

# **Flood Emergency Plans**

# **Guidance & Template**

# National Planning Policy Framework (NPPF) and the Technical Guidance Note on Flooding

# Introduction

The Business Continuity & Emergency Planning team of Bath & North East Somerset Council, has adopted this planning guidance and template to support planning applications that are subject to the NPPF and its associated technical guidance on flooding.

The purpose of this guidance is to highlight the matters you need to consider when developing a Flood Emergency Plan (FEP), including flood warnings, safe routes and evacuation options.

You can adapt the information within this document to suit your needs. For ease of

use we have clearly identified items as **Must**, **Should** and **Could**. Anything that is identified as **Must** is essential in all plans. Items shown as **Should** or **Could** are optional and their inclusion should be based on the flood risk to which the plan is intended to be a response. These items may be required where the flood risk is high, such as large developments in high probability flood zones.

This guidance provides an outline of what should be included in a FEP. It includes the Environment Agency Warning Codes at Appendix 1, useful sources of information at Appendix 2, a Flood Evacuation Plan Template at Appendix 3, Example Flood Evacuation Plan at Appendix 3 and the Flood Evacuation Plan Assessment & Approval Form (against which Flood Evacuation Plans will be assessed) at Appendix 4.

# Other sources of information

It is essential to remember the issues surrounding people's safety in flood events.

Further information on the preparation of a FEP to satisfy the Government's guidance can be found in the NPPF and the associated technical guidance note on flooding.

An FEP should form part of a suite of plans that link Health & Safety at Work<sup>1</sup> and business continuity.

# DISCLAIMER

Bath & North East Somerset Council, as far as it can ascertain, acknowledges that this flood emergency plan template is suitable for the purposes set out in the NPPF

Flood emergency plans are the sole responsibility of the applicant and the Bath & North East Somerset Council cannot accept any responsibility for any omission or error contained in any such plan, or for any loss, damage, or inconvenience, which may result from such plans' implementation. Any subsequent approval does not impute any approval of those plans from the Environment Agency or any of the emergency services. Flood emergency plans must be reviewed on a regular basis – *at least every three years or when information changes which requires it to be amended*- to ensure that they are consistent with good practice.



<sup>&</sup>lt;sup>1</sup> Extracts from Health & Safety at Work etc Act 1974, Part 1

<sup>&</sup>quot;so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks"

<sup>&</sup>quot;.... all means of access thereto or egress there from available for use by persons using the premises, and any plant or substance in the premises or, as the case may be, provided for use there, is or are safe and without risks to health."

# **Flood Emergency Plan Guidance**

The following document provides outline information that could be included in each section of a FEP. The document is written for the use of those with minimal previous experience of flooding and health & safety issues.

#### Introduction, Scope & Objective

Should

This states the purpose, scope and objectives for the plan and gives the reason why the reader needs to read the Flood Evacuation Plan.

# Situation



Provide background information useful to site users and the emergency services responding to a flood event at the site. The information should include the purpose of the site, the usual and maximum number of people in the site, key locations in the site such as facilities, parking, offices, accommodation, etc. The plans should also provide information on infrastructure and utilities within the site, other hazards and normal access and egress routes.

# **Risk Assessment**



Risk is a combination of impact and probability. The site should have been subject to Site Specific Flood Risk Assessment (FRA). The key outcomes from the FRA should be summarised in this section with maps provided if possible. The severity of the impact of flooding should be described to provide a useful understanding of the situation should flooding occur.

# Considerations

Should

Further to the flood risk assessment, a site risk assessment should be undertaken to identify the hazards that could be present during a flood and/or evacuation, assess the risks and state reasonable precautions that could be taken. When undertaking this risk assessment it is worth considering any disabled or vulnerable people and any limitations/hazards that could compromise the plans.

# Prevention, Protection, & Preparation.



The risk assessment should identify a number of actions that can be taken to prevent flooding, protect against flooding and prepare for flooding. The mitigating actions should be assessed against cost and benefit and implemented where appropriate. The actions could also be documented in an action plan and implemented in phases as appropriate. Useful preparation tools are the Environment Agency's Business Flood Checklist and the Personal Flood Plan (links provided in Appendix 2).

