



Contaminated Land

Guidance for Developers and Others Requiring New Supplies on the Installation of New Mains and Service Pipes on Contaminated or Potentially Contaminated Land

1 Introduction

There are two main concerns when pipework is located in land that is, or may become, contaminated:

- Contaminants may pose a health risk to those who install pipework, or work on it in the future;
- The water supply may be adversely affected either because contaminants permeate the pipe and pass into the water contained within it, or because they have a detrimental effect on the pipe itself, and cause it to fail.

These guidelines outline what Bristol Water expects developers, and others requiring a new water supply, to do in relation to possible existing or future contamination on a site, and they supersede all previous guidance issued by Bristol Water on this subject.

2 Safety of Pipe Installers

Developers have a duty, under the Construction (Design and Management) Regulations 2007, to provide information to Bristol Water about sites that are contaminated in a way that poses a health and safety risk to those installing pipework, or maintaining pipework on the site if that pipework is owned by, or will be transferred into the ownership of, Bristol Water. Such information should be provided at the application stage, in writing. Bristol Water does not have a prescribed format for the provision of such information. If there is a requirement for information on this topic to be passed to Bristol Water it should



be done in manner appropriate to the information that is to be conveyed. Bristol Water shall take the absence of the provision of such information at the application stage to be an indication that the developer is not aware of any relevant contamination on the site.

3 Pipe Selection

In 2010 UK Water Industry Research published “Guidance of the Selection of Water Supply Pipes to be Used in Brownfield Sites”. Bristol Water will, from early 2013, broadly follow this guidance in its entirety, which represents a step-change in the way we work with developers to determine the most appropriate pipe material for development sites. The guidance should be followed in relation to all pipework carrying potable water including the section of all service pipes that are owned by the customer, the section of all services pipes that are owned by Bristol Water and any mains installed on the site.

3.1 Outline of the Principles of the UKWIR Report

The process aims to produce a Site Assessment Report (SAR) which contains a recommendation regarding the pipe materials that would be suitable for the development.

To begin with a Desk Study and Site Walkover are completed. The information obtained from these feeds into the Preliminary Risk Assessment (PRA).

If the PRA indicates that there is a low risk of contamination then the process moves straight to the production of the SAR – no sampling or testing is required.

If the PRA indicates that chemicals may have been used or stored on the site then an intrusive site investigation would normally be completed following the completion, and based on the findings of, the PRA. The SAR would then be based on all of the information obtained.

In some cases the PRA may determine that there is very little chance that standard PE pipework would be acceptable in which case, once again, it may be appropriate not to carry out intrusive investigations.

A flow chart of the process can be found in the appendix.



3.2 Requirement for Site Assessment Report (SAR)

Bristol Water recognises that in some instances developers, or those requiring new supplies, may feel that the cost and time involved in producing a Site Assessment Report, in accordance with the UKWIR guidance, may not be warranted given the relatively modest increase in cost, in some cases, of installing barrier polyethylene (PE) pipework instead of standard PE. In such cases Bristol Water will normally permit developers to simply opt for barrier PE pipework to be installed on the development without further consideration of the ground conditions.

Developers should note that the duties described in section 2 above, in relation to the safety of pipe installers, remain even if it is decided that sampling for the purposes of pipe selection is not appropriate.

3.3 Greenfield Sites

The UKWIR Guidance limits its own applicability to Brownfield Sites, which it defines as being:

“Land or premises that have previously been used or developed. They may also be vacant, or derelict. However, they are not necessarily contaminated.”

Bristol Water considers the reach of the UKWIR guidance to extend to pipework installation on all sites. While Greenfield sites will not, by definition, have been previously developed upon this does not preclude them from potentially being contaminated. If developers want the use of standard PE pipework on *any* site to be considered they must submit a SAR, although this can be based entirely on the findings of the PRA, where appropriate.

3.4 Future or On-going Sources of Contamination

Regardless of the levels of contaminants found in the soil at the time of development Bristol Water will require barrier PE pipework to be used whenever potential sources of contamination are to remain in the vicinity of the site, or there are proposals to construct such contamination sources. Barrier pipework must be utilised within a 30m radius of a petrol filling station, oil pipeline or domestic fuel tank. Barrier pipework



must also be used when pipes are installed under permeably-paved vehicular areas (where such installations are permitted by the company).

All SARs will be expected to address potential proposed or ongoing contamination risks, in addition to the requirements set out in the UKWIR guidance.

3.5 Intrusive Investigations and Sample Analysis

New services on development sites in Bristol Water's area are laid with between 750mm and 1200mm of cover, while mains are installed with 900mm of cover. Sampling should reflect this.

Developers should note that the chemical analysis suite listed in the UKWIR report is much more extensive than that required by Bristol Water in the past. Generic analyses for non-pipe selection purposes are unlikely to be sufficient. Developers are advised to look in detail at the UKWIR guidance before commissioning any work.

3.6 Competency of those producing the SAR and Undertaking the PRA

Bristol Water requires that those who undertake the PRA and compile the SAR have relevant experience in the investigation of contaminated sites. In addition they must either be a chartered member of an appropriate professional body (eg Geological Society of London, Institution of Civil Engineers, or the Royal Institute of Chartered Surveyors) or be listed on the Specialist in Land Condition (SiLC) register administered by the Construction Industry Research and Information Association (CIRIA).

3.7 Format of the SAR

In the interests of having a standardised process across the country, Bristol Water does not have company-specific requirements with regards to the format of the SAR. SARs should be in the format prescribed by the UKWIR guidance, although consideration should be given to the inclusion of Bristol Water's additional requirements, as outlined in this document.



3.8 Bristol Water Pipework

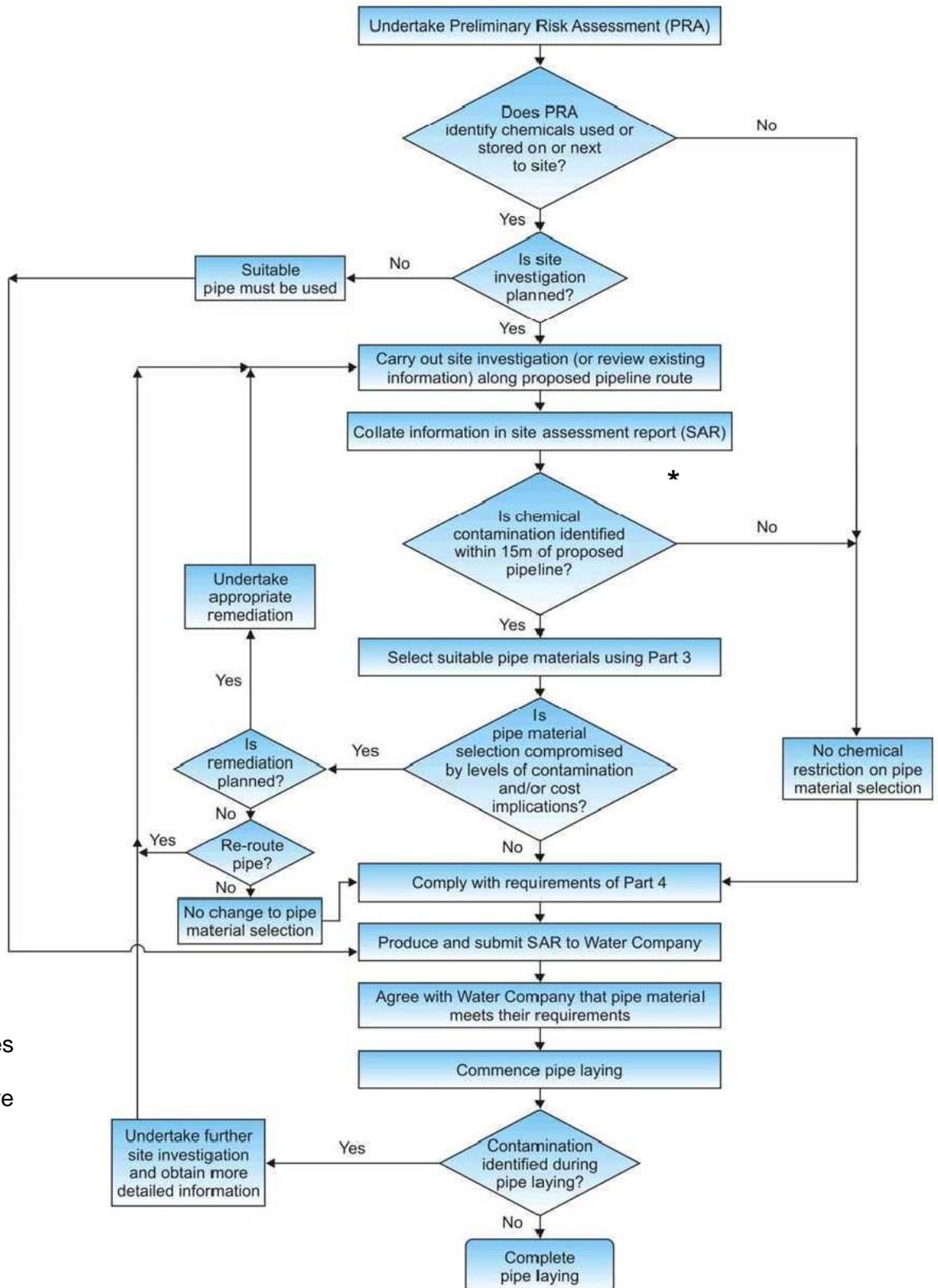
All pipework and fittings should be WRAS approved for the situation in which they are to be used. Pipework that is to be owned by Bristol Water (mains and communication pipes) should be installed using materials that appear on the current version of Bristol Water's Materials List, which is available on the company's website. As a result of this the pipe choice open to developers will be reduced from that indicated in the UKWIR guidance.

3.9 Obtaining a Copy of the UKWIR Guidance

Copies of the guidance (reference number 10/WM/03/21) are available for purchase from the reports section of UKWIR's website, www.ukwir.org.

Appendix

Process for Determining Pipe Material. (Amended from Fig. 1.1 of the UKWIR Guidance.)



*Please note that Bristol Water's requirements in relation to the required clearance for on-going sources of contamination differ from this figure – see section 3.4.