

Risk Assessment for Water Pipes in Land Potentially Affected by Contamination

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Any application for new water supplies to a development (construction of new properties, or renovation or conversion of existing buildings) in land potentially affected by contamination shall include a completed Risk Assessment.

As a minimum a desk study (preliminary risk assessment) shall be provided with the Risk Assessment in accordance with the framework in Environment Agency publication "Model Procedures for the Management of Land Contamination" (ref: CLR11) that sets out whether the land through which the pipes are to be laid may be affected by contamination. The application of the source, pathway, receptor concept will be an integral part of any pipeline risk assessment.

For each potential source (the contamination) and each potