

# Guidelines for the Provision of Temporary Drinking Water Supplies at Events



Water Health  
Partnership  
for Wales

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This guidance document was produced by the Water Health Partnership for Wales which is a public health initiative that brings together relevant organisations and agencies to work together on public health and water related issues.

A large number of organisations and agencies are involved in the Water Health Partnership for Wales, including:

- Welsh Government
- Health Boards
- Local Authorities
- Public Health Wales
- Consumer Council for Water Wales
- Drinking Water Inspectorate (DWI)
- Environment Agency
- Water Companies:
  - Dŵr Cymru Welsh Water,
  - Severn Trent Water and
  - Dee Valley Water

This guidance document is intended for use by organisers of large events such as an Eisteddfod, agricultural show or carnival that require a temporary water supply from a public supply, a private water supply or from tankers of water. It applies to all events that require a new connection to the water supply as well as events that connect to an existing supply, e.g. annual events taking place on the same showground.

## 1 | Introduction

This guidance applies to both licensed and unlicensed events. While the guidance is not aimed at volunteers running small events, for example local residents who come together to organise a village fete, it is important that these organisers are aware of the risks associated with supplying drinking water or water used for food production and refer to the relevant sections.

The guidance describes the preparation, maintenance and monitoring measures that need to be in place to ensure a source of safe drinking water is available throughout the duration of the event. In cases where there is insufficient water or tests indicate that a water supply is contaminated - this poses a public health risk that could prevent an event from taking place if an alternative source of safe water is not available.

Failure to properly plan for the provision of a safe source of drinking water for an event can have significant consequences with organisers potentially facing:

- additional costs ;
- notice and prosecution;
- high risk of an outbreak e.g. cryptosporidium, campylobacter or *E. coli* O157;
- civil action if anyone became ill;
- loss of reputation and reluctance of the public to attend future events; or
- poor media coverage.

An outline of the necessary steps that organisers need to follow to arrange for a temporary water supply and the associated timings is given in Appendix 1.

## 2 | Legislation

While this document is in the form of guidance, the legislation which applies is:

The Private Water Supplies (Wales) Regulations 2010, and in England under the Private Water Supplies Regulations 2009. This legislation is intended to ensure Events provide a wholesome and sufficient water supply and is enforced by the relevant Local Authority. A supply of mains water laid as a temporary supply for Events is a Private Distribution System and so falls under these regulations as well as the Water Supply (Water Fittings) Regulations 1999.

Where water supplies are obtained from a Water Company, the fittings and facilities on site and the way they are installed must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999. This is to prevent contamination of water for drinking and food production purposes and to prevent any waste of water. There must be no risk of contamination of drinking water on site by backflow\* or any other means from one water outlet to another and the Water Company public supply must be protected against backflow from temporary supplies to Events.

This is regulated by Water Supply (Water Fittings) Regulations 1999 and Water Supply (Water Quality) Regulations 2010 (Wales) and is enforced by the Water Company.

## 3 | Applying for a water supply

In order to properly plan for an event and ensure there is sufficient time to address any problems that may arise, event organisers must contact the Environmental Health department at the relevant Local Authority and the appropriate Water Company, if a public water supply connection is needed as soon as possible in the planning of an event.

### a) Connection to the public supply New Connection:

If new connection to the public water supply is needed for an event, contact must be made with the appropriate Water Company and the Environmental Health department of the relevant Local Authority. The relevant Water Company must be contacted at the **earliest opportunity, at least 12 weeks in advance of the event**. Contact details are available in Appendix 2.

The Water Company will decide on the most suitable point in their distribution system for the connection. A charge will be made for this service and the supply will be metered. Charges may vary with different Water Companies.

\* Backflow: flow in a direction contrary to the intended normal direction within or from a water fitting. Backflow can cause contaminated water from an appliance or drain to enter the pipework and emerge at a drinking water outlet.