# **Deploying Flood Barriers / Flood Protection**

Remember to include actions associated with temporary flood barriers or flood protection actions that need to be performed in advance of flooding to minimise the impact on your site. Include details of exactly what actions need to be done, who is responsible for carrying out these actions, their nominated deputises, and what training is required, etc.

#### **Flood Warnings**



The Environment Agency (EA) and Met Office provide flood warnings up to five days in advance. These warnings can be coupled with specific on site systems to provide a useful system of escalation tide to specific actions.

#### **Flood Forecasting and Warning Services**

The EA operate a Flood Forecasting and Warning Service in areas at risk of flooding from rivers or the sea, which relies on direct measurements of rainfall, river levels, tide levels, inhouse predictive models, rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.

If flooding is forecast, warnings are issued using a set of four easily recognisable codes. A description of the codes is shown in Appendix 1.

#### Flood Warnings Direct (FWD)

Floodline Warnings Direct is a free service operated by the EA that provides flood warnings direct to you by telephone, mobile, email, SMS text message and fax. Sign up for Floodline Warnings Direct by calling Floodline on 0845 988 1188 or going online and using the link included in Appendix 2.

#### **Estimated Flood Warning Time**

It is important to determine the estimated lead time between the EA sending out the warning and the time flooding might occur, and depending on the cause / type of flooding the estimated duration of the flood.

#### Alarms

An alarm should be raised when a specific warning or trigger is received. This alarm should be obvious to those using the site and they should be clear on how to respond. Alarms should also take into account those with sensory or mobility impairment.

# Low lying Areas designed to Flood

The site may include areas, which are designed to flood (e.g. ground floor car parking and amenity areas), these areas must contain signs highlighting the susceptibility to flooding and contain clearly signed routes to higher land. All site users should be made aware of this risk.

# Action on Alarm being Raised / Warnings Being Received

Must

See Appendix 1 for useful examples of how to escalate actions. At least one extra step should appear within the site plan "what to do when there is site flooding".

# Monitoring

Could

Floods are difficult to predict by their nature and it may be worth putting systems in place to monitor flood water levels between flood warnings to reduce the risk of being caught unaware.

# **Site Evacuation Procedures & Routes**

Must

Identify in advance of flooding which individuals can be sent home, if safe to do so. Allow time for this to occur before any routes become affected by the flooding. Evacuation procedures should be developed which identify when and how evacuation takes place, if necessary signed routes may be required,

Flood Emergency Plan Guidance & Template - NPPF Version 2.0 (Jul 2012) (including the maintenance of signs and keeping evacuation routes clear). Consideration should be given to the road network around the site, especially if these are more likely to flood first and therefore affect evacuation time.

The evacuation procedures should include options for the evacuation of ALL people on site, (including those with restricted mobility). It should be assumed that visitors will not have local knowledge and will need to be guided to a safe route / location. It is also worth keeping in mind the need to have evacuation plans for any pets and livestock.

### Shelter & Welfare

If an evacuation is necessary, consider the location to which the site will be evacuated. It can be assumed that it will be cold, raining and dark. The shelter and welfare of those evacuated from the site needs to be considered and it must be assumed that support from the emergency services will not be immediately forthcoming.

#### Safe Refuge

Any no notice flooding events following breaches in defences or surface water flooding will require a safe refuge such that all occupants can take immediate action to keep themselves safe without relying on intervention from outside. These details should be recorded and be a part of the training for the FEP.

If the decision is made that nominated individuals / critical workers are to remain safe on site, ensure risk assessments have been completed. Include details of how many people can be accommodated in this manner and the resources / equipment available to sustain them the necessary duration. Depending on the cause of flooding, people may need to stay for many hours. Consider their communications with management, emergency services and their families. - Do not plan for or assume that the emergency services will rescue people from this location. The focus of any response from the emergency services will be to those who are immediately vulnerable and at most risk. It is probable that the emergency services services will be stretched thin.

# **Command & Control**

Any staff on the site must be clear on their roles and responsibilities in response to flood warnings and flooding. There should be a single person in control of the site response to ensure all activities are coordinated. Any plans must be drawn up to work on a 24/7 basis.

If immediate flooding is forecast and the opportunity to safely evacuate is gone, preemptive flood protection tasks must be implemented (if time allows) and the formal instruction given to move to the area of safe refuge.

