TORBAY COUNCIL

Flood Investigation Report

21st – 26th November 2012

Introduction

Under the Flood and Water Management Act 2010 (FWMA) Torbay Council as a Unitary Authority were designated as the Lead Local Flood Authority (LLFA) for Torbay. This has placed a number of statutory responsibilities on the Council in relation to flood risk management. One of these new responsibilities is identified under Section 19 of the Act which states:

Section 19 – Local Authorities: Investigations

1) On becoming aware of a flood in its area, a Lead Local Flood Authority must, to the extent that it considers it necessary or appropriate, investigate –
    a) Which Risk Management Authorities have relevant flood risk management functions, and
    b) Whether each of those Risk Management Authorities has exercised, or is proposing to exercise, those functions in response to the flood.
2) Where an authority carries out an investigation under subsection (1) it must –
    a) Publish the results of its investigations, and
    b) Notify any relevant Risk Management Authorities

Under the Act a Risk Management Authority is identified as:

1) The Environment Agency
2) A Lead Local Flood Authority
3) A district council for an area for which there is no unitary authority
4) An internal drainage board
5) A water company
6) A highway authority

When considering whether it is necessary or appropriate to investigate a flooding event Torbay Council will assess the severity of the event and the number of properties affected. The Local Flood Risk Management Strategy which is currently being prepared by Torbay Council will identify the criteria to be used when considering whether a Flood Investigation Report is required. Until this Strategy is published, Torbay Council will undertake a Section 19 flood investigation following a flooding event where 5 properties or more suffer internal flooding.

In partnership with the other Risk Management Authorities in Torbay this report has been produced to comply with the legislation and to determine the main causes of the flooding. In addition within this report Torbay Council have identified a number of actions the relevant Risk Management Authorities need to consider. Torbay Council as the LLFA will continue to monitor the list of actions with all the relevant Risk Management Authorities and will assist in the delivery where practical to do so.

Risk Management Authority Responsibilities

Recording Flooding Incidents and Key Responsibilities

As part of the new statutory duties identified within the FWMA 2010 all LLFA's must record flooding incidents within its area.

The roles and responsibilities for the various types of flooding is spread across all of the Risk Management Authorities identified within the FWMA 2010 with the LLFA having an overriding duty to investigate, where appropriate, the flooding from all sources. The following table identifies the relevant flood risk management functions for each of the Risk Management Authorities and the different sources of flood risk that Torbay Council as LLFA need to investigate.

Flood Source	Lead Local Flood Authority	Environment Agency	Water Company	Highway Authority
Rivers:				
Main Rivers		Responsible		
Ordinary watercourses	Responsible			
Surface Run Off:				
Surface water	Responsible			
Surface water on the highway				Responsible
Other:				
Sewer Flooding			Responsible	
Coastal Flooding		Responsible		
Groundwater	Responsible			
Reservoirs		Responsible		

It should be noted that a main river in the above table refers to a river that has been designated as such by the Environment Agency. These tend to be the larger arterial watercourses that are considered to pose a significant flood risk. Ordinary watercourses include all rivers and streams that have not been designated as main rivers and all ditches, drains, culverts, dikes, sluices, sewers (other than public sewers) and passages through which water flows.

The general Risk Management Authority responsibilities in relation to flood risk and surface water management are outlined below:

The Environment Agency is responsible for managing the risk from the sea, main rivers and reservoirs and they have a strategic overview role for all flood risk management. The Environment Agency also provides a flood warning service throughout England and Wales in areas at risk of flooding from rivers or the sea.

Torbay Council as Lead Local Flood Authority is responsible for overseeing the flood risk from ordinary watercourses, groundwater and surface water run-off. They are also responsible for consenting works on ordinary watercourses and enforcing the removal of any unlawful structures or obstructions within the watercourse. As previously identified they must ensure that following a flooding event a flood investigation is carried out and the flood investigation report is published.