### Existing Connection:

If the water supply for the event is to be taken from an existing connection then the relevant Water Company must have at least **28 days notice**. However, event organisers are encouraged to contact them at the earliest opportunity. This notice is required as they may need to make provision for the additional supply to ensure that there are no 'knock on' effects on the local residents' supply. The contact details for obtaining a water supply from an existing connection are given in Appendix 2.

Organisers must also contact the Environmental Health department at the relevant Local Authority to give them notice of the event, in time for them to undertake a risk assessment and sampling.

### b) Connection to a private water supply or tankered water supply

It is important that as much notice as possible (minimum 28 days) is given to the Environmental Health department at the relevant Local Authority if a private water supply or tankered water supply is proposed to be used for an event. This is required even if the supply is taken from an existing connection

It is important to note that if **tankers are proposed to be filled from a Water Company's public water supply, permission must be obtained from the Water Company before the tanker is filled.**

The information that you will need to provide when you make this first contact with the appropriate Water Company and Environmental Health department includes:

- The ownership and details of the existing water supply on site i.e. individual owner(s) or existing licensed Water Company.
- The relevant person(s) under the Private Water Supplies (Wales) Regulations 2010.
- The size and type of supply required.
- The duration of the event and anticipated numbers attending the event.
- An outline of all facilities using a water supply e.g. festival site and camping sites.
- Contact details including telephone numbers and emails.

### 4 | Plans

Organisers should provide the Environmental Health department at the relevant Local Authority and the appropriate Water Company with detailed site plans and drawings for the event. These should include the following (this list is illustrative and is not exhaustive):

- The water supply distribution network and infrastructure (existing and proposed network), e.g. location and description of source, pipework and tankers (if used).
- Direction of flow.
- The location of:
  - pumps (specifying their size);
  - incoming water source(s);
  - toilet, wash hand basins and showering facilities;
  - drinking water points;
  - water supply points for food preparation;
  - additional facilities e.g. animal troughs, garden hoses;
  - redundant supplies or 'deadlegs';
  - tankers or bowsers
  - standpipes;

- back flow devices/meters;
- connections;
- treatment points e.g. for chlorine disinfection, de-chlorination and water testing/measurements;
- proposed sampling/monitoring points, these will need to be discussed with the Local Authority; and
- emergency infrastructure.

### 5 | Risk assessment

Once the site has been planned, event organisers should carry out a risk assessment on the water supply arrangements that describes:

- The potential risks at the site that may cause contamination of the water supply or an insufficient water supply.
- The measures to be taken to control or prevent these risks.
- The checks and monitoring procedures to be undertaken to ensure these control measures are in place e.g. sampling and ongoing inspections.
- Actions to be taken should these control measures fail.

A person should be appointed to take responsibility for this risk assessment and their contact details made available to the relevant Environmental Health department at the Local Authority and the appropriate Water Company.

All relevant employees should be made aware of this risk assessment and be trained to appropriately respond to situations where water quality or sufficiency may be compromised.

The risk assessment should be submitted to the Environmental Health department for approval at least 14 days in advance of the event. The Environmental Health department can advise on the risks and give assistance to event organisers. An example of a risk assessment is given in Appendix 3.

## 6 | Emergency plans

Event organisers should document their emergency operating plan for dealing with the contamination or failure of the water supply e.g. close the event or have contingency in place for emergency water supplies. If the latter approach is planned, organisers should document the logistics of receiving and distributing emergency supplies in their emergency plans e.g. if the plan is to use tankers then consider if the site is accessible. Organisers cannot rely on emergency water supplies being provided for an event by the Environmental Health department or the Water Company.

The Emergency Plan should be submitted to the Environmental Health department for approval at least 14 days in advance of the event.

## 7 | Commissioning of water supply

### a) Storage and Disinfection of Distribution Pipework

- When not in use, pipes and fittings should be drained and stored off the ground, to avoid entry of dirt or vermin.
- All pipes should have close-fitting end caps and these should remain in place until the pipe is connected.

