



# Contaminated Land Assessment Form

## Introduction

In January 2011, UK Water Industry Research (UKWIR) published "Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites" (UKWIR 2010 Ref 10/WM/03/21). The aim of this publication is to ensure that the correct materials are selected for Water Pipes to be used below ground in Brownfield Sites. It supersedes the Water Regulations Advisory Scheme (WRAS) Information and Guidance Note 9-04-03 "Laying Pipes in Contaminated Land" which has now been withdrawn.

The UKWIR guidance is for use by Water Companies, Self Lay Organisations, Developers and Consultants during the planning, designing and construction of water mains and/or services in Brownfield Sites. The guidance defines a Brownfield Site as "Land or premises that have not previously been used or developed. They may also be vacant or derelict. However, they are not necessarily contaminated." UKWIR state the guidance does not apply to Greenfield Sites, however YW reserve the right to apply relevant sections of the publication to Greenfield Sites that may potentially be contaminated.

## Contamination Risk Assessment

Please complete the form below to allow us to assess the risk of contamination of the drinking water supply from chemicals within the soil. Yorkshire Water now lays all its water mains and service pipes in plastic. Many organic compounds (i.e. Phenols, Fuels and other hydrocarbons) can either permeate through the walls of plastic pipes into the water supply or dissolve and weaken the pipe causing water leaks.

As a minimum a desk top study (Preliminary Risk Assessment) shall be provided to YW that sets out whether the land through which the Water Pipes are to be laid may be affected by contamination. For those sites where land contamination may be present, appropriate testing shall be undertaken on existing ground materials and remediated materials. The testing requirements are as described below:

## Testing Requirements

The tests that are required on all sites where the potential for contamination has been established through the desk top study and where water pipes are proposed to be laid must be undertaken by bodies with accreditation from UKAS (United Kingdom Accreditation Service) and where possible MCERTS (Environment Agency's Monitoring Certification Service).

The tests on soil/water samples shall be those to detect and report on the levels of the following contaminant groups and chemical characteristics: **VOC's, SVOC's, Mineral Oil compounds C10-C40, Conductivity, pH and Redox potential** (as stipulated in the UKWIR guidance Appendix G).

If the previous function of the site involved the use, storage, manufacture or disposal of any of the following elements, appropriate testing for these substances will be required:

Ethers, Nitrobenzene, Ketones, Aldehydes and Amines. Please note UKWIR guidance states the presence of Amines on any site precludes the use of Polyethylene pipework.

### **Sufficiency of Testing**

Samples taken must be representative of the soil conditions in which the Water Pipes are proposed to be laid (normally Water Pipes are laid at a depth between 0.7m and 1.3m below finished ground level). As a result samples must be taken at least 500mm below the base of the proposed pipe where the proposed location is known. If the proposed location is unknown then samples must be taken at intervals between the surface level and 1.5m from below finished ground level as a minimum. Where appropriate groundwater sampling and groundwater monitoring will also be necessary (see UKWIR guidance).

Further guidance on representative sampling is contained within BS10175:2011 "Code of practice for the Investigation of Potentially Contaminated Sites".

The table in section 3 lists the contaminants and their respective levels which can permeate or damage plastic water pipes with consequent risk to the water supply. Where soil analysis results indicate levels of these contaminants above the maximum allowable concentration shown, then Yorkshire Water will determine that all mains and service pipes are laid in suitable materials resistant to the risks posed by those contaminants. Where sites have been used for any of the activities listed in Section 2 all mains and services shall be laid in suitable permeation resistant pipe systems due to the high risk of these contaminants being present.

### **Health & Safety Assessment**

The UKWIR guidance does not cover Health & Safety considerations as part of any operational activities undertaken on Brownfield Sites. In order to maintain the safety of our staff, service partners and customers YW will also assess the site based on the EA CLEA (Contaminated Land Exposure Assessment) guidelines.

In order to comply with Yorkshire Water's Health & safety requirements please review the following information relating to trigger values for Health & Safety considerations when laying Water Pipes in contaminated Land.

|           | Contaminant | Mg/Kg |         | Contaminant  | Mg/Kg |
|-----------|-------------|-------|---------|--------------|-------|
| Inorganic | Arsenic     | 32    | Organic | Benzene      | 0.33  |
|           | Nickel      | 130   |         | Toulene      | 610   |
|           | Mercury     | 170   |         | Ethylbenzene | 350   |
|           | Selenium    | 35    |         | Xylene       | 230   |
|           | Cadmium     | 10    |         | Phenol       | 420   |

## 1. Your Details

Company Name

Contact Name

Site Address

|  |
|--|
|  |
|  |
|  |
|  |

Contact Number

|  |
|--|
|  |
|  |
|  |
|  |

## 2. The Previous Use of the Site

Please indicate below the previous uses of the site being developed

|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |

Please indicate if the site (or part of it) has previously been used for any of the following activities:

- |  |   |
|--|---|
| <input type="checkbox"/> Chemicals Manufacture             | <input type="checkbox"/> Paint or Ink Manufacture           |
| <input type="checkbox"/> Explosives / Ordnance Manufacture | <input type="checkbox"/> Railway Land / Railway Engineering |
| <input type="checkbox"/> Fuel Filling Stations / Storage   | <input type="checkbox"/> Scrap metals                       |
| <input type="checkbox"/> Metal Finishing / Treating        | <input type="checkbox"/> Shipbuilding & Repair              |
| <input type="checkbox"/> Mechanical Engineering Works      | <input type="checkbox"/> Vehicle Repair Garages             |
| <input type="checkbox"/> Oil & Gas Refineries / Storage    | <input type="checkbox"/> Vehicle Manufacturing              |



## 5. Can I use plastic pipe if I undertake remediation works?

Yes, as long as the remediation work either removes the contaminated soil or reduces the level of contaminants below trigger levels. Moving contaminated material so that it is under roads and footpaths is not acceptable as this is the likely location of the water mains.

As water mains are laid to a depth of 0.9m to the top of the pipe, any contaminated soil to a depth of 1.3m must be removed. We will require post remediation sampling results confirming contamination has fallen below the trigger levels prior to releasing any works to our Service Partners.

If contamination is found all water mains and services on the site must be laid in a suitable barrier pipe. Yorkshire Water will not change the agreed mains material after the agreement has been signed by all parties. So please ensure your remediation proposals are made clear at this stage.

## 6. Declaration

I hereby confirm that the information provided in this form is true and I understand that should the site conditions change from those indicated in this report that I may incur additional costs.

Your Signature

Date

Your Name & Title (PLEASE PRINT)

Role in organisation

  

Please return this completed form with your application to Developer Services,  
Yorkshire Water Services Ltd, PO Box 52, Bradford BD3 7YD

### References

BS10175:2011 "Investigation of Potentially Contaminated Sites Code of Practice

UK Water Industry Research (UKWIR) "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites" (Ref 10/WM/03/21)