Torbay Council as Highway Authority is responsible for surface water on the highway and maintaining gullies and culverts to ensure effective highway drainage.

In addition to the Risk Management Authority responsibilities identified above land/property owners that have a main river or ordinary watercourse in or adjacent to their land have riparian responsibilities on that main river or ordinary watercourse. This means that the landowner must:

- Let water flow through their land without any obstruction, pollution or diversion which affects the rights of others.
- Accept flood flows through their land, even if these are caused by inadequate capacity downstream.
- Keep the banks clear of anything that could cause an obstruction and increase flood risk, either on their land or downstream if it is washed away.
- Maintain the bed and banks of the watercourse and the trees and shrubs growing on the banks and should also clear any litter or debris from the channel and banks, even if it did not come from their land.
- Keeps any structures, such as culverts, trash screens, weirs and mill gates, clear of debris.

Background

Torbay suffered a period of prolonged rainfall from the morning of 19th November 2012 until the afternoon of 26th November 2012, some of which was torrential and affected all parts of the bay to varying degrees. The most severe rainfall was experienced across the bay on 21st and 24th November 2012.

Raingauges owned by Torbay Council and the Environment Agency have been downloaded in Brixham (Laywell Reservoir) and Torquay (Torre Abbey). The total rainfall recorded between the late morning of 19th November and 26th November 2012 at these raingauges was 129.8 mm in Brixham and 132.2 mm in Torquay. As mentioned earlier the most severe rainfall was experienced on 21st and 24th November and the peak intensity at each location was 11.2mm/hr in Brixham and 14.4mm/hr in Torquay.

The total rainfall that fell on each day during the storm event is as follows:

Date	Torquay	Brixham
19th November 2012	0.0 mm	6.6 mm
20th November 2012	21.6 mm	29.0 mm
21st November 2012	34.4 mm	23.6 mm
22nd November 2012	13.2 mm	11.4 mm
23rd November 2012	0.2 mm	0.2 mm
24th November 2012	40.4 mm	38.6 mm
25th November 2012	16.8 mm	17.0 mm
26th November 2012	5.6 mm	3.4 mm
Total Rainfall	132.2 mm	129.8 mm

The rainfall characteristics of the storm event have been analysed and the return period has been calculated. In Torquay the return period between 00:15 hrs on 20th November 2012 and 07:15 hrs on 26th November 2012 has been assessed as 1 in 26.0 years. In Brixham the return period between 11:15 hrs on 19th November 2012 and 07:45 hrs on 26th November 2012 has been assessed as 1 in 21.4 years.

Prior to the storm event and during the storm event a number of severe weather warnings and flood warnings were issued by the Met Office and the Environment Agency. Details of these warnings are identified below:

- Met Office National Severe Weather Warning issued at 10:25 hrs on 20th November 2012: Yellow warning of heavy rainfall affecting Torbay and other areas of the country between 00:05 hrs and 13:00 hrs on 21st November 2012.

- Environment Agency Flood Alert issued at 10:32 hrs on 20th November 2012 possible flooding in the River Teign area of South Devon including Babbacombe.
- Met Office National Severe Weather Warning issued at 21:13 hrs on 20th November 2012: Update to previous warning increasing risk to Amber for Devon and the West Country of heavy rainfall affecting Torbay and other areas of the country between 00:05 hrs and 13:00 hrs on 21st November 2012.
- Met Office National Severe Weather Warning issued at 12:34 hrs on 21st November 2012: Amber warning of heavy rainfall and strong winds affecting Torbay and other areas of the country between 14:00 hrs and 23:59 hrs on 22nd November 2012.
- Met Office National Severe Weather Warning issued at 11:42 hrs on 23rd November 2012: Amber warning of heavy rainfall affecting Torbay and other areas of the country between 11:00 hrs and 23:59 hrs on 24th November 2012.
- Environment Agency Flood Alert issued at 15:49 hrs on 23rd November 2012 possible flooding due to heavy rainfall in South Devon.
- Met Office National Severe Weather Warning issued at 11:12 hrs on 24th November 2012: Update of previous amber warning of heavy rainfall affecting Torbay and other areas of the country between 11:00 hrs and 23:59 hrs on 24th November 2012.
- Environment Agency Flood Alert issued at 10:54 hrs on 24th November 2012 covering risk of coastal flooding for South Devon including Torbay during high tide at 15:15 hrs on 24th November 2012.