- All fittings and pipe connection points e.g. standpipes must be bagged or covered and sealed to prevent contamination or deliberate tampering. Any standpipe used to directly withdraw water from the public water supply must be disinfected before use and be of a type approved by the Water Company with a double check valve in line to prevent backflow.
- All pipes and fittings (and in particular plastic pipes) should be kept clear of fuel oils and paints and any materials so contaminated should be discarded. Fuel oils can penetrate plastic pipes and result in water having an unpalatable taste and odour.
- Materials in water fittings which are in direct contact with water can cause contamination such as taste, odour or microbial growth if they are not suitable for use with drinking water. Non-metallic materials such as plastics and rubber in pipes and fittings must be approved for contact with drinking water, for example as specified in Regulation 31 of the Water Supply (Water Quality) Regulations 2010 or the Water Supply (Water Fittings) Regulations 1999.
- Where water is derived from the public supply, all water fittings (meaning all pipes, pipe fittings, joints, water meters, all types of valves, backflow prevention devices, cisterns, hot water storage vessels and appliances which are directly connected to the site water supply system) must comply with the Water Supply (Water Fittings) Regulations 1999 requirements for mechanical performance and suitability for water quality.

Water fittings which have been assessed and found to meet these requirements are listed in the Water Fittings and Materials Directory available free of charge on the website of the Water Regulations Advisory Scheme (WRAS): [www.wras.co.uk/directory](http://www.wras.co.uk/directory). Where water comes from tankers or private supplies it is good practice to follow the same requirements.

- The laying, preparation and disinfection of drinking water supply pipe work and facilities should only be undertaken by personnel with the appropriate training and certification. Documented evidence should be made available to demonstrate that they have the appropriate training e.g. certificates.
- A recommended procedure for disinfecting pipe work is given in Figure 1. If this procedure is not followed, organisers should refer to the Water Company, for public supplies, or the Environmental Health department if it's a private or tankered water supply for advice before the procedure goes ahead. For public supplies the correct backflow prevention device at the point of connection to the mains must be in place before disinfection goes ahead. This will need to be inspected by the relevant Water Company. Figure 1 also provides information on when to take samples and what they should be analysed for.
- When the connection is to the public water supply, a temporary connection to the supply will be made by the relevant Water Company to facilitate disinfection. This supply will then be disconnected and only reconnected when confirmation is received that disinfection was successful.

- On-site measurements will need to be made of chlorine levels to check that the pipe work has been disinfected and then further measurements following de-chlorination carried out (see Figure 1).
- Microbiological samples are required to be taken of the water after it has passed through the pipework. Recommended analyses include coliform bacteria including *E.coli*, total viable count bacteria and enterococci. Additional parameters such as pH, conductivity and turbidity will give a further indication that the water is of a suitable quality. The results of these tests should be available approximately 24 – 72 hours after sampling. The samples should be either taken by the Local Authority or competent persons in accordance with Schedule 3, PART 1, paragraph 4 of the Private Water Supplies (Wales) Regulations 2010 (see note 1 below). If arranged in accordance with note 1, the results should be provided to the Environmental Health department at the Local Authority and the relevant Water Company as soon as available. If sampled by the Local Authority, results will be provided to the organiser and Water Company as soon as available.
- Should the microbiological results be unacceptable, the Environmental Health department and when relevant the Water Company will require repeat disinfection and sampling. Connection to the public supply or distribution of a private water supply will not be approved until the microbiological results are acceptable.
- Once microbiological results indicate the water quality is satisfactory a formal Certificate of Disinfection should be provided to either the Environmental Health department for private water supplies or where connection to the public supply is to be used, to the Water Company. Where sampling/analysis is arranged in accordance with note 1 below, a copy of the laboratory report on the analysis of the microbiological samples should also be provided. The certificate should give details of the procedure followed to disinfect the pipework and details of the tests/measurements that verify that the pipework has been disinfected. The laboratory report should give the dates/ time of sampling, any on-site measurements taken at the time of sampling and the results of samples taken for microbiological and any other relevant analyses.
- Where pipework for an event is fitted in stages organisers should ensure each stretch of pipework is disinfected.
- The Local Authority Environmental Health department are required, under the Private Water Supplies Regulations, to undertake a risk assessment of the water distribution system. Depending on the findings of this risk assessment, they may require additional tests to be done on the water supply.

