

Flood Warning and Emergency Plan

Site Address:
18 Woodville Gardens
Ruislip
Middlesex
HA4 7ND

Client:
Yvonne Stansfield



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Flood Emergency Plan



Site Address:	18 Woodville Gardens Ruislip Middlesex HA4 7ND
National Grid Reference:	508304, 187711
Version No:	1.0
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2 EMERGENCY FLOOD PLAN

2.1 Introduction, Scope & Objective

The objective of this plan is to raise awareness of the risk of flooding in the location specified below, to detail the Flood Warnings and estimated lead time available, and to detail how the Plan is triggered by who and when, and what actions are required by those people in the area. The Plan also describes the evacuation procedure and need for safe refuge.

In the event of a serious flood event across the site the competent warning authority is the Environment Agency. When a flood is expected the Local Authority and local emergency services will be responsible for public care and safety.

In [Appendix 1](#) there is an Environment Agency Personal Flood Plan. This document will guide the future residents in the event of evacuation. Details need to be filled in by the occupant of the property.

2.2 Site Location and Background

The Site is centred at national grid reference 508304, 187711 and is located at 18 Woodville Gardens, Ruislip, Middlesex, HA4 7ND. A site location map is provided in Figure 1.

This flood emergency plan relates to the dwelling at 18 Woodville Gardens that is undergoing a part two storey, part single storey side/rear extension.

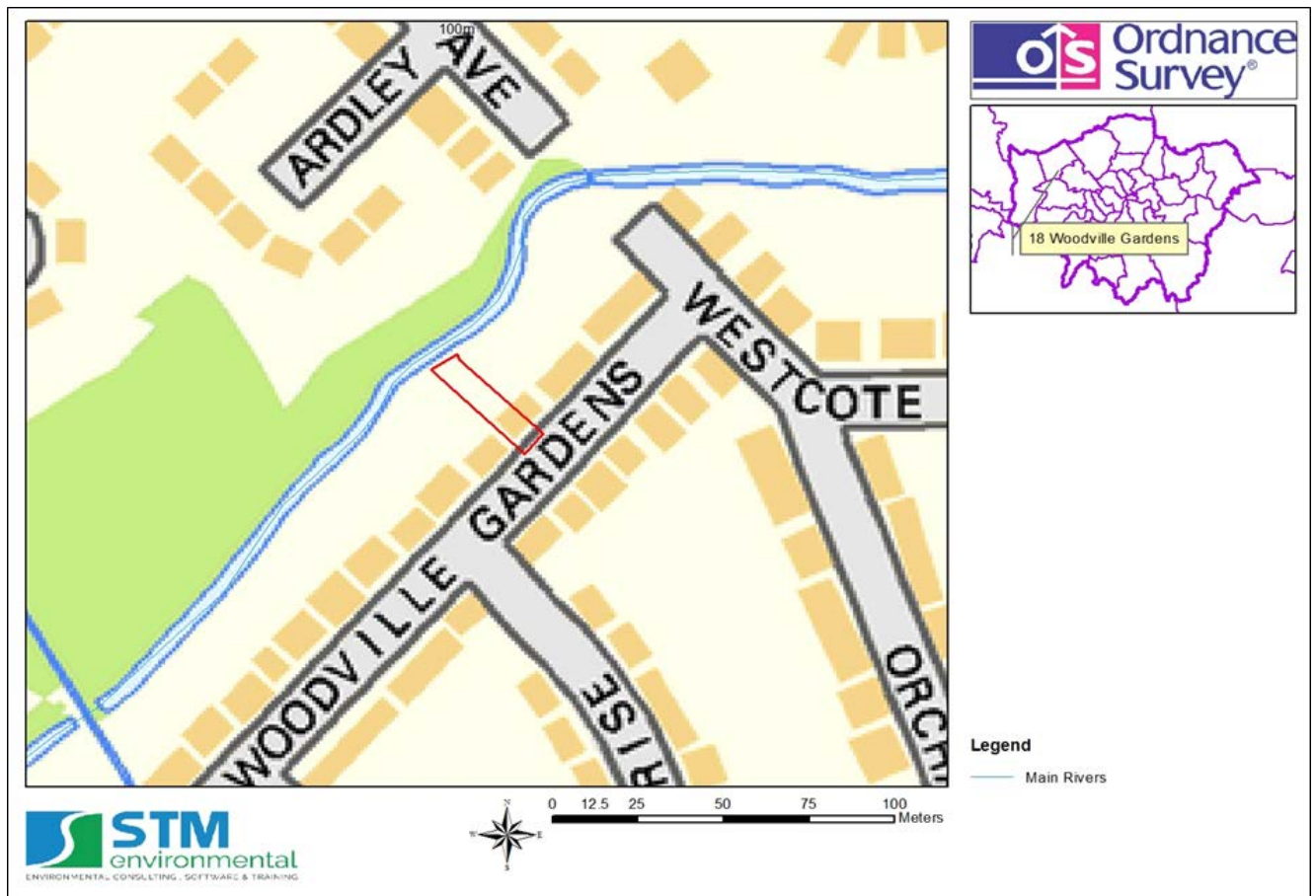


Figure 1: Site location Map

2.3 Fluvial Flood Risk

Fluvial flood risk is assessed using flooding maps produced by the Environment Agency. These maps use available historic data and hydraulic modelling to define zones of flood risk. The maps allow a site to be defined in terms of its flood zone (e.g. 1, 2, 3) and in terms of the overall flood risk (very low, low, medium or high). It is important to note that existing flood defences are not considered within the models or the maps. The EA fluvial flood zones are defined as follows:

-  **Flood Zone 1:** Less than 1 in 1000 (0.1%) annual probability of flooding;
-  **Flood Zone 2:** Between 1 in 100 and 1 in 1000 annual probability of flooding;
-  **Flood Zone 3:** Greater than 1 in 100 annual probability of fluvial flooding.

Flood zone 3 is split into two sub-categories (3a and 3b) by LLFAs depending on whether the land is considered to be a functional flood plain (i.e. an important storage area for flood waters in extreme events).