Following the initial warning of heavy rainfall Torbay Council's Engineering and Highway Sections arranged for all the trash screens located on main rivers and ordinary watercourses to be inspected and cleaned. In addition TOR2 were notified of the warnings and they arranged for staff to be on standby and also checked the stock of sand bags for emergency use should flooding occur.

At approximately 06:45 hrs on 21st November 2012 Torbay Council's 24 hour control room received their first call regarding flooding from a property in Sands Road in Paignton. Further calls were received throughout the storm event. Highways, drainage and TOR2 staff were successively called out during this period. Their work involved putting in place diversion arrangements for flooded roads, installing warning signs, sandbagging locations to prevent flooding from the highway, replacing blown manhole covers, clearing blocked road gullies, clearing trash screens and generally cleaning up after the flooding had subsided.

In addition to the calls received by Torbay's control room the Devon and Somerset Fire & Rescue Service control room and South West Water's call centre received numerous telephone calls regarding flooding. Devon and Somerset Fire & Rescue

attended a number of flooded properties during the storm event to assist with pumping out.

Incident Reports

A detailed analysis of the reported incidents to Torbay Council's control room, Devon and Somerset Fire & Rescue control room, South West Water's call centre and those received directly by Torbay Council's Engineering and Highways sections has been undertaken. It should be noted that additional properties are likely to have been flooded however, property owners have not reported them.

During the storm event there were 24 reports of properties suffering internal flooding and 34 properties reporting external flooding. In addition reports were received identifying 36 locations where highways had been flooded. It should be noted that some of these reports identified properties and highways being flooded on more than one occasion during the eight days of rainfall.

The number of reports received identifying properties suffering internal or external flooding and highway flooding on each day of the storm are summarised below.

Date	Internal Flooding to Properties	External Flooding to Properties	Highways Flooded
19th November 2012	0	0	0
20th November 2012	0	0	0
21st November 2012	5	1	16
22nd November 2012	0	1	3
23rd November 2012	1	1	0
24th November 2012	8	15	15
25th November 2012	10	9	2
26th November 2012	0	7	0

These incidents have been further analysed to diagnose whether the flooding was caused due to surcharge of the public sewer system, inadequate highway drainage, surface water run-off, groundwater or flooding from main rivers or watercourses.

Key Problem Areas

Manor Court/Manor Crescent/Washington Close, Paignton

This area of Paignton has a history of flooding incidents from the Occombe Valley watercourse (main river), the surface water drainage system, the combined sewer system and surface water run-off.

During the storm event seven properties at this location suffered both internal and external flooding on a number of occasions. A detailed investigation into the flooding has been undertaken by Torbay Council and the Environment Agency. The results of these investigations has identified that five of the properties suffered internal flooding on at least one occasion with the remaining two properties suffering external flooding. The properties were flooded due to hydraulic overloading/surcharging of the Occombe Valley watercourse, which is classified as a main river.

It should be noted that although the Occombe Valley watercourse is classified as main river the responsibility for maintenance works to maintain the flow of water through the watercourse falls to the riparian owners (owners of the properties through which the watercourse flows or the properties that are located alongside the banks of the watercourse).

As the storm event in November was prolonged the surface water run-off in the upstream sections of the watercourse resulted in the hydraulic capacity of culverts under Manor Court and Torbay Road being beaten. Flows backed up the system and burst the banks in the open sections of the watercourse resulting in overland flood water, which in some locations was over 300mm deep entering properties.