#### **b) Tankered Water and Bottled Water Supplies**

A British Standard has been issued that provides guidance on providing a temporary supply of safe drinking water to events where a permanent supply is not available i.e. when tankers or other vessels or bottled water are used to provide water: **BS8551: 2011 Provision and management of temporary water supplies and distribution networks (not including provisions for statutory emergencies) – Code of Practice**

The organisers of events that will provide water through tanks or bottles are strongly recommended to obtain a copy of this standard to ensure they are meeting the necessary requirements given for supplying safe drinking water.

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#### **Note 1, Sampling and analysis by persons other than local authorities:**

- 1) A local authority may enter into an arrangement for any person to take and analyse samples on its behalf.
- 2) A local authority must not enter into an arrangement under paragraph (1) unless–
  - (a) it is satisfied that the task will be carried out promptly by a person competent to perform it; and
  - (b) it has made arrangements that ensure that any breach of these Regulations is communicated to it immediately and any other result is communicated to it within 28 days.

# Figure 1

## Recommended procedure for disinfection

- Spray all fittings etc. with a solution containing a minimum of 1000 mg/l chlorine during assembly.
- Swabs can be used to clear dirt or debris from pipe work before disinfection.
- Inject sodium hypochlorite into the pipe work to achieve at least 20 mg/l throughout and allow to stand in the pipe work for 16 hours. Alternatively disinfect with 50 mg/l for 1 hour. Ensure water is not accessible during the disinfection period e.g. label taps. Chlorine concentrations should be checked using a suitable high range test kit.
- Thoroughly flush the heavily chlorinated water from the pipe work until the chlorine concentration of the water in the main is reduced to a level equivalent to that in the supply water. Sodium Hypochlorite is **VERY** toxic to aquatic life and will kill fish at very low concentrations.

Chlorinated water must be de-chlorinated before disposal. Before making any discharge from the water supply system, you should seek advice from the Environment Agency through their National Customer Contact Centre on [0370 8506560](tel:0370 8506560) well in advance of the event. In general, any direct discharges to a water body should be avoided.

- Fill the pipe work with fresh water and allow to stand for at least 16 hours before taking a sample for microbiological analysis. This 16 hour standing period will ensure that microbial re-growth has not occurred.

Samples should be taken at representative points in the distribution system i.e. at near, midway and end points in the pipe work in relation to the incoming water. For private water and tankered supplies a sample of the incoming water will also be needed.

Samples should be analysed by an accredited laboratory. It is strongly advised that the sample point is disinfected before a sample is taken to ensure that it does not contaminate the samples.

A recommended procedure for disinfection of the sample point is given in Appendix 4.

- Flush the pipe work then take an on-site measurement of chlorine at representative points to check that it matches the chlorine levels of the supply water and that there has been no deterioration in the pipe work.

A visual check of clarity using a transparent glass container will indicate if there is any debris in the pipe work.

## 8 | Prevention of contamination

As well as ensuring the distribution pipe work is disinfected, organisers should also make sure that the fixtures and fittings connected to it do not contaminate the water supply e.g. through backflow, as this could pose a public health risk. Backflow prevention devices are required to prevent backflow from all appliances, fittings and processes. The type of device must be appropriate to the degree of risk posed by appliance or fitting. Details are given in the Guidance to the Water Supply (Water Fittings) Regulations 1999 published by Defra: [www.archive.defra.gov.uk/environment/quality/water/industry/wsregs99/documents/waterregs99-guidance.pdf](http://www.archive.defra.gov.uk/environment/quality/water/industry/wsregs99/documents/waterregs99-guidance.pdf).

