
Works Required:	Kerb and additional gully across entrance
Does the site have a history of flooding? (Please give details)	None reported
Recording Officer: Date Completed:	J Gunn 13/08/2009
Comments:	

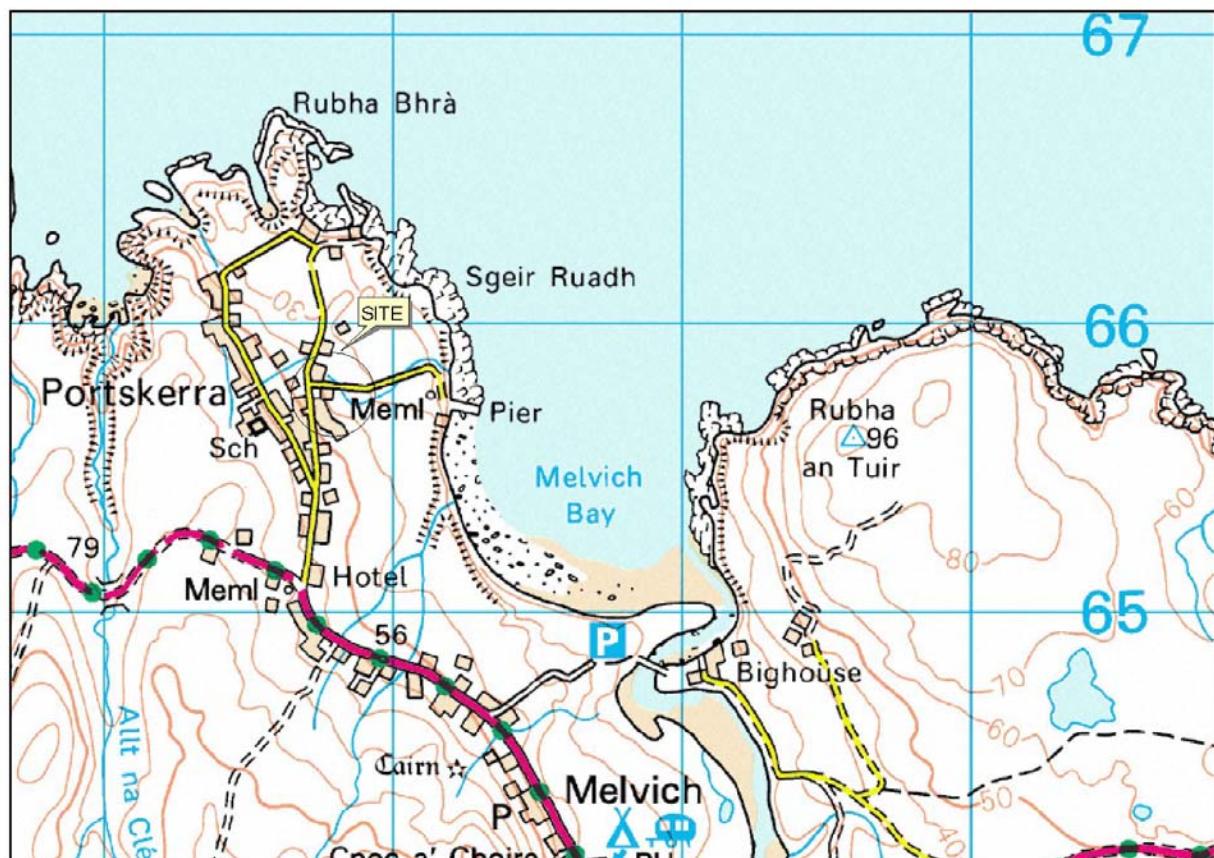




## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Sunnyside 106 Portskerra Melvich
Water Course Name/Ref:	N/A
Grid Reference:	287720, 965782
Description of Flood:	Surface water from the road flooded an outbuilding at the property
Date/Time of Start/Duration of Flood:	17 August 2009
Threat to People and Properties? (Please give details)	Out building was flooded
Source of Notification: Name: Address: Tel No:	Mr W Grant Sunnyside 106 Portskerra Melvich 01641531215
Works Undertaken: (Please give details)	No works undertaken
Works Required:	Kerbing across driveway.
Does the site have a history of flooding? (Please give details)	None reported
Recording Officer: Date Completed:	J Gunn 01 September 2009
Comments:	





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## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