# Site Re-Occupation



It must be born in mind that before re-occupation occurs that the recovery of the area affected will be co-ordinated by the local authority supported by various agencies.

There may well be environmental hazards, loss of utilities and other such issues, which may have to be rectified before people are allowed back to premises.

Occupiers must therefore consider a wide range of measures in developing their Recovery Plan, see link included in Appendix 2.

#### **Briefing / Training/Exercising**

All personnel who work or are resident on site should be made aware of this plan and briefed / trained accordingly. Exercising of the plan and personnel is essential.

Must

Health & Safety records should be kept listing which personnel have been trained and exercised.

The Plan will form part of the Health & Safety at Work Register maintained by the organisation.

#### **Document Control**



The Plan should be owned, maintained, and updated. All users should be reminded periodically to provide details of any changes that may materially affect the plan in any way.

Details of changes should be recorded and the documentation updated. This should be completed either through a re-issue of the plan or via an amendments record.

The plan should be reviewed at least every three years, or more regularly if required, for example, as a result of lessons identified after an activation event or exercise, following major changes of personnel or policy, or following any change to the flood risk or warning process.

Documentation control procedures should be in place to ensure that only the current version of the plan is in circulation.

# Appendix 1 - Environment Agency Warning Codes Flood Warning Codes

What the flood warning codes mean and what action to take.

Four codes are used for flood warnings. They can be issued in any order, usually ending with an 'all clear'.

# **Flood Alert**



#### What it means

Flooding is possible. Be prepared.

#### When it's used

Two hours to two days in advance of flooding.

#### What to do

- Be prepared to act on your flood plan.
- Prepare a flood kit of essential items.
- Monitor local water levels and the flood forecast on our website.

# **Flood Warning**



#### What it means

Flooding is expected. Immediate action required.

#### When it's used

Half an hour to one day in advance of flooding.

#### What to do

- Move family, pets and valuables to a safe place.
- Turn off gas, electricity and water supplies if safe to do so.
- Put flood protection equipment in place.

# Severe Flood Warning



#### What it means

Severe flooding. Danger to life.

#### When it's used

When flooding poses a significant threat to life.

#### What to do

- Stay in a safe place with a means of escape.
- Be ready should you need to evacuate from your home.
- Co-operate with the emergency services.
- Call 999 if you are in immediate danger.

# Warnings no longer in force

#### What it means

No further flooding is currently expected in your area.

#### When it's used

When river or sea conditions begin to return to normal.

#### What to do

- Be careful. Flood water may still be around for several days.
- If you've been flooded, ring your insurance company as soon as possible.

http://www.environment-agency.gov.uk/homeandleisure/floods/31620.aspx

# **Appendix 2 - Useful Sources of Information**

Am I at Risk of Flooding? http://www.environment-agency.gov.uk/homeandleisure/floods/31650.aspx **Floodline Warnings Direct** https://fwd.environment-agency.gov.uk/app/olr/register Prepare a Flood Plan for your Business http://www.environment-agency.gov.uk/business/topics/flooding/32362.aspx **Business Flood Checklist** http://www.environment-agency.gov.uk/business/topics/flooding/32358.aspx Make an Emergency Flood Plan for your Home http://publications.environment-agency.gov.uk/pdf/GEHO0709BQPU-e-e.pdf Preparing your home or business for flooding http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx Improving the flood performance of new buildings: flood resilient construction. http://www.communities.gov.uk/publications/planningandbuilding/improvingflood Improving the flood resistance of your home - advice sheets http://www.ciria.org.uk/flooding/advice sheets.html Flood Protection Association (Promote the interests of manufacturers and installers of flood protection equipment and requirements) http://www.floodprotectionassoc.co.uk/ **Direct Gov Preparing for emergencies** 

http://www.direct.gov.uk/en/Governmentcitizensandrights/Dealingwithemergencies/Preparingforemergencies/index.htm