Flood Zone 3a: Greater than 1 in 100 annual probability of fluvial flooding and/or greater than 1 in 200 annual probability of tidal flooding;

Flood Zone 3b: functional flood plain (definition specific to the LLFA). Less than a 1 in 20 annual probability of fluvial and/or tidal flooding;

The site is located in Flood Zone 3b as defined by the EA and LLFA. This indicates that the site is located on functional flood plain and has a greater than 1 in 100-year (1%) annual probability risk of flooding. However, it should be noted the site benefits from flood defences in the form of high ground just north of the site boundary along the River Pinn.

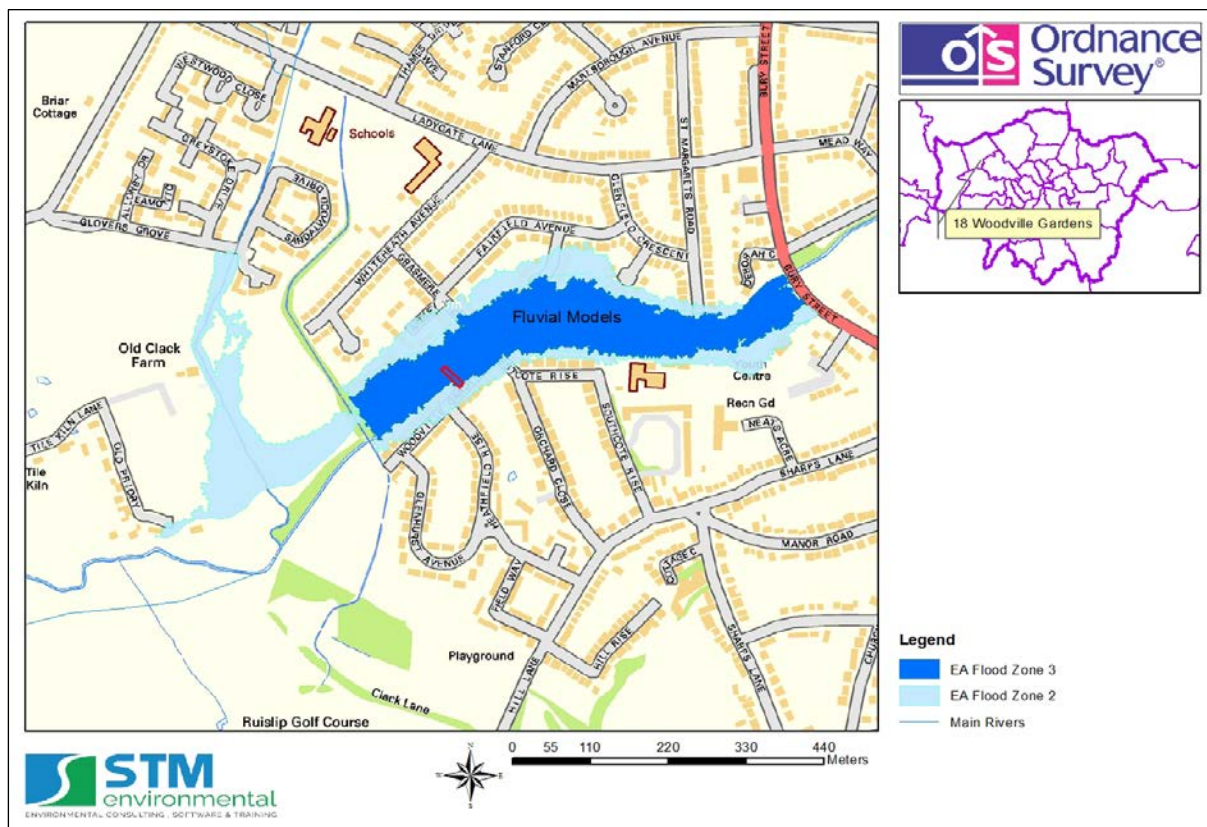
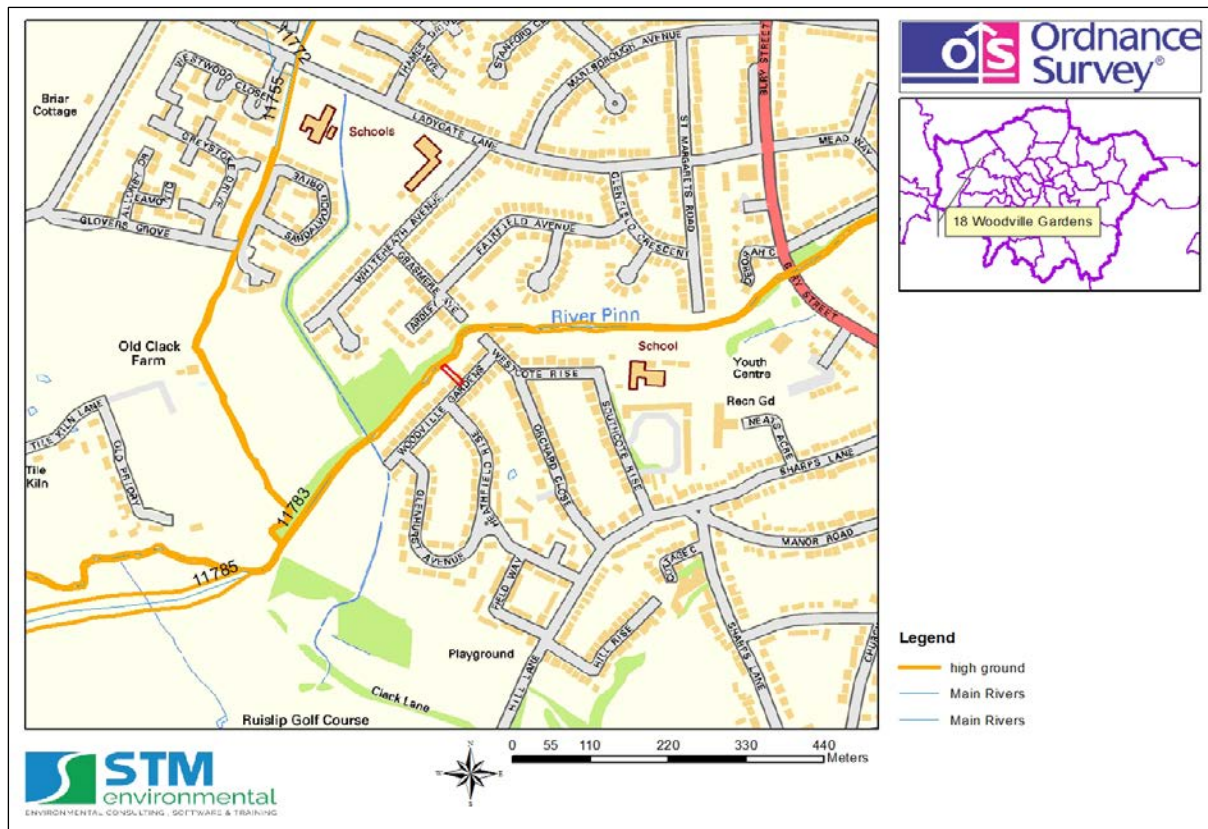