Any fittings or appliances conveying water derived from the public water supply **must** comply with the requirements of The Water Supply (Water Fittings) Regulations 1999 that are concerned with the prevention of contamination of the supply from water fixtures and fittings. Organisers may find the Water Regulations Advisory Scheme (WRAS) guide to these regulations useful as it also gives details of the design requirements needed to meet the Regulations: [www.wras.co.uk](http://www.wras.co.uk).

There must be no direct cross connection between a public water supply and a private water supply or tankered water supply.

For events supplied with public water supply, a correct backflow prevention device is needed at the point of supply and a Water Company Water Regulations Inspector may visit the site to ensure this and other fixtures and fittings comply with the Regulations. If this inspection finds that a water connection breaches the Regulations or water fittings fail to comply, organisers will be given a formal notice to make changes to the fixtures/fittings so that they comply. In serious cases the connection to the public supply may be disconnected immediately.

The site will be revisited by the Inspector who will only authorise connection to the public water supply if the facilities fully comply with the Regulations. Failure to make the necessary changes will result in the event not having a water supply whether supplied by public water supply, a private water supply or tankered water the Environmental Health department will inspect the site, risk assess and take samples to ensure the water supply and facilities comply with the Private Water Supplies (Wales) Regulations 2010.

## 9 | During the event

Officers from Environmental Health may carry out inspection/s and take samples during the event in line with the Private Water Supplies (Wales) Regulations 2010 and The Food Safety (General Food Hygiene) Regulations 1995.

## 10 | Further recommendations for good practice

A number of good practice recommendations are given below that organisers should refer to during their preparations and include in the risk assessment where applicable:

- Operational personnel involved in the supply of water should be appropriately trained including water quality hygiene awareness training. In common with food preparation and supply, personnel involved in water supply should be aware of the ongoing need to report certain illnesses e.g. vomiting and diarrhoea to management so that they are removed from tasks where they have direct contact with the water supply and drinking water facilities.
- Distribution pipe work should not have been used for any other purpose other than drinking water, be flushed and drained after each use, be handled with care to prevent contamination and be stored appropriately before and during the event. Pipe work should be stored above ground level with end caps.
- Find out the location of any existing buried sewer, water pipes (buried or over ground) or electricity cables and mark them on your map.
  - Are there any old mains water or private water supply pipes on the site and where are they?
  - Are there any mains water or untreated private water supplies to gardens or farm animal troughs and where are they?



- Make sure everyone involved in preparing the water supply are aware of their location.
- Have you spoken to the Environmental Health department about your emergency plan and considered the access of emergency tankers or bowers to the site?
  - Consider the location of power availability for operating pumps and water treatment systems if required.
  - Consider the environmental conditions (indoors or outside) which could cause contamination during connection and operation. Include this as part of the risk assessment.
  - Ensure that there is control and restriction of access to water storage by unauthorised people.
  - Ensure there is access to and around the site for samplers, plumbers, auditors, etc.
  - Consider where illegal connections are possible and ensure additional checks are in place to prevent contamination e.g. regular inspections of the site as the event is taking place.
  - Consider the location of fuel or paint stores near water pipes and the use of bunding or barrier pipes if there are risks of spillage and contamination.
  - If the event is to take place during warm weather over several days, consider where insulation could be best applied to prevent water temperatures rising.
  - Label taps that are suitable drinking water points and disinfect (as given in Appendix 4) before the event.
  - Monitor chlorine residuals during the event at appropriate points. This will provide evidence that the supply is wholesome.
  - Ensure mobile traders that have water tanks on their facility have disinfected the tank before it is used for water storage.
  - Consider where pipes are laid, overland pipes should be made safe and secure and should avoid through routes for cars etc. or if this is not possible ensure they are protected from damage.
  - Carry out regular inspections of drinking water taps to make sure they remain in a hygienic condition throughout the event.