As part of the investigations into the flooding CCTV camera surveys have been carried out on the culverted sections of the watercourse. These have revealed a number of issues that could have exacerbated the flooding during November including a build up of silt and debris in some of the culverts, a lack of gradient within the culverts and the outfall of one culvert being below the invert level of a section of open watercourse. A number of these issues have already been addressed however in order to reduce the risk of flooding in the future major flood alleviation works are required.

Actions

Torbay Council/Environment Agency	Carry out further investigation works to assess the works that are required to provide a flood alleviation scheme for this area of Paignton.
Torbay Council/Environment Agency	As an interim measure, undertake cleaning works to the culverts to remove silt and debris. In addition excavate out the open section of watercourse to allow the culvert to have a free discharge location.
Property	Undertake regular maintenance and cleansing of the

Owners/Riparian Owners	sections of watercourse that pass through their property in order to allow a free flow through the watercourse and hence reduce the risk of flooding. If this is not done Torbay Council or the Environment Agency to consider carrying out enforcement if necessary.
Property Owners	Consider flood risk to own properties and investigate possibility of installing property level protection where necessary
Torbay Council	Torbay Council should include a future flood alleviation scheme for this area on the Environment Agency's Medium Term Financial Plan.

Totnes Road/Saxon Meadow, Paignton

The Yalberton Watercourse, classified as a main river flows through Collaton St Mary. The majority of the watercourse is open however as it passes under Totnes Road it is culverted. As part of the development at Collaton St Mary School immediately upstream of the culvert under Totnes Road, the school playing field was designed as a flood storage area in order to reduce the risk of flooding in Saxon Meadow and Totnes Road. In addition to the watercourse, this area is served by a combined sewer system which at times of heavy rainfall is known to surcharge. There is a history of both the combined sewer system and the watercourse flooding in this area of Collaton St Mary with the last flooding occurring on 6th October 2012.

During the storm event in November 2012, six properties suffered external flooding in this area. Following reports of the flooding Torbay Council's Engineering section undertook a detailed investigation into the flooding incident. The result of these investigations revealed that the Yalberton watercourse flooded on 24th November 2012 causing floodwater to flow across Totnes Road and flooding the access road in front of numbers 391 to 399 Totnes Road, together with the gardens in Saxon Meadow. In order to stop floodwater entering the buildings Torbay Council provided sandbags that were used to divert the floodwater away from the properties.

In addition to the Yalberton Watercourse flooding, problems were experienced with a ditch in a field to the rear of Totnes Road where a private trash screen at the head of a culvert had become blinded. This ditch is the responsibility of the riparian owner who is Torbay Coast and Countryside Trust who attended site following the report of flooding and cleaned the trash screen hence reducing the level of flooding.

Finally a resident in Totnes Road reported that the manhole covers in both Totnes Road and the access road in front of 391 to 399 Totnes Road had surcharged causing sewage to escape and enter the floodwater from the watercourse. A number of residents also reported that the foul sewage was backing up their private drainage system, with levels in their ground floor toilets rising however, the levels in the toilets did not rise sufficiently for internal flooding to occur.

Residents in this area were concerned about the effects that proposed future development in the Collaton St Mary area could have on the flood risk.

Actions

Environment Agency/Torbay Council	Investigations should be undertaken into the condition of the culvert under Totnes Road together with investigating the possibility of a flood alleviation scheme being provided. Following initial investigations, if a scheme is feasible Torbay Council should include a future flood alleviation scheme for this area on the Environment Agency's Medium Term Financial Plan.
Riparian Land Owners	Undertake regular maintenance/cleaning to ensure that

	watercourses/main rivers are not restricted or blocked. If this is not done Torbay Council or the Environment Agency to consider carrying out enforcement if necessary.
South West Water	Investigate the condition and capacity of the combined sewer in the Collaton St Mary area in order to identify any repairs or improvement works that are necessary to ensure reduced flood risk in this area.
Torbay Council/Environment Agency/South West Water	To ensure flood risk is managed from proposed new developments in this area, encourage the use of sustainable drainage systems for all new developments.
Property Owners	Consider flood risk to own properties and investigate possibility of installing property level protection where necessary.