Figure 2: EA fluvial and tidal Flood Zones



2.4 Surface Water Flood Risk

Figures 4 and 5 show the modelled surface water flooding during the 1 in 100-year and 1 in 1000-year precipitation scenarios. The maps show that the site would be impacted by both events. Flood depths reach a maximum of 300mm during the 1 in 100-year scenario and 900mm during the 1 in 1000-year scenario.

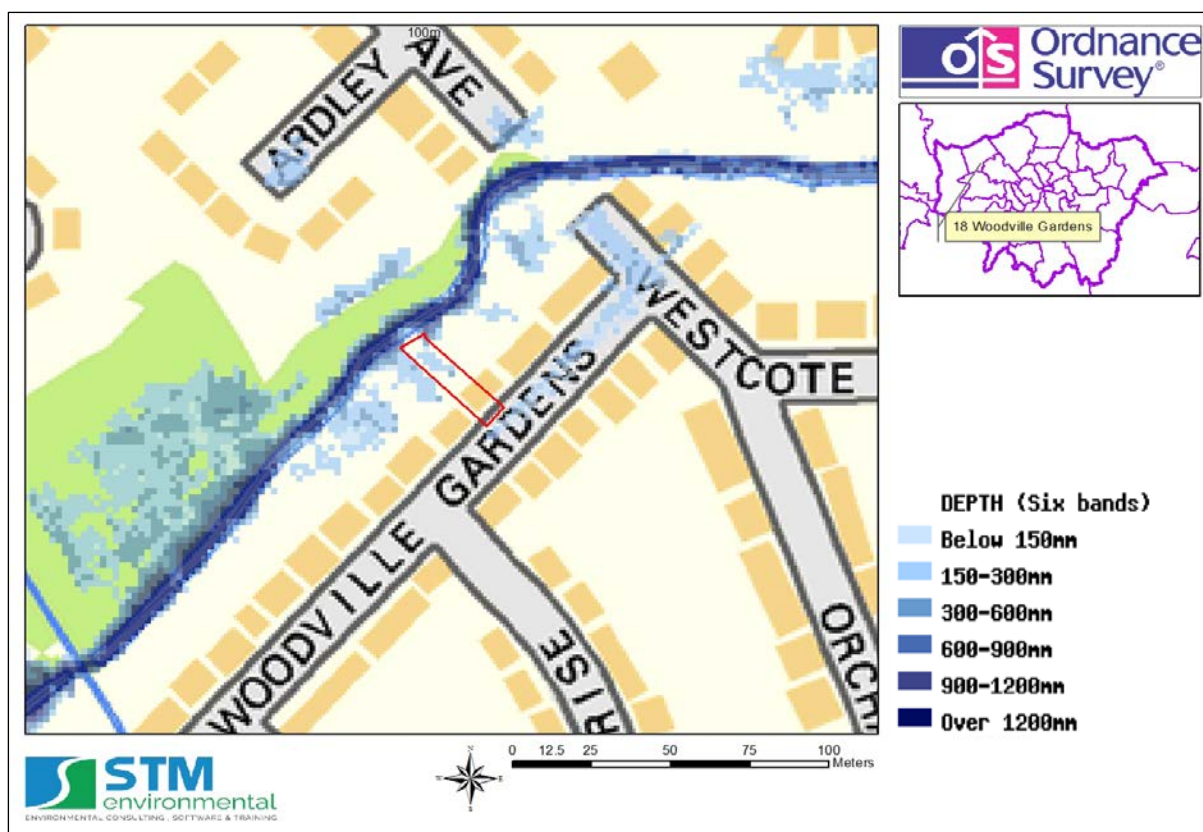


Figure 4: Surface Water Flood Depths during the 1 in 100-year precipitation event.