**UK Resilience** 

http://www.cabinetoffice.gov.uk/ukresilience.aspx

# Appendix 3 – Flood Evacuation Plan Template

Introduction <mark>(Should)</mark>
Scope <mark>(Should)</mark>
Objectives <mark>(Should)</mark>
Situation (Must)
Description of the Site (Purpose, Capacity, Locations, Infrastructure, Hazards, etc.) (Must)
Map(s) - Add as an appendix
Site Map showing key infrastructure & utilities (Must)
Site Map showing max predicted extent of flood water (See EA Flood Maps), direction of flow, areas designed to flood, vulnerabilities, equipment, hazards. <mark>(Should)</mark>
Site Map showing evacuation routes and assembly points (Must)
Site Map for Emergency Services <mark>(Should)</mark>
Site Map showing Flood Protection where proposed (Should)
Flood Risk (Flood probability <mark>(Should)</mark> , impact of flood based on Flood Risk Assessment <mark>(Should)</mark> , Description of the severity of the impact should it occur and mitigations (Could))
Considerations (Disabled, vulnerable, limitations, other hazards (Should))
Prevent, Protect, Prepare. (The risk assessment should identify a number of action that can be taken to prevent flooding <mark>(Should)</mark> , protect against flooding <mark>(Should)</mark> and prepare for flooding <mark>(Must)</mark> )
Flood Warnings (Use of Environment Agency Flood Warning System, other flood warnings, Advance warning times for each warning, Alarms.(Must))
Action On Alert (Action to be undertaken at each level of warning escalation, e.g. Protective
measures <mark>(Must)</mark> , crash out bags <mark>(Should)</mark> , marshalling <mark>(Could)</mark> , move to refuges <mark>(Could)</mark> .)
Monitoring (systems to monitor flooding (Could)
Evacuation (Evacuation procedure <mark>(Must)</mark> , people/property to be evacuated <mark>(Should)</mark> , support for the evacuation (Should), routes (Must), safe refuges (Could), welfare arrangements (Must).
Site Reoccupation (Considerations, hazards, priority, clean up operation. (Should)
Briefing/Training/Exercising (brief for people new to site, staff evacuation training, induction, exercising/testing. (Must)
Documentation Control (Should)
Distribution List <mark>(Should)</mark>
Version Control <mark>(Should)</mark>
Issued on (Date) (Should)
Valid Until (Date) (Should)
Review <mark>(Should)</mark>
(e.g. This plan will be reviewed every three years )

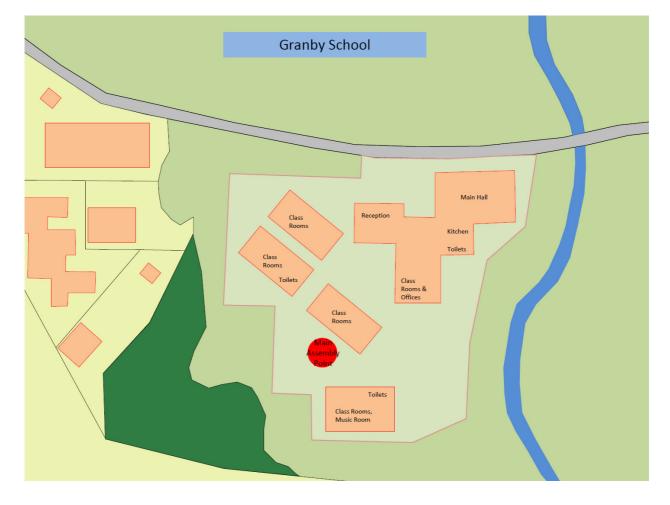
# Appendix 4– Flood Evacuation Plan Example Introduction

This is a plan to ensure the effective evacuation of Granby Primary School in the event of a Flood.

It is imperative that as soon as the school grounds start to flood the site is evacuated quickly and effectively for the safety of staff and children.

# Situation & Considerations

The school has 350 children on enrolled, aged 4 to 11.



The school has a number of students with specific access requirements.

# **Key Points from Flood Risk Assessment**

The school lies within the Flood Zone 3a that means there is a risk of the school flooding between once every 20 to 100 years. The school is located next to Zebidee Brook which is a rapid reaction water course and has cause significant flooding in the past.

A site specific flood risk assessment has been carried out on behalf of the school which shows the flooding risk to be medium. In 2010 work started to redevelop the site and in doing so, the floor levels in the structures and the main access routes will be raised thus further reducing the chance of flooding.