# Appendix 1

## Checklist and timeline for preparing for an event

<b>1</b> Submit application (including site plans) for a water connection to either: a. The relevant Water Company and Environmental Health department at the Local Authority if to a public supply – or b. The Environmental Health department at the relevant Local Authority if to a private water supply or both if a tankered water supply is to be used.	<b>New connection:</b> minimum 12 weeks in advance  <b>Existing connection:</b> minimum of 28 days in advance
<b>2</b> Submit and obtain approval from the Environmental Health department of the Risk Assessment and Emergency Plan.	Minimum of 14 days in advance
<b>3</b> Disinfect pipework, dechlorinate, take onsite measurements.	Minimum of 7 days in advance
<b>4</b> Samples to be taken in accordance with requirements given in section 7.	
<b>5</b> If a public supply is used, make fixtures and fittings available for a Water Company Water Regulations inspection.	
<b>6</b> Submit microbiological results to the Water Company and the Environmental Health department.	As soon as available. Minimum of 5 days in advance
<b>7</b> If microbiological results are satisfactory, submit Certificate of Disinfection to either: a. The Water Company and Environmental Health department if a public supply – or b. Environmental Health department if a private or tankered water supply.	Immediately on receipt of satisfactory microbiological results
<b>8</b> Flush all pipework to charge it with fresh water.	Maximum of 1 day in advance

# Appendix 2

## Water company contact details

### **Dŵr Cymru Welsh Water**

For new connections to the public supply contact:

Telephone Number: [0800 9172652](tel:08009172652)

Email: [new.connections@dwrcymru.com](mailto:new.connections@dwrcymru.com)

For water supplied from an existing connection contact:

Telephone Number: [0800 0520130](tel:08000520130)

Email: contact can be made via the 'How to Contact Us' page on  
Dŵr Cymru website: [www.dwrcymru.com](http://www.dwrcymru.com)

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### **Dee Valley Water**

Contact Regulations and Fittings Team

Telephone Number: [01978 846946](tel:01978846946)

Email: [contact@deevalleygroup.com](mailto:contact@deevalleygroup.com)

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### **Local Authority Contact Details**

Contact details for each Local Authority are provided in telephone directories and on their website

List on Welsh Government website has links to each of 22 Local Authorities in Wales:

[www.wales.gov.uk/topics/localgovernment/localauthorities](http://www.wales.gov.uk/topics/localgovernment/localauthorities)

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# Appendix 3

## Example risk assessment for the provision of a water supply for an event

No	Risk	Actions taken to Control/ Manage Risk	Date of Action	Responsible Officer	Date Completed	Signed
1	Failure to supply water due to incoming mains failure or distribution pipe failure or contamination.	Develop Emergency plan: Give details of plan e.g. <ul style="list-style-type: none"> <li>• Arrangements with the Water Company /Local Authority/ commercial water supplier.</li> <li>• Access arrangements for emergency supplies.</li> </ul>				
2	Contamination of water through cross connection between the incoming mains supply and a private water supply.	Describe arrangements to be put in place to prevent the private water supply water from entering the mains supply e.g. disconnection.				
3	Contamination of water supply from the water fittings and facilities e.g. through backflow.	Describe plans in place to check the water fittings and facilities connected to the water supply to see if they meet the requirements of the Water Supply (Water Fittings) Regulations 1999.  Maintenance of hygienic standard of taps.  Checks on waste facilities and disposal arrangements.				
4	Contamination of water supply from damaged or contaminated taps, standpipes, etc.	Maintenance of hygienic standard of taps e.g. regular checks of taps and standpipes to ensure clean and replace or repair as required.  Follow a disinfection procedure e.g. given in figure 1.				
5	Contamination due to proximity to waste pipes, waste storage tanks, septic tanks or latrines.	Checks on waste facilities and disposal arrangements i.e. separate pipes and tanks from water facilities/pipes, protect pipes from damage and have procedures to prevent spillages during disposal of waste.				