Barn Court/Churston Road, Churston

The Churston Watercourse is classified as a main river and flows through Churston village to the rear of properties in Churston Road. The majority of the watercourse is open however as it passes under Brixham Road it is culverted. In addition to the watercourse, this area is served by a foul sewer system, however it is known that surface water enters the foul sewer system and at times of heavy rainfall the foul system is known to surcharge. There is a history of both the foul sewer system and the watercourse flooding in this area of Churston.

During the storm event in November 2012, eight properties suffered external flooding in this area. Following reports of the flooding Torbay Council's Engineering section undertook a detailed investigation into the flooding incident. The result of these investigations revealed that the Churston watercourse overtopped its banks on 24th November 2012 causing floodwater to enter gardens in Barn Court and Churston Road. In addition as a result of surface water run-off the highway drainage in Churston Road was beaten resulting in surface water flowing down the road and entering gardens to the front of the properties in Churston Road. This surface water run-off also flowed into Barn Court exacerbating the flooding from the Churston watercourse. There were also reports of a number of manhole covers within Churston being lifted as a result of the foul sewer system surcharging due to the ingress of surface water. In order to stop floodwater entering the buildings Torbay Council provided sandbags that were used to divert the floodwater away from the properties.

Actions

Environment Agency/Torbay Council	Investigations should be undertaken into the condition of the culvert under Brixham Road together with investigating the possibility of a flood alleviation scheme being provided. Following initial investigations, if a scheme is feasible Torbay Council should include a future flood alleviation scheme for this area on the Environment Agency's Medium Term Financial Plan.
Torbay Council Highways	Investigations should be undertaken into the condition of the highway drainage system within the affected area of Churston. Any blockages/debris should be cleared. Undertake regular cleaning of road gullies to ensure effective operation and reduce the risk of further flooding.
Riparian Land Owners	Undertake regular maintenance/cleaning to ensure that watercourses/main rivers are not restricted or blocked. If this is not done Torbay Council or the Environment Agency to consider carrying out enforcement if necessary.
South West Water	Investigate the condition and capacity of the foul sewer in the Churston area in order to identify any repairs or improvement works that are necessary to ensure reduced flood risk in this area.

Property Owners	Consider flood risk to own properties and investigate possibility of installing property level protection where necessary.

Esplanade Road/Sands Road/Kernou Road, Paignton

This area of Paignton has a history of flooding incidents from a number of sources including the combined sewer system, surface water sewer system, Victoria watercourse, surface water run-off, highway flooding and coastal flooding. In the past flooding from the surface water sewers and the Victoria watercourse occurred when a storm event coincided with a high tide however, following the construction of the Paignton Green pumping station the risk of flooding from the surface water system has been significantly reduced even when a large storm event coincides with a high tide.

In November 2012 five properties were reported to have been flooded with four of these being internal flooding. Following the reports of flooding Torbay Council's Engineering section undertook a detailed investigation into the flooding event and the causes of the flooding. The results of these investigations identified that flooding in this area of Paignton was experienced on 21st, 24th and 25th November 2012. In all cases the principal cause of the flooding was the surcharging of the combined sewer system which resulted in sewage backing up private connections and overflowing into properties through toilets, basins etc. In addition manhole covers were lifted which resulted in combined sewage flooding the highways. This flooding was exacerbated by surface water run- off from the highway.

South West Water has been notified of these flooding incidents and they are carrying out their own investigations into these incidents.

Actions

South West Water	Undertake investigations into the flooding problems and identify possible flood alleviation works that could be implemented in order to reduce the risk of flooding.
Property Owners	Consider flood risk to own properties and investigate possibility of installing property level protection where necessary.