#### Prevention

The school site has been redeveloped to raise the floor level of the building as a mitigation against flood. No further preventative measures have been possible because of the SSSI nature of the watercourse.

#### Protection

Flood barriers have been installed on the buildings at risk from flooding to allow some protection, but these measures are only intended to allow extra time for evacuation in the flood scenario. The School has made the decision that as soon as flooding touches the main hall, the whole school will be evacuated as a precaution.

#### Preparation

Flood crash out bags are held in main reception and in each class room and a full flood kit is maintained in reception. A flood evacuation drill is carried out at the start of each term.

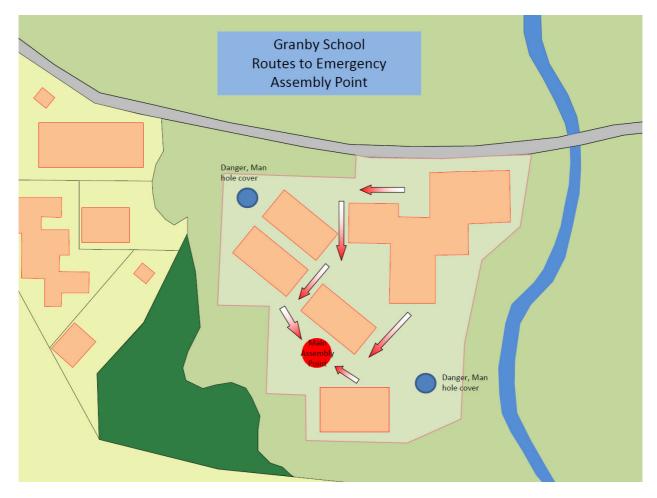
#### **Flood Warnings**

The Environment agency flood risk early warning system contacts (Insert Name) as designated number either at the school or on a designated number for an out of hours/term event. Should (Insert Name) being unavailable XXXXX is contacted.

The Schools has signed up the Environment Agency Flood Warning Scheme (https://fwd.environmentagency.gov.uk/app/olr/home) 0845 988 1188. The following action will be taken for each flood warning.

Warning	Message	Timing	Action
FLOOD ALERT	Flooding is possible. Be prepared.	2 hours to 2 days in advance of flooding.	<ul> <li>Be prepared for flooding.</li> <li>Prepare a flood kit.</li> </ul>
FLOOD WARNING	Flooding is expected. Immediate action required.	Half an hour to 1 day in advance of flooding.	<ul> <li>Act now to protect your property.</li> <li>Block doors with flood boards or sandbags and cover airbricks and other ventilation holes.</li> <li>Move pets and valuables to a safe place.</li> <li>Keep a flood kit ready.</li> <li>Move any critical</li> </ul>

SEVERE FLOOD WARNING	Severe flooding. Danger to life.	When flooding poses a significant threat to life and different actions are required.	•	equipment and information to a safe location Be ready should you need to evacuate from the property. Co-operate with the emergency services and call 999 if you are in immediate
MARINO				danger.
Warning Removed	No further flooding is currently expected for your area.	Issued when a flood warning is no longer in force.	•	Flood water may still be around and could be contaminated. If you've been flooded, ring your buildings and contents insurance company as soon as possible.



Action to be taken in the event of Alarm being Raised or Flood Warning Received:

1. If flood warning received whilst the school is occupied (during working hours)in hours:

a) Raise the alarm and evacuate school following established Fire Drill procedures. Main assembly point in top playground (in front of music room).

b) Contact Emergency Fire Services (999) if necessary and/or Environment Agency Floodline: (0845 988 1188) if event was not expected. Subsequently contact B&NES Health & Safety Team Leader (\*\*\*\*\*\*\*\* or out of hours \*\*\*\*\*\*\*\*)