## Example risk assessment for the provision of a water supply for an event

No	Risk	Actions taken to Control/ Manage Risk	Date of Action	Responsible Officer	Date Completed	Signed
6	Contamination of water supply from existing old pipe network (i.e. usually on large sites).	<p>Where the event is using a mixture of new pipe work and existing pipe work to supply mains water, the age and condition of the pipework could affect the supply i.e damaged/leaking pipes and sediment. This can be resolved with disinfection, flushing, pressure tests and identification and repair of leaks.</p> <p>Stagnant water in older and infrequently used existing pipework (like dead legs) should be flushed and disinfected.</p> <p>Follow disinfection procedures e.g. that given in figure 1.</p>				
7	Failure to supply water due to a power failure.	Describe security of power availability e.g. for operating pumps and water treatment systems.				
8	Contamination of the water supply through environmental conditions e.g. flooding.	Prevention of pipe connections being submerged in rainwater. Maintain integrity of pipes/ connections to include the supply pipe connected to the mains water pipe.				
9	Deliberate/accidental contamination of water supply by person(s).	Describe how access to water storage by unauthorised people will be controlled and restricted e.g. fit tanks with lockable covers.				
10	Prevention of access to water supply arrangements for inspections could mean that illegal connections are not found.	There needs to be access to and around the site for samplers, plumbers, auditors, etc.				
11	Contamination of water supply due to an illegal or unauthorised connection.	Describe additional checks that will be in place to prevent contamination from illegal/unauthorised/ inappropriate connections e.g. regular inspections of the site as the event is taking place.				

## Example risk assessment for the provision of a water supply for an event

No	Risk	Actions taken to Control/ Manage Risk	Date of Action	Responsible Officer	Date Completed	Signed
12	Contamination of the water supply with fuel.	Mark on plans the location of fuel or paint stores near water pipes. Consider the use of bunding or barrier pipes if there are risks of spillage and contamination.				
13	Warm temperature of the water could potentially make it unwholesome or in very cold temperatures there could be frost damaged pipes.	If the event is to take place during warm weather over several days, consider where insulation could be best applied to prevent water temperatures rising. If very cold weather, appropriate lagging will need to be applied.				
14	Water for drinks or food preparation being taken from non- drinking water points.	Labelling of taps i.e. those that are suitable drinking water points.				
15	Contamination of water through entry of soil/small animals etc. through open ends of pipes.	Describe arrangements in place to store the open ends of pipes or hoses – they need to be appropriately stored above ground level and the pipework capped. Potential entry points to tanks/ bowsers to be secured with bags and tags to prevent contamination after installation and disinfection.				
16	Contamination risk from dirty or unsuitable bowsers or tanks or inadequately disinfected water.	Competent Contractor and supplier of bowsers/tanks should be compliant with BS 8551 i.e records of disinfection of the water inside the tanks, records that tank has only been used for water, taps covered and tagged, etc.				
17	For large events or events with extensive distribution networks additional treatment systems may be required to ensure a wholesome water supply.	Advice should be sort from the Local Authority in these cases to ensure effective treatment is installed.				

# Appendix 4

## Recommended procedure for the collection of drinking water samples

### 1.1 | Bacteriological Sample bottles

Bottles to be used for sampling are usually either 350 ml or 500 ml and should be sterile (usually gamma irradiated) and contain approx 0.35ml of Sodium thiosulphate solution to neutralise residual chlorine. Sodium thiosulphate would only be required when testing a chlorinated supply. Other sterile bottle designs may be used provided they are supplied by the contract laboratory carrying out the analysis of the sample.

Before starting, sample bottles should be checked to ensure they are in date, the seal is intact and there is no sign of contamination/ particles in the bottle. (Bottles that are contaminated should be marked with a label saying 'Reject' and they should be returned to the laboratory so the batch can be checked/ recalled if necessary).

Bottles should be filled directly from the sample tap i.e. the bottle should not be filled from another container used to collect the water from the tap.

### 1.2 | Refrigerators/Cool Box

Bacteriological samples should be kept cool after collection in a refrigerator or cool box. If a cool box is used, at least two frozen ice packs should be inserted prior to sampling.