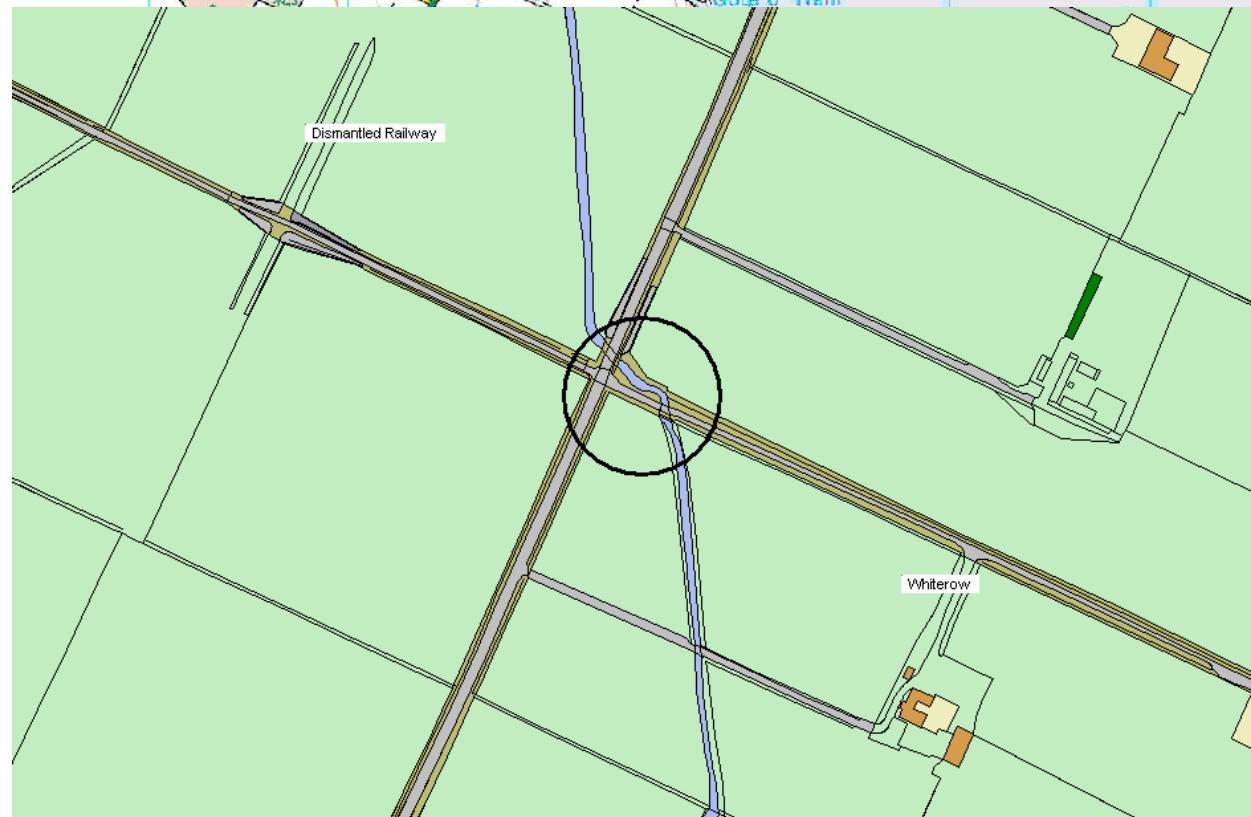
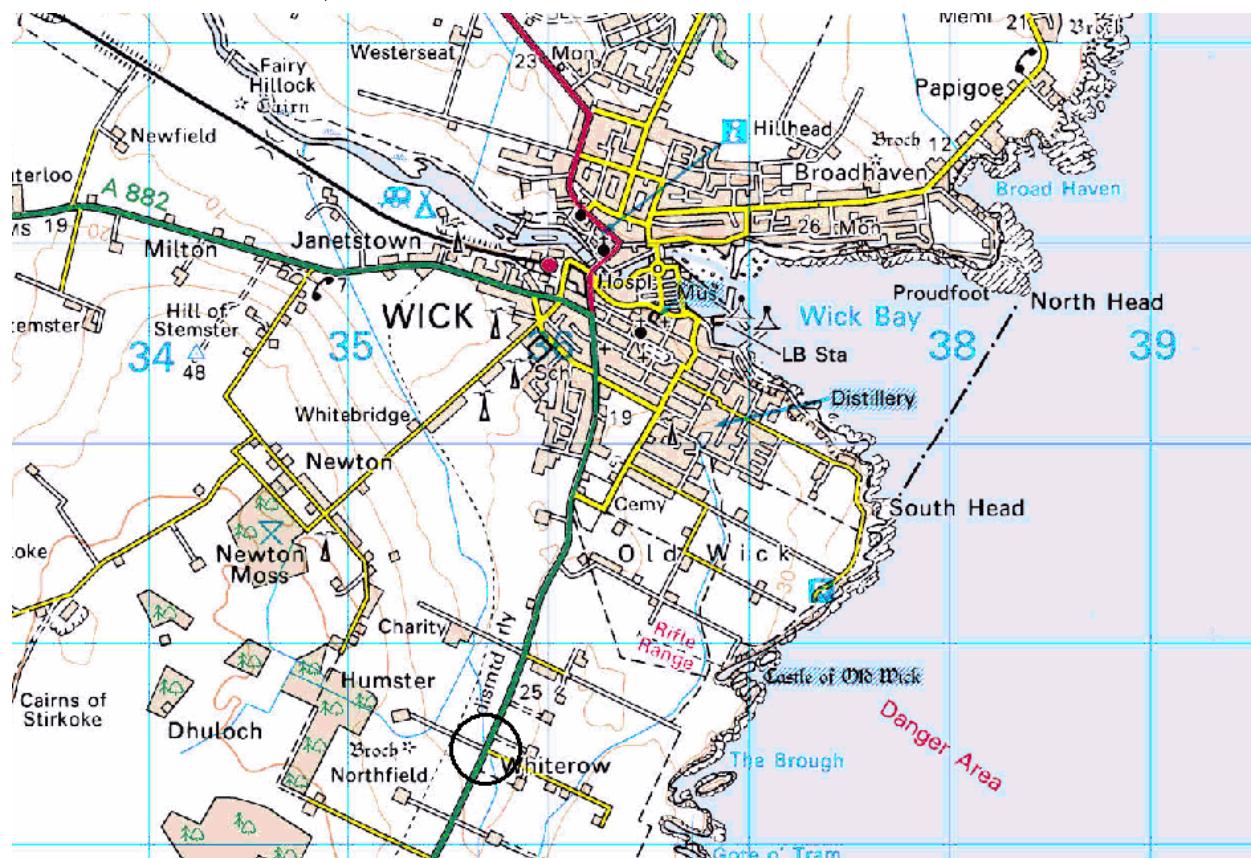
Location of Flood:	Torrance Reay KW14 7rg
Water Course Name/Ref:	Unidentified culvert
Grid Reference:	296139, 964785
Description of Flood:	Old stone culvert at the bottom of the garden is blocked, causing flooding to the garden
Date/Time of Start/Duration of Flood:	11/01/2008
Threat to People and Properties? (Please give details)	Water ponding in the bottom of the garden after heavy rain
Source of Notification: Name: Address:  Tel No:	Mr Macpherson Torrance Reay  01847 811221
Works Undertaken: (Please give details)	No works undertaken
Works Required:	Open up culvert to access its condition
Does the site have a history of flooding? (Please give details)	No previous reports
Recording Officer: Date Completed:	J Gunn 14/12/2007
Comments:	CRM 833973



## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Whiterow Road
Water Course Name/Ref:	Hempriggs to Newton Burn
Grid Reference:	335700/948445
Description of Flood:	Volume of water too great for road culvert. Roadway Flooded.
Date/Time of Start/Duration of Flood:	4 September 2009 – 11.30am
Threat to People and Properties? (Please give details)	Road Users Only
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	.
Works Required:	.
Does the site have a history of flooding? (Please give details)	
Recording Officer: Date Completed:	
Comments:	





## FLOODING INCIDENT REPORT

### RECORDING FORM: (Mark all applicable options)

Location of Flood:	Wick Cemetery and Road
Water Course Name/Ref:	
Grid Reference:	336181/949694
Description of Flood:	New and Old Cemeteries Flooded and Roadway
Date/Time of Start/Duration of Flood:	3 September 2009
Threat to People and Properties? (Please give details)	Cemetery
Source of Notification: Name: Address: Tel No:	John Niwa PIO 01955 607737
Works Undertaken: (Please give details)	
Works Required:	New Drainage Works on A99 Awaited
Does the site have a history of flooding? (Please give details)	Yes October 2006 and Previous
Recording Officer: Date Completed:	
Comments:	



**Inverness, Nairn, Badenoch & Strathspey**

<b>Date</b>	25 January 2008
<b>Location</b>	Gynack Burn, Kingussie
<b>Description</b>	Floodwater at Spey Street Bridge making Road impassable
<b>Work Undertaken</b>	Sandbags placed to divert flow and Road Closed signs erected
<b>Work Required</b>	Debris clearing works carried out to Gynack Burn from A86 High Street Bridge to Gynack Burn / river Spey confluence
<b>History of flooding?</b>	Major flooding February 1990 and December 2006

**Ross, Skye & Lochaber**

<b>Date</b>	05 March 2007
<b>Location</b>	Old School House, Strontian
<b>Description</b>	Surface water in house and garage
<b>Work Undertaken</b>	
<b>Work Required</b>	
<b>History of flooding?</b>	

<b>Date</b>	21 February 2008
<b>Location</b>	33 Lovat Road, Kinlochleven
<b>Description</b>	Culvert blocked with debris – garden flooded
<b>Work Undertaken</b>	
<b>Work Required</b>	
<b>History of flooding?</b>	

<b>Date</b>	6 Park Road, Ballachulish
<b>Location</b>	Roadway
<b>Description</b>	Gullies couldn't cope with volume of water
<b>Work Undertaken</b>	
<b>Work Required</b>	
<b>History of flooding?</b>	

<b>Date</b>	25 October 2008
<b>Location</b>	Glencoe Police Station
<b>Description</b>	Water in Police Station
<b>Work Undertaken</b>	
<b>Work Required</b>	
<b>History of flooding?</b>	

<b>Date</b>	23 – 27 October 2008
<b>Location</b>	B8048 Kingairloch
<b>Description</b>	Landslide, blocked culverts – no properties affected
<b>Work Undertaken</b>	
<b>Work Required</b>	
<b>History of flooding?</b>	

## APPENDIX F

### FLOOD ALLEVIATION IN THE HIGHLANDS

## CONTACTS

### For assistance during flooding...

#### Normal Working Hours:

COUNCIL AREA	TEC SERVICES Local Contacts
Cairnsmore	01955 607761
Sutherland	01408 623400
Ross and Cromarty	01349 868440
Inverness	01463 703111
Hairn	01667 458522
Badenoch & Strathspey	01540 661206
Lochaber	01397 709600
Skye and Lochalsh	01478 612727

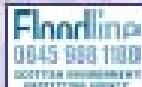
#### Out of Hours Emergency Numbers:

Housing Services	0845 700 2005
Social Work Services	0845 769 7284
TEC Service	0845 769 7284

#### Other Information Sources:

SEPA for more advice on flood risk and how to prepare for and react to flooding.

[www.sepa.org.uk/flooding](http://www.sepa.org.uk/flooding)



SCOTTISH WATER emergency number:

0845 600 8855

To request this information in an alternative format e.g., large print, Braille, computer disk, audio tape, or suitable language, please telephone: 01463 702604

## What should you do if affected by flooding?

If you have sufficient warning move valuables and items of personal value, such as photographs, to a safe location e.g. upstairs, top of wardrobe etc.

Report any flooding, or risk of flooding, to the Council's TEC Services contact number for your area.

Turn the electricity supply off, as the water may come in contact with junction boxes under the floor. If your house is flooded do not turn electricity back on before having the wiring checked by a qualified electrician.

Contact your insurance company to notify them that your property has been affected by flooding and take their advice on what to do next. If your property is not insured take advice from a reputable builder on the work required to repair your property.

Floodwater can, in some areas become contaminated by sewage. If you come in contact with floodwater outside your home you should, as soon as possible, remove outdoor clothing particularly footwear and wash your hands thoroughly especially before preparing food. Contact your local Council Environmental Health Office or Service Point for hygiene advice.



## What can the Council do?

Although the Council maintains watercourses to reduce the risk of flooding there will be occasions when the intensity or duration of rainfall will result in some properties being flooded.

The Council's TEC Services will make filled sandbags available at suitable locations in areas which are liable to be affected by flooding. Where there is a request from elderly, infirm or housebound people sandbags will be delivered to affected areas.

Contact Social Work Services and/or TEC Services if you are aware that a frail or vulnerable person is affected. Contact numbers are provided in this leaflet.