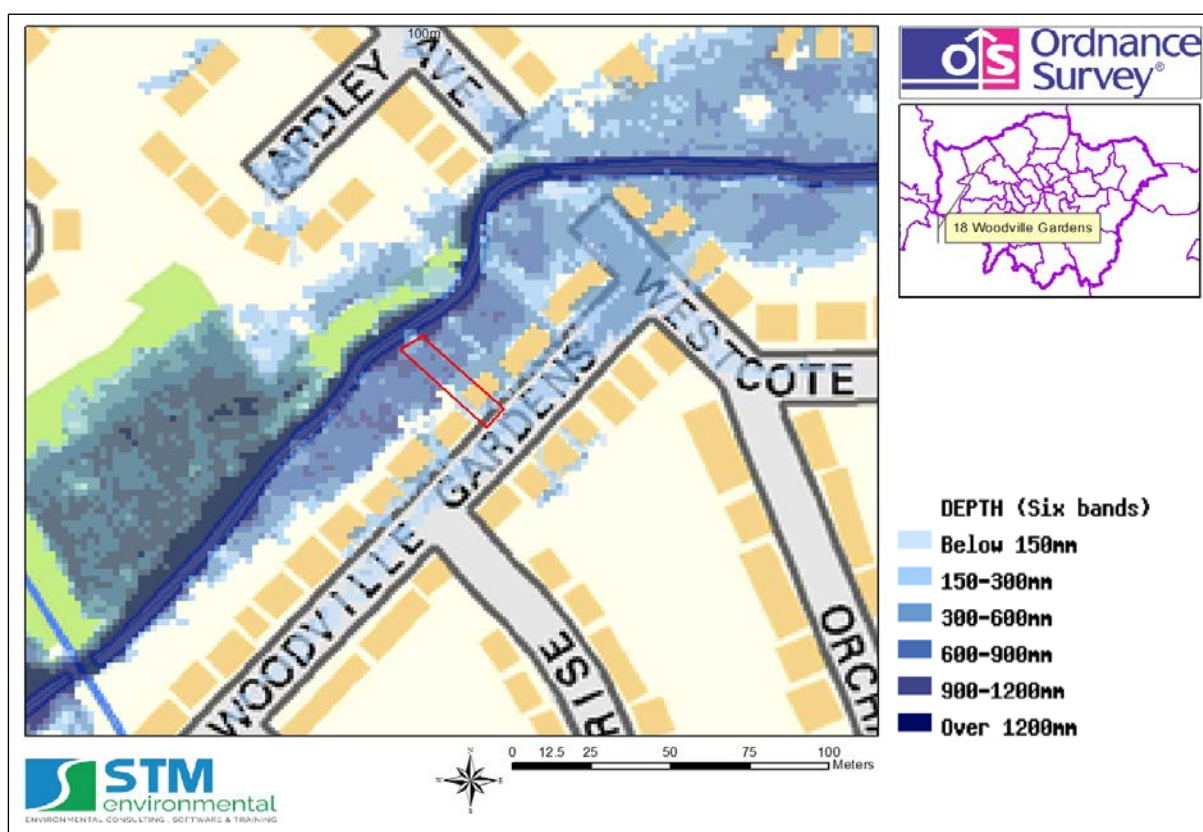


Figure 5: Surface Water Flood Depths during the 1 in 1000-year precipitation event.

3 FLOOD AWARENESS AND WARNING

3.1 Flood Warnings

The occupiers will subscribe to the EA Flood Warnings Direct Service which is a free service offered by the EA that provides flood warnings direct to people by telephone, mobile, email, SMS text message and fax. This can be found at <https://www.gov.uk/sign-up-for-flood-warnings>.

The service relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. The EA aims to provide 2 hours' notice of flood warnings day or night which will allow timely evacuation of the site before the onset of flooding. If flooding is forecast, warnings are issued using a set of easily recognisable codes. A description of the codes and actions to be taken are described below.

The agency also operates a 24-hour telephone service on 0345 988 1188 that provides frequently updated flood warnings and associated floodplain information. In addition, this information can also be found at <https://flood-warning-information.service.gov.uk/warnings> along with recommendations on what steps should be taken to prepare for floods, what to do when warnings are issued, and how best to cope with the aftermath of floods.

3.2 Flood Warning Codes (Know When to React)

The flood warning service has three types of warnings that will help you prepare for flooding and take action. These are detailed as follows.

3.2.1 Flood Alert



What it means: This warning means that flooding is possible.

When it's used: You should be prepared. It is usually 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 & flood forecast on the EA website.

3.2.2 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.

Flood Warning means – ‘Flooding of homes and businesses is expected. **Act now.** The flood warning alert will be issued when water levels are rising and further rain is expected – it is advised to safeguard the property and prepare to evacuate. At this stage residents should:

- Contact the local emergency authorities to find out whether evacuation is considered necessary and where they are providing for evacuees
- Consider what is needed if evacuation to short term accommodation is necessary: children's essentials (for example, milk, baby food, sterilised bottles and spoons, nappies and wipes) medication and clothing (if there is heavy rainfall you may get wet whilst evacuating).
- Consider moving suitable and sentimental belongings upstairs or in a high place downstairs
- Consider what provision can be made for family pets
- Check with neighbours that they are aware of the situation and have prepared accordingly
- Locate keys for locking windows and tools for switching off gas and electricity supplies. It will be necessary to switch off utilities and secure unoccupied properties during evacuation.
- Put sandbags or flood boards in place

Residents must locate, water, electricity and gas supplies and switch off before evacuating. If residents are unsure of how to do this they must contact their supplier. Neighbours may be able to provide assistance. **This should be found out in**

advance of any flood warnings and included in the **Personal Flood Plan** provided in [Appendix 1](#).

Residents should call the EA Floodline on **0845 988 11 88** periodically and listen to and watch for weather and flood warnings on local radio and television stations.

If water levels begin to fall without reaching the properties, residents should continue to monitor the situation. Residents should stay alert and be ready to evacuate until the EA issues “All Clear” status.

3.2.3 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 your home.
- Co-operate with the emergency services.
- Call 999 if you are in immediate danger.

Severe flood warning means that severe flooding is expected. There is extreme danger to life and property and people are advised to act immediately i.e. Evacuate.

The Environment Agency aim to provide at least 2 hours warning between the Flood Warning alert being issued and the commencement of flooding. The EA recommend that residents should evacuate when a Flood Warning or Severe Flood Warning status is issued. If flood levels continue to rise, residents are advised to evacuate before safe access is lost.

At this level driving through flood water may become hazardous and residents must evacuate beforehand.

Residents should monitor the flood progression and evacuate, on foot as soon as possible. The safe exit route shown in [Section 6.2](#) should be used as the means of

evacuation rather than attempting an alternative route. Residents should be aware that parts of the evacuation route may be up to 900mm depth of flooding.