Cockington Lane, Torquay

The Cockington watercourse is classified as an ordinary watercourse and flows through Cockington Village, alongside Cockington Lane before discharging to coastal waters at Livermead. The majority of the watercourse is open however as it passes under a number of roads it is culverted. The highway drainage system in Cockington Lane discharges to the Cockington watercourse. There is a history of flooding within Cockington Lane from both the Cockington watercourse and the highway drainage system.

During the storm event in November 2012, four properties suffered flooding in this area of which three were flooded internally. Following reports of the flooding Torbay Council's Engineering section undertook a detailed investigation into the flooding incident. The result of these investigations revealed that the Cockington watercourse overtopped its banks on 24th November 2012 causing floodwater to enter gardens and property in Cockington Lane. In addition as a result of surface water run-off the highway drainage in Cockington Lane was beaten resulting in surface water flowing down the road and entering gardens to the front of the properties. This surface water run-off exacerbated the flooding from the Cockington watercourse.

Actions

Torbay Council	Investigations should be undertaken into the condition and capacity of the Cockington watercourse together with investigating the possibility of a flood alleviation scheme being provided. Following initial investigations, if a scheme is feasible Torbay Council should include a future flood alleviation scheme for this area on the Environment Agency's Medium Term Financial Plan.
Torbay Council Highways	Investigations should be undertaken into the condition of the highway drainage system within the affected area of Cockington. Any blockages/debris should be cleared. Undertake regular cleaning of road gullies to ensure effective operation and reduce the risk of further flooding.
Riparian Land Owners	Undertake regular maintenance/cleaning to ensure that watercourses/main rivers are not restricted or blocked. If this is not done Torbay Council or the Environment Agency to consider carrying out enforcement if necessary.
Property Owners	Consider flood risk to own properties and investigate possibility of installing property level protection where necessary.

Isolated Flooding Locations

In addition to the five flooding locations identified previously within this report there were a number of other flooding incidents during the storm event throughout Torbay. All of these incidents have been investigated, the responsible Risk Management Authority has been identified and future actions to reduce the risk of flooding have been discussed with the relevant authorities.

The location, reasons for flooding and responsible Risk Management Authority for the flooding incidents are identified in the following tables.

Torquay

Location	Type of Flooding	Risk Management Authority
Queensway	Internal flooding to basement as a result of groundwater entering building	Torbay Council
Queen Street	Internal flooding to basement as a result of groundwater entering building	Torbay Council
Fore Street	External flooding to building as a result of combined sewer system surcharging	South West Water
Fore Street, Barton	3 properties suffered internal flooding as a result of groundwater entering building	Torbay Council
Western Road	External flooding to building as a result of combined sewer system surcharging	South West Water
Broadley Drive	External flooding to building as a result of combined sewer system surcharging	South West Water
Salisbury Avenue	External flooding to building as a result of combined sewer system surcharging	South West Water
St Matthews Road	External flooding to building as a result of combined sewer system surcharging	South West Water
Teignmouth Road/Hele Road	External flooding to school playing field and highway from combined sewer system	South West Water
Chestnut Avenue Walnut Road Avenue Road Mill Road Rathmore Road	External flooding to highway due to blocked road gullies and hydraulic overload of Torre Valley watercourse	Torbay Council
Babbacombe Road Edginswell Lane Broomhill Way/Riviera Way Newton Road near Torre Station Barton Hill Road Lymington Road Teignmouth Road	External flooding to highway due to blocked road gullies	Torbay Council Highways