**The Highland Council  
Contractor  
Service The People & Environment**

# Flood Alleviation in the Highlands



[www.highland.gov.uk](http://www.highland.gov.uk)



## RESPONSIBILITIES

### Property Owners

Under Common Law the main responsibility for reducing flood risk lies with the owner of the property. It is long established that a property owner should take responsibility for the safety and security of their own property. This includes taking steps to reduce the risk of flooding provided these actions do not increase the risk of flooding to other properties.

Owners can be held liable under common law if they cause flooding to their neighbours by, for example, dumping of rubbish, building of structures or features which reduce the size of the watercourse.

Owners can help to maintain the hydraulic efficiency of a watercourse and reduce the risk of flooding by taking the following advice:

- Carry out regular maintenance to remove obstructions, such as excessive vegetation, which could cause blockages and increase the risk of flooding.
- Do not use the watercourse as a dump for garden rubbish, which may cause a blockage down stream.
- Do not reclaim land by filling in an open watercourse and piping the water without first obtaining technical advice from a professional engineer.
- Do not build any form of structure or feature, which reduces the size of the watercourse.

### The Highland Council

The Council has a duty, under the Flood Prevention and Land Drainage (Scotland) Act 1997 to:

- Periodically assess watercourses to determine whether there is a risk of flooding to property built on non-agricultural land.
- Maintain a watercourse (remove mud, silt and debris) where doing so will substantially reduce the likelihood of flooding to property built on non-agricultural land. This duty does not apply where failure to maintain the watercourse would result only in flooding of land in the same ownership as the watercourse requiring maintenance.
- To publish a biennial report, which contains information about areas affected by flooding and the actions taken to reduce the risk of future flooding.

The Council carries out regular maintenance of culverts, inlet screens and other areas where there is a known risk of flooding to properties.

### Scottish Water

Scottish Water is responsible for:

- Dealing with surface drainage i.e. water from driveways, hard standings and the roofs of buildings that is drained to their sewers.
- Dealing with the immediate impact of flooding from sewers.

### Scottish Environment Protection Agency (SEPA)

SEPA provides:

- Floodline - 0845 981 1188 - a 24 hour a day, 365 days a year public information service providing Scotland-wide flood alert information through Flood Watch, more specific alerts for areas covered by Flood Warning schemes, and general advice on how to prepare for and cope with flooding. Flooding can also be reported through Floodline. The service is supported by the flood update at [www.sepa.org.uk/flooding](http://www.sepa.org.uk/flooding)
- 9 flood warning schemes in the Highlands, operated in partnership with the police and local authorities.
- Flood warnings to the police and local authorities.
- Advice to local authorities on flood prevention and flood risk for planning purposes.
- Answers to public queries on potential flood risk to areas and properties.

### Major Flood Alleviation Schemes

Where the risk of flooding affects a significant number of properties the Council has powers to promote a formal flood alleviation scheme. These works are normally extensive and require a Flood Prevention Order promoted by the Council. This process can take a number of years to complete and involves public consultation. Objections to the scheme may lead to a Public Enquiry.

Details of flood alleviation schemes in progress can be found in the Council's capital programme.

## BE PREPARED

Flooding is a natural process that can happen suddenly. While official bodies like the Highland Council, Scottish Environment Protection Agency (SEPA) and the police all play a part in giving warnings and assistance, the person who can do most to help is you.

### What can you do to be prepared?

If you live in an area that is prone to flooding, do what you can now to prepare for a flood. Don't wait until it happens, you may not have time.

- Make sure you have adequate insurance. Flood damage is included in most buildings insurance policies but do check your home and contents are covered.
- Make up a flood kit - including key personal documents, torch, battery or wind-up radio, mobile phone, rubber gloves, wellington boots, waterproof clothing, first aid kit and blankets.
- Keep details of your insurance policy and the emergency contact number somewhere safe - preferably as part of your flood kit.
- Make a list of useful numbers you may need - local Council Service Point, the emergency services and your SEPA Floodline quick-dial code - obtained during your first call to Floodline.
- Get into the habit of storing valuable or sentimental items and important documents upstairs or in a high place.
- Keep some sandbags or other purpose-made flood protection products to block doorways and atriums - a list of manufacturers and suppliers is available through Floodline.
- Make sure you know where to turn off your gas, electricity and water. If you're not sure, ask the person who checks your meter when they next visit. Mark the tap or switch with a sticker to help you remember.