The temperature of the fridge should be checked daily. If the temperature falls outside the requirement 2 to 8oC remedial action should be taken. The fridge/cool box should be cleaned as necessary, the minimum requirement being once a week with a suitable chlorine based cleaning solution. It is good practice to record both the temperature check and the cleaning date.

### 1.3 | Equipment for on-site testing

For bacteriological sampling the following test equipment is recommended:

- A thermometer.
- A chlorine measurement test kit and reagents (when testing a mains drinking water supply).
- A gas burner and method of ignition (for outside taps, or commercial premises where taps and environment are suitable).

- A swan neck lab bottle or garden spray bottle & Instachlor tablets (to be used for taps in customers' homes and inside buildings where the tap or the environment is unsuitable for disinfection by gas burner).
- A supply of sample bottles (in date, seal unbroken and no visible contamination).
- Please note disinfection wipes are not recommended as a sole means of disinfection but can be used to wipe the outside of the tap before it is disinfected with a chlorous solution or by heating.
- Appropriate Health and Safety equipment such as eye protection and gloves should be worn.

### 1.4 | Sampling procedure

The sequence of sample collection is critical to ensure that the sample is representative of the water supply.

First check that the sample bottle is suitable (see section 1.1).

1. Label the bottle appropriately include, date, time taken, address and location and analysis required.

2. Test for Chlorine if appropriate following the manufacturers instructions for the kit.
3. For disinfection by flaming, check that the tap is suitable, e.g. does not have plastic inserts. Light the blow torch with gas lighter/ matches. Aim the flame at the open end of the tap, move the torch so that the entire end is heated. Continue to flame until the expansion of the tap allows any remaining water to be expelled. This may take up to 60 seconds. Immediately after flaming turn the tap on and allow to flush for 30 seconds. There will be a hiss and a rise of steam if the tap has been flamed effectively. Note 2.
4. For disinfection with chlorine solution: disinfect the outside of the spout, then spray or inject the chlorine solution into the end of the tap ensuring to fully disinfect any inserts present allowing a contact time of 2 minutes. Run the water to waste for a minimum of 2 minutes to ensure that all the disinfectant is removed. Note 2.
5. Fill the bacteriological sample bottle. Collect the sample taking scrupulous care to avoid contamination. Keep cap pointed downwards. Do not handle the lip of the bottle or let it touch the tap. Fill the bottle at a steady low flow rate ensuring there is no splash back from the sink. Do not alter the rate of flow whilst the bottle is being filled.  
Fill bottle to shoulder. Replace cap promptly after sampling.
6. Place in refrigerator or cool box.
7. Bacteriological samples should be conveyed to the laboratory and analysed as soon as reasonably possible. Best practice is within six hours although up to 24hrs is acceptable.

### 1.5 | Preparation of chlorine solution for disinfecting taps

Disposable gloves should be worn. Use the equivalent of 10 Instachlor PR-250(i) tablets per 500 ml of water in an appropriately labelled plastic spray bottle (giving a final working solution of 5,000 ppm of sodium hypochlorite solution). Making up the chlorine solutions should be carried out in a well ventilated area and the spray bottles should be allowed to stand outside while the tablets are dissolving. Allow a minimum of half an hour for the tablets to dissolve.

When making up these solutions do not close/tighten the nozzle on the spray bottle before the tablets have completely dissolved otherwise pressure will build up which could result in the solution spurting out of the bottle when the pressure/ nozzle is released. It is therefore preferable, for safety reasons that the chlorine solution is made up in an appropriate automatically venting washbottle. Once the solution has been made up the date of expiry (one week from the day the solution was made up) should be written on a label and attached to the bottle. Do not use the solution after this date. Dispose of any remaining solution safely and make up a fresh batch. Instachlor Supplier link:

[www.palintest.com](http://www.palintest.com).

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#### Note 2:

Ensure that a risk assessment is made of the tap sterilising procedure and that samplers are aware of the risk assessment and are provided with the appropriate Personal Protective Equipment, e.g. goggles, gloves etc.