Before evacuating, residents should try to ensure that all windows are securely closed and locked; this will provide protection against thefts and water pressure caused by flood waters. On leaving the property residents must ensure that doors, including internal doors, are securely locked and closed.

At this stage the local authority, the emergency services and the Environment Agency should be managing the situation, with widespread flooding potentially over a large area, and will endeavour to provide advice on an evacuation route, shelter and assistance to evacuees.

The Local Authority has a legal obligation to provide assistance to evacuees under the homelessness Act 2002. However, residents must be aware that at times of widespread flooding local services may have difficulty providing for a large number of evacuees.

4 FLOOD RISK MITIGATION MEASURES

The following practical methods are suggested by the Environment Agency to minimise the impacts of flooding. You should always be prepared to implement these mitigation measures before any warnings are issued.

-  During a flood alert you need to be prepared that these mitigation measures may need to be implemented;
-  During a flood warning these measures must be implemented.

4.1.1 Sandbags

A supply of sandbags and sand should be held at the site in an area which can be easily accessed. These can be implemented to reduce the effects of flooding onsite. Refer to [Appendix 2](#) for instructions on how to build a sandbag defence.

4.1.2 Temporary Barriers

Demountable defences are quick and easy to deploy; it takes roughly six to eight people to erect 100m of demountable defences in an hour. You can get more details

on demountable defences from the National Flood Forum. Call them on **01299 403 055** or visit their website: www.floodforum.org.uk.

4.1.3 Safe storage

Look at how any gas cylinders and/or pollutants (such as paint and chemicals), are stored on site. These could be secured or removed from the flood risk area e.g. placed in cupboards located above predicted flood levels. This could prevent potential damage to the site and possible floodwater contamination.

4.1.4 Drainage

Fit non-return valves to all drains and water inlet pipes.

4.1.5 Gas and Electricity

If you leave your home during a flood you'll need to turn off your mains water, gas and electricity if it is safe to do so. Find out in advance how to do this and know the location of water stopcocks, gas shut-off valves and electrical master switches.

4.1.6 Important Records

Consider copying important records and keeping them in a safe place. This includes financial and insurance records, passports and other forms of identification.

4.1.7 Insurance

Find out if your insurance covers you for flood damage and lost revenue. Not all insurance companies cover flooding, so it is important to check. If you do have a flood on your site, make sure you get photographic or video evidence of the damage and before the clean-up process. This may help when you talk to your insurance company.

5 FLOOD KIT (ALWAYS BE PREPARED)

A flood kit should always be stored where you can easily get to it if your bungalow is flooded or blacked out. It should include:

-  A torch
-  Blankets or a sleeping bag, warm clothing and waterproofs
-  A first-aid kit, including a supply if any essential medication
-  A list of useful telephone numbers
-  A supply of bottled water

- A stock of non-perishable food items
- A portable radio and supply of batteries
- Wellington boots or similar waterproof boots
- Check your insurance cover – ensure it covers flood damage
- Know how to turn off the gas, electricity and water mains supplies
- Think about what items you would want to move to safety during a flood

The flood kit will also be useful for general emergency situations.

6 SAFE REFUGE AND SAFE EXIT ROUTE

6.1 Safe Refuge Areas

The proposed development will have internal connections to upper floors in the property which will act to provide sufficient safe refuge in the event of an extreme flood event.

6.2 Safe Exit

Access to and egress from the site is via Woodville Gardens. LIDAR data indicates that the ground levels along Woodville Gardens range from 40.5 to 40.9 mAOD.

Safe egress to Flood Zone 1 is easily available by walking less than a minute from 18 Woodville Gardens onto Heathfield Rise in the South direction.

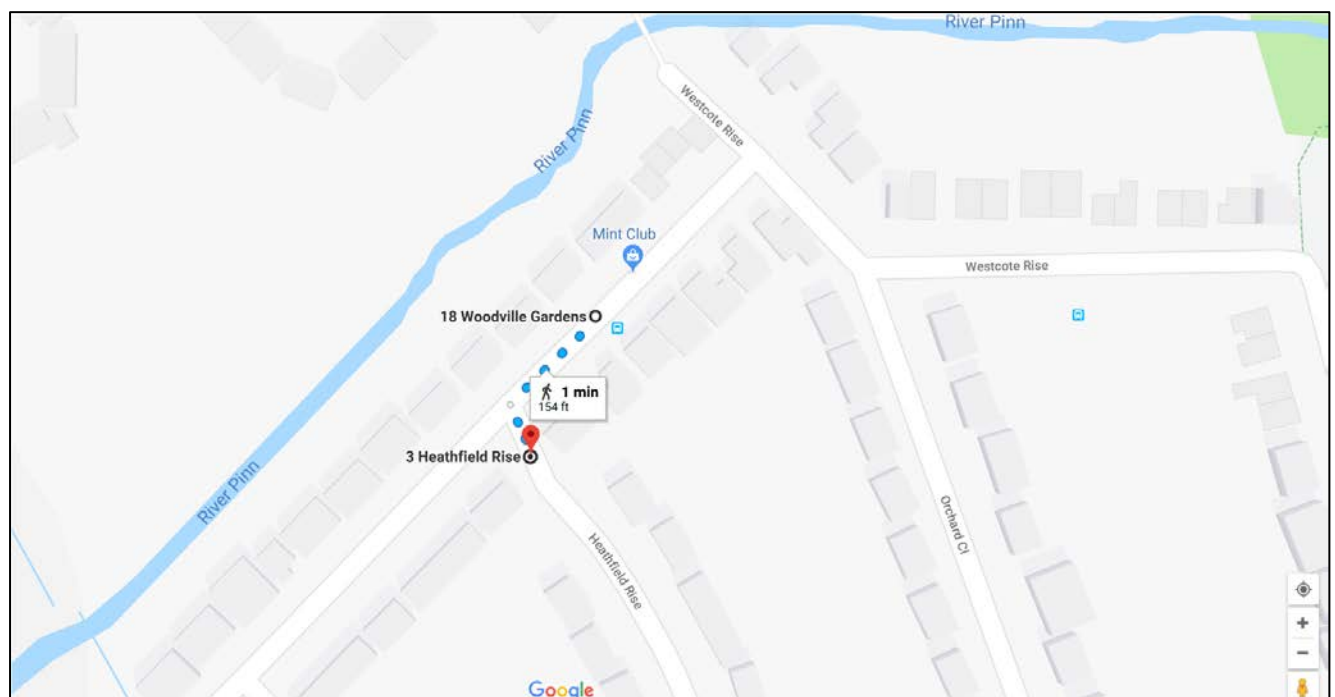


Figure 6: Safe egress route to Flood Zone 1.