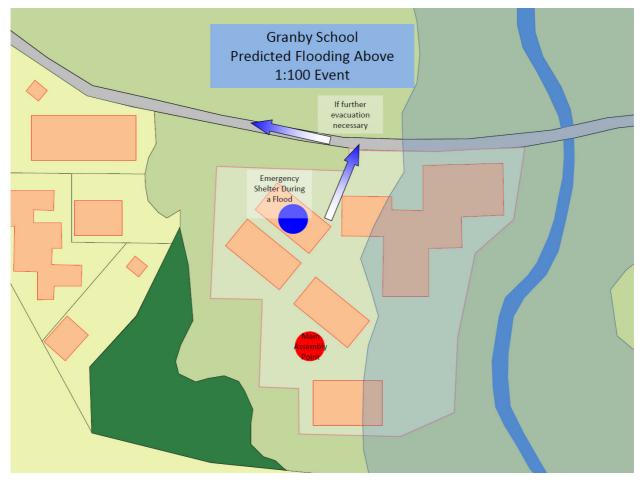
c) If safe to do so, locate and turn off key services e.g. water, gas & electricity.

d) Following enquiries/assessment the school should either be invacuated, evacuated or stood down.

# Evacuation

2. If site starts to flood whilst the school is occupied (during working hours), immediate action is to evacuate.

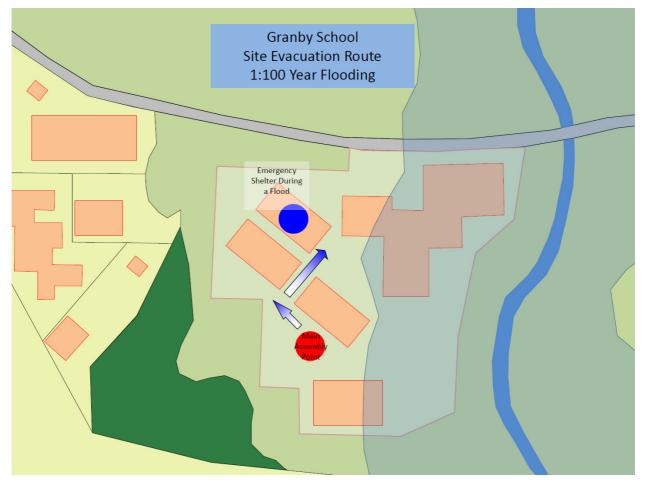
a) Evacuate school following emergency site evacuation drill as shown below



# Invacuation

3. If warning has been received but site has not yet started flooding and the school is occupied (during working hours), immediate action is to invacuate to building outside flood zone.

a) Invacuate school following emergency site evacuation drill as shown below:



# Stand-down

4. Following confirmation from the Environment Agency, the decision can be taken to stand down the school. In this eventuality, the school should return to normal lessons following the agreed re-occupation procedure.

# **Out of Hours Warning/Flood**

5. If flooding occurs out of hours:

a) Notify B&NES Health & Safety Team Leader (\*\*\*\*\*\*\* or out of hours \*\*\*\*\*\*\*) to discuss school closure if necessary.

- b) Inform Emergency Management Team (\*\*\*\*\*\*\*). Go to scene and activate Emergency Plan.
- c) If safe to do so, locate and turn off key services e.g. water, gas & electricity.

# 6. In case of injury, contact Ambulance & Police (999).

#### 7. Site Reoccupation

If the site is the re-occupied following a flood warning, the plan is to do so in class number order with all classes going through reception.

If the site has been flooded and specific flood evacuation plan will be developed with advice from B&NES Coucil.

#### 8. Who to inform and how:

NB. Please use Parentmail when established. Meanwhile:

# 9. See Emergency Contact List (attached).

Parents to be contacted as follows (already distributed):

(Insert Names)	A-C
(Insert Names)	D-F
(Insert Names)	G-J
(Insert Names)	K-N
(Insert Names)	0-S
(Insert Names)	T-Z

(Insert Names)to liaise with B&NES/national agencies.

(Insert Names)to supervise Emergency Services.

(Insert Names) and Office Staff to contact Governors and all non-teaching staff, who will be asked to cascade information to others.

# 10. Out of Hours Contact:

See Emergency Contact List plus Staff Contact Sheet (attached).

#### 11. Instructions for Staff:

See Section 11 of B&NES Emergency Management Document

# 12. Control Centre:

School Office - \*\*\*\*\*\*\*\* or \*\*\*\*\*\*\* if office subject to flood conditions

# 13. Communication with parents/carers:

Large Groups – Hall

Small Groups - Staff Room

Individuals - Old staff room

Draft letter based on B&NES model (p. 24 of Emergency Management Document)

#### 14. Media:

B&NES Communication and Marketing – (Insert Names) – \*\*\*\*\*\*\*

#### 15. Resources:

See Equipment Register See Staff Register for list of First Aiders.