Paignton

Location	Type of Flooding	Risk Management Authority
Ebeneezer Road	External flooding to property as a result of surcharge in combined sewer	South West Water
Dartmouth Road	External flooding to property as a result of surface water run-off from highway	Torbay Council Highways
Branscombe Road	External flooding to property as a result of surcharge in combined sewer	South West Water
Dartmouth Road at Clennon Valley	External flooding to highway from hydraulic overload of Clennon main river	Environment Agency/Torbay Council
Stoke Road Totnes Road Beechdown Road Tor Park Road Little Lane	External flooding to highway from hydraulic overload of Yalberton main river	Environment Agency/Torbay Council
Upper Manor Road Torquay Road Manor Court Manor Road	External flooding to highway from hydraulic overload of Occombe Valley main river	Environment Agency/Torbay Council
Hollicombe Road Torbay Road Gas Works Bend Old Paignton Road	External flooding to highway from hydraulic overload of Hollicombe stream	Torbay Council
Esplanade Road Sands Road Dartmouth Road Torquay Road Torbay Road Rear Ln Tweenaway	External flooding to highway as a result of blocked gullies	Torbay Council Highways
Warefield Road	External flooding to highway as a result of a combined sewer surcharging	South West Water
Kings Ash Road	External flooding to highway as a result of surcharged combined sewer blowing manhole cover	South West Water

Brixham

Location	Type of Flooding	Risk Management Authority
Old Road Galmpton	External flooding to property as a result of Galmpton main river overflowing	Environment Agency/Torbay Council
Churston Road Alston Road Brixham Road	External flooding to highway from hydraulic overload of Churston main river and blocked road gullies	Environment Agency/Torbay Council/Torbay Council Highways
Bascombe Road	External flooding to highway as a result of blocked road gullies	Torbay Council Highways

Actions

Torbay Council Highways	Inspect the highway drainage system in the affected areas as identified above, clear any blockages and undertake regular cleaning of road gullies to ensure effective operation and reduce the risk of further flooding.
Torbay Council	Investigate surface water flooding issues to determine measures that can be undertaken where necessary to reduce the risk of future flooding.
Torbay Council/Property Owners	As it is the responsibility of the property owner to protect themselves against groundwater flooding Torbay Council have advised the property owners of their responsibilities.
South West Water	Investigate the condition and capacity of the combined sewer system in the affected areas, as identified above, in order to identify any repairs or improvement works that are necessary to reduce the future flood risk.
Torbay Council/Environment Agency/South West Water	To ensure flood risk is managed from new developments encourage the use of sustainable drainage practices for all new developments.
Environment Agency/Torbay Council	Where flooding is from an ordinary watercourse or main river investigations should be carried out into the condition and capacity of the watercourse/main river. Any maintenance or improvement works should be identified in order to reduce the risk of flooding.
Riparian Landowners	Must undertake regular maintenance/cleaning to ensure flows in the watercourses/main rivers are not restricted or blocked. If this is not carried out Torbay Council or the Environment Agency may consider carrying out enforcement if necessary.
Property Owners	Undertake regular maintenance of their private drainage system including pumps/non-return valves, flood protection measures, etc in order to reduce the risk of failure.
Property Owners	Consider flood risk to own property and consider installing property level flood protection where necessary

Next Steps

The next steps, following publication of this report into the flooding event within Torbay between 21st and 26th November 2012, will be for Torbay Council as the Lead Local Flood Authority to ensure that the recommended actions identified at each flooding location are auctioned by the relevant Risk Management Authority. Torbay Council will prioritise the actions and monitor delivery through regular review meetings whilst working in partnership with the Environment Agency, South West Water and the local affected community.

There is an expectation from Torbay Council of itself and its partners that all authorities involved will cooperate and work together to improve the flood risk in the vulnerable areas identified in this report by completing the actions. As the Lead Local Flood Authority Torbay Council has a responsibility to oversee the delivery of these actions.

Where minor works and quick win schemes have been identified, these will be prioritised and subject to available funding and resources work will be undertaken as soon as possible. Any major works requiring capital investment will be considered through the Environment Agency's Medium Term Financial Plan process for grant in aid funding.

A review of the actions will be undertaken by Torbay Council as Lead Local Flood Authority in order to maintain progress and encourage delivery of the recommended actions.