6.3 All Clear

When warnings are no longer in force, it means that no further flooding is currently expected in your area and river or sea conditions are beginning to return to normal. For further information visit the [Environment Agency](#) website.

You should:

-  Keep listening to weather reports;
-  Only return to evacuated buildings if you are told it is safe;
-  Beware sharp objects and pollution in flood water.

Residents should contact the local authority to check that it is safe to return to their property. Residents should be aware that if floodwaters have entered the property it will need to be cleaned, disinfected and repaired and fully dried out prior to reoccupation. Residents must check that the building is safe before entering the building, and if there are any doubts professional opinion should be sought.

If there is any doubt that appliances may be water damaged they must be checked before switching the power or gas back on. Contact your insurance company as soon as possible to get their approval before arranging any clean-up or repairs.

7 FLOOD PROCEDURES

7.1 Annual Review

Residents must review the Flood Warning and Evacuation Plan at least annually and the following actions should be taken in line with Environment Agency guidance.

-  **Reading the plan and updating the contacts list** – so residents are familiar with the required actions and that all contact numbers are up to date
-  **Contact the Environment Agency Floodline Service on 0345 988 1188** to check that the flood risk to the property has not changed, for example flood defences may be built.
-  Contact the Environment Agency Flood Warning Service on **0345 988 1188** to ensure that you are still registered to receive flood alerts direct to your phone.
-  Prepare and maintain a flood kit to contain items which are essential for evacuation

8 APPENDIX 1 – EA PERSONAL FLOOD PLAN (TO BE FILLED OUT BY THE OCCUPANT OF THE PROPERTY)

Personal flood plan

Name



Are you signed up to receive flood warnings?

If not call Floodline on 0345 988 1188 to see if your area receives free flood warnings.

☐

Let us know when you've completed your flood plan by calling Floodline on **0345 988 1188**. This will help us learn more about how people are preparing for flooding.

General contact list	Company name	Contact name	Telephone
Floodline	Environment Agency		0345 988 1188
Electricity provider			
Gas provider			
Water company			
Telephone provider			
Insurance company and policy number			
Local council			
Local radio station			
Travel/weather info			

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Who can help/who can you help?

Relationship	Name	Contact details	How can they/you help?
Relative			
Friend or neighbour			

Be prepared for flooding. Act now

Personal flood plan

What can I do NOW?



Put important documents out of flood risk and protect in polythene

☐

Look at the best way of stopping floodwater entering your property

☐

Find out where you can get sandbags

☐

Identify what you would need to take with you if you had to leave your home

☐

Check your insurance covers you for flooding

☐

Make a flood plan and prepare a flood kit

☐

Identify who can help you/ who you can help

☐

Understand the flood warning codes

☐

What can you do if a flood is expected in your area?

Actions	Location
Home	
• Move furniture and electrical items to safety	
• Put flood boards, polythene and sandbags in place	
• Make a list now of what you can move away from the risk	
• Turn off electricity, water and gas supplies	
• Roll up carpets and rugs	
• Unless you have time to remove them hang curtains over rods	
• Move sentimental items to safety	
• Put important documents in polythene bags and move to safety	
Garden and outside	
• Move your car out of the flood risk area	
• Move any large or loose items or weigh them down	
Business	
• Move important documents, computers and stock	
• Alert staff and request their help	
• Farmers move animals and livestock to safety	
Evacuation - Prepare a flood kit in advance	
• Inform your family or friends that you may need to leave your home	
• Get your flood kit together and include a torch, warm and waterproof clothing, water, food, medication, toys for children and pets, rubber gloves and wellingtons	

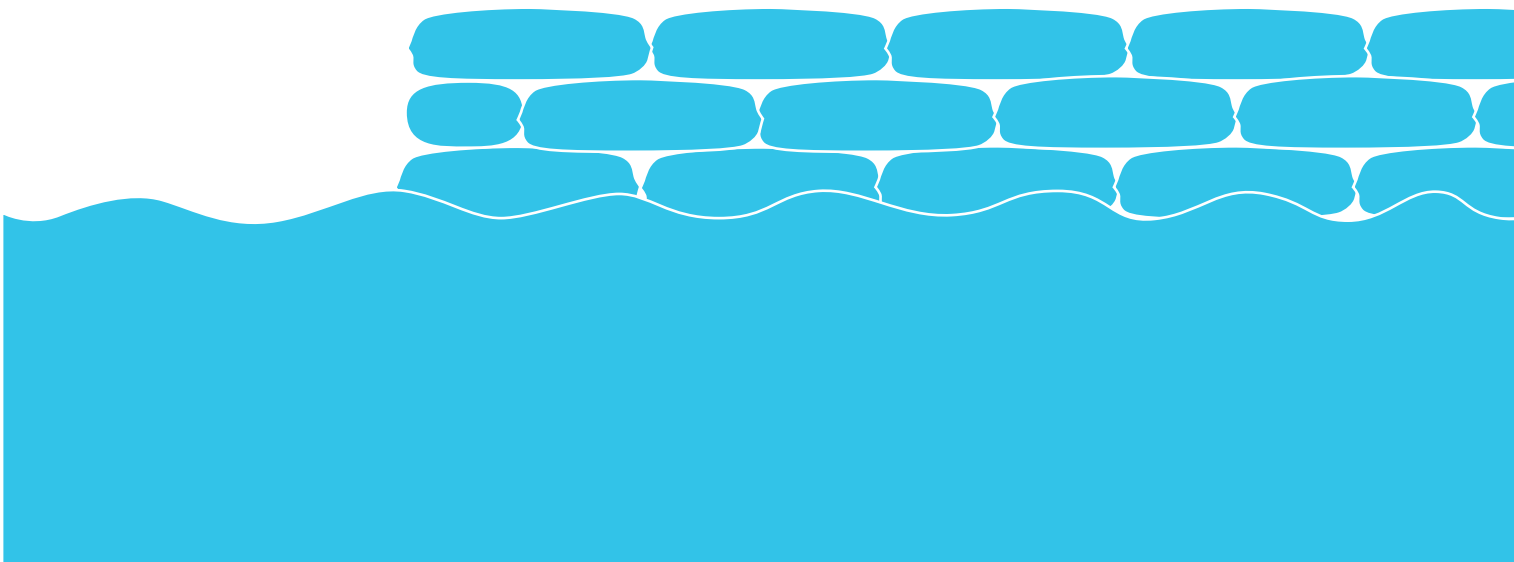
There are a range of flood protection products on the market to help you protect your property from flood damage. A directory of these is available from the **National Flood Forum** at www.bluepages.org.uk