#### 16. Finance:

Funds available via petty cash. See (Insert Names).

# 17. Returning to Normal:

Liaise with B&NES Educational Psychology Team ((Insert Names)– \*\*\*\*\*\*) and Rev'd(Insert Names). support for managing stress of staff/pupils. Consider involving

B&NES Communication and Marketing – (Insert Names)– \*\*\*\*\*\*

Please consider the following

- Contact details for key services and insurance
- How will the school continue to function following the flood if the damage is severe and the building is put out of bounds for some time?

# 15. Mutual Aid Arrangements:

(Insert Names), Headteacher, Grickbury Primary – \*\*\*\*\*\* (Insert Names), Headteacher, Grodbury Primary - \*\*\*\*\*\*

# 16. Log Sheet:

To be maintained - See attached.

# 17. Who hold copies of this plan?

(Insert Names) (Headteacher)
(Insert Names) (Deputy Headteacher)
(Insert Names) (Chair of Governors)
(Insert Names) (Health & Safety Representative)
(Insert Names) (Secretary and Health & Safety Governor)

Date

Dear Parents,

Re: on at

We regret to inform you that following the affecting pupils from this school, the school will remain closed for a number of days. The earliest date on which it will reopen will be. Information on the position at school and details of when it will reopen will be broadcast on Radio Bristol and GWR fm, so please tune in after the news at 1.00pm, 5.00pm or 6,00pm if you can. HTV will also give details at 6.30pm. The Council's Education Service has an information line number you can phone if you are unable to hear/see the broadcasts, or if it is important for you to receive more information. The number is \*\*\*\*\*\*\*

Please do not telephone or drive to the school, as telephone lines and access roads need to be kept clear for essential personnel.

We recommend that pupils stay close to home during this difficult time. We will endeavour to start teaching again as soon as possible.

With our very best wishes to you and your children.

Yours,

(Insert Names)Headteacher

	et Council					Reference No. **********
Assessment Areas			A	lssessme ₩	nt	
		Priority	Satisfactory	Needs Improvement	Not Acceptable	Remarks
Introduction		S	<i>5</i> 0	<u>z =</u>	ZQ	
Scope Objective		S	L			
Situation		3				
	ion of site including purpose & capacity	М				
Map(s)	dentified locations	M				
:	Sources and flow of flood water	S				
	Areas designed to flood Vulnerable areas, equipment and people	S M				
	Flood preventative measures	S	<u> </u>			
	Areas to avoid	s				
Flood Risk Probabili	ty	s				
Impacts		S				
Severity	description	С				
Considerations Disabled		s				
Vulnerab		s	<u> </u>			
Limitatio		S				
Other ha Prevent, Protec		S				
	to prevent flooding	s				
	to protect against flooding	S				
Actions 1 Flood Warnings	to prepare for flooding	м				
	▶ systems	M				
Advance	d warning time	M				
Alarms Actions on Alarm being Raised		M				
First acti		м				
	re measures	S				
Preparat	ions Crash out bags	M S	<u> </u>			
	Marshalling	s				
	Alert procedures	M				
	Refuges jet support	C	<u> </u>			
	nd & control	M				
Monitoring						
Evacuation	ng systems	С				
	on procedures	М				
People/		S				
	ng the evacuation (staff, community) on routes	S M	<u> </u>			
Welfare	& shelter	M				
Safe refu		С				
Site Reoccupat Consider	rations/hazards	s				
Order of	reoccupation	S				
Priority Clean un		S	L			
Clean up Briefing/ Traini		3				
Brief to p	people new to site	м				
Staff eva Inductior	cuation training	S	L			
	ng/testing	M	<b>├</b> ──			
Documentation	Control					
Distributi Version		S	L			
Amendm		S				
Review		S				
	Scoring Scheme					Reviewing Officer
Satisfactory	Meets requirements	С	ondition c:	an be disc	charged	
Needs Improvement	Needs some improvement	Condition can be discharged with caveats		arged with	Condition can/can not be discharged	
Not						

#### Appendix 4 – Flood Evacuation Plan Assessment & Approval Form

Version 2.0 (Jul 2012)