Be prepared for flooding. Act now

9 APPENDIX 2 – SANDBAG INFORMATION SHEET

Sandbags

and how to use them
properly for flood protection



We are the Environment Agency. It's our job to look after your environment and make it a **better place** – for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

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Do sandbags work?

Traditionally, sandbags have been used to block doorways, drains and other openings into properties as well as to weigh-down manhole covers, garden furniture and to block sink, toilet and bath drains to prevent water backing up.

- They can keep water out for short periods which can be improved by using them in conjunction with plastic sheeting.
- They can filter out some muddy sediments found in flood waters.
- They are cheap and easy to obtain.

However, sandbags are relatively ineffective when compared to purpose-designed flood protection products.

Some of the pitfalls are:

- It takes two people to fill them (unless you have a sandbag filling machine).
- They take time to fill (approximately one hour to fill 12 sandbags).
- They can be difficult to handle.
- Laying them can be very time-consuming.
- Sacking material is biodegradable and will perish if left in place for a long time.
- It is difficult to place sandbags in water and particularly in running water.
- Sandbags do seep water even when well-stacked and trodden into place.

As a result, we strongly encourage people to use purpose made flood protection products, such as flood boards, non-return valves for plumbing and air brick covers.

How to obtain sandbags

Don't assume that the authorities will provide you with sandbags in a flood emergency!

It is the responsibility of property owners to take appropriate action to protect their property from flooding.

Your local council may have some sandbags ready to deploy at times of flooding, but their priority is to protect the public at large. You should check with your own local authority *in advance* to find out what their policy is and how you can get access to sandbags before flooding starts. There may be a charge for this service.

Remember, during a flood crisis there may be limited stocks per person or supply routes may get blocked.

If your local authority doesn't supply sandbags, you can buy unfilled sandbags and a supply of sand from most DIY stores and Builders Merchants, but remember that if there is a flood expected in your area demand may exceed supply as people rush to buy them.

In an emergency you can use alternatives such as pillow cases or refuse sacks and fill them with garden soil.

Important Health and Safety Considerations

Filling sandbags and building a wall is a physically demanding activity so it is important that all those involved are fit enough to carry out the work.

Remember that they can get heavy quickly, so do not overfill, or fill them too far away from where you want to position them.

A **tall** sandbag wall must be designed by engineers to withstand the water pressures, as failure or collapse of the structure could pose a danger to anyone nearby.

It is essential the everyone involved in building a sandbag wall is equipped with appropriate personal protective equipment, including gloves and steel toecap footwear. If the sand is dry, eye protection in the form of safety glasses is also required.

If emptied and dried the sacks can be filled again, otherwise they will rot after a period of time if damp. If sandbags are contaminated by flood water, advice should be sought from your local authority environmental health department regarding their safe disposal.

Protecting your property

Sandbags are of no use if your property is already flooded – concentrate your efforts on protecting yourself, your belongings and moving precious items out of harms way!

Consider all entry points that water could get through, not just doorways, such as – airbricks, utility service points, cable entry points. Use other solutions for entry points where sandbags won't work (such as silicone sealant).

You'll need at least 6 sandbags to keep out 20cm depth of water for a standard door opening. Each sandbag will need approximately 15kg of sand.

**Figure 1: Sandbag wall across doorway
(viewed from water side)**

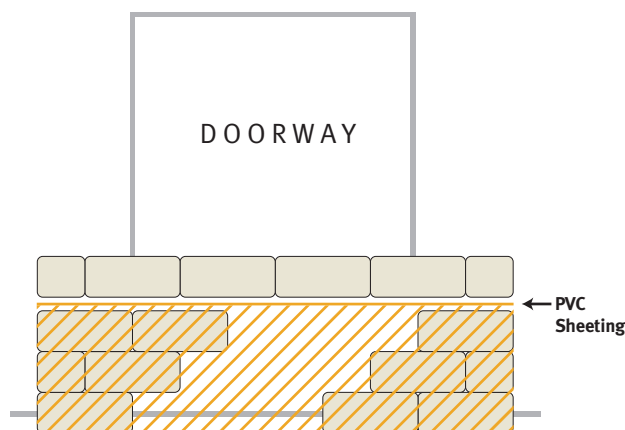


Figure 2: Header course (viewed from above)

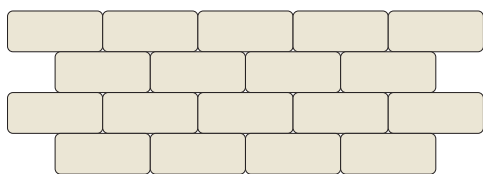
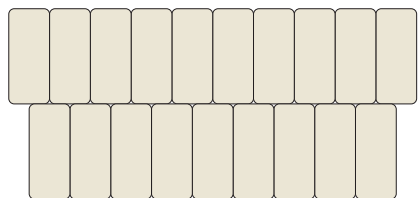


Figure 3: Stretcher course (viewed from above)



Filling the bags

- This is a two-person job: one to hold the bag open and one to fill.
- Do not fill bags more than half full.
- You don't need to tie the end of the bag.

Placing the bags

- Clear any debris from the area where the bags are to be placed.
- If you can, put a large sheet of heavy-duty plastic between the sandbags and the wall of your house.
- Place the bags lengthways, tucking the open end under the filled half of the bag and position it pointing into the direction of water flow.
- Place bags in layers. Like a brick wall, make sure that in the next layer each bag overlaps the one below by half.
- Stamp bags firmly into place to eliminate gaps and create a tight seal.
- To lay sandbags in a doorway (Figure 1), it may be necessary to empty some of the contents out or shape the sandbags to achieve a good fit without overlapping.

Building a more substantial sandbag wall

Building a sandbag wall up to 60cm high by 1 metre in length requires approximately 80 filled sandbags.

- Remove any debris from the area where the bags are to be placed and try to use firm and level ground if possible.
- There are two ways of laying sandbags – Headers (Figure 2) and Stretchers (Figure 3). Headers should be used on first, third and fifth courses. Stretchers are used on second, fourth and sixth courses.
- Lay sandbags with seams and bag mouths facing inwards, as this is where moisture enters the bags.
- Shape the sandbags into rectangles before laying them.
- Use half-filled sandbags to enable you to stagger joints.
- Have the neck of the sandbags facing the same direction.
- If the wall or dam is going to be in place over a long period of time PVC sheeting should be used to form a barrier on the wet side of the wall. Position the PVC sheet so that the leading edge falls

approximately on the centre line of where you intend to build the wall with the spare sheet showing at the front side (water side) – see Figure 4.

- If time and conditions permit, sandbags should be compacted after being laid, possibly using a vibrating plate.
- When desired height of sandbag wall is reached, pull up the PVC sheet over the top of the wall and fix in place with a final course of sandbags.

Pyramid placement method

If you need to create sandbag protection that is more than three layers high you will need to build in a pyramid style. For the structure to be stable, you should build the ‘sandbag wall’ three times as wide as you need it to be high. Again use the alternative Header and Stretcher method for alternative layers. Compact each bag into place and tuck the loose end firmly under the filled portion of the bag (Figure 5).

Additional waterproofing

Lay plastic sheeting across the side of the sandbag wall on the water side. Weigh down with additional sandbags (Figure 6).

Remember!

Sandbags are popular but they have disadvantages:

- **During an emergency sufficient quantities may be difficult to obtain.**
- **They are time-consuming and require two people to fill.**
- **They can be difficult to handle, particularly for the elderly or infirm.**
- **When they come into contact with floodwater they tend to retain contaminants such as sewage.**
- **Sacking material is biodegradable, and will disintegrate if left in place for long periods of time.**

More information on protecting yourself from flooding can be found on the Environment Agency website: www.environment-agency.gov.uk

In certain circumstances, local authority grants may also be made available to cover some of the costs of providing resistance and resilience products for individual private dwellings. Contact your local authority to find out whether you may be eligible.

Figure 4: Polythene sheet in place (viewed from above)

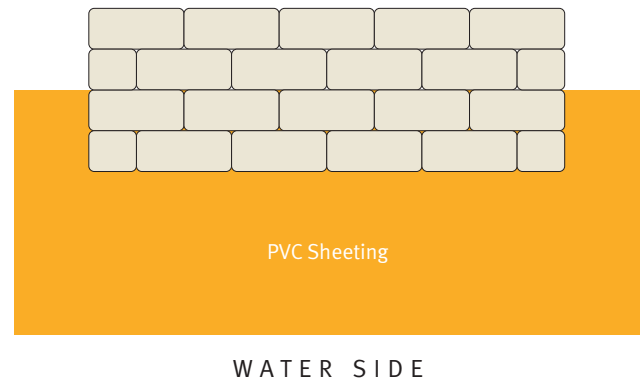


Figure 5: Pyramid placement

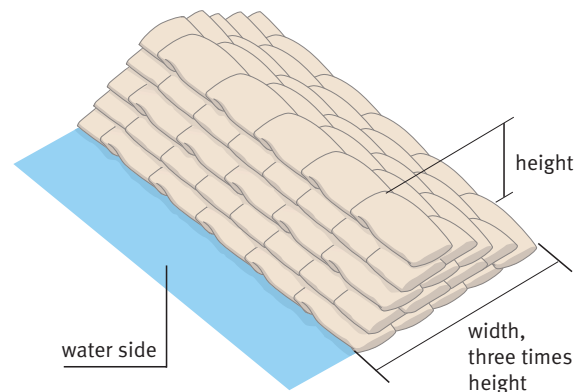
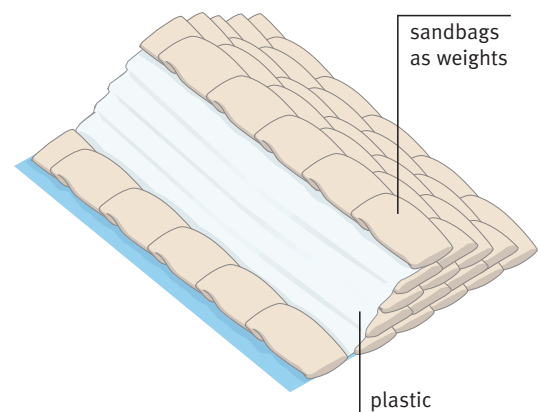


Figure 6: Additional waterproofing



Would you like to find out more about us,
or about your environment?

Then call us on
08708 506 506 (Mon–Fri 8–6)

email
enquiries@environment-agency.gov.uk

or visit our website
www.environment-agency.gov.uk

incident hotline **0800 80 70 60** (24hrs)
floodline **0845 988 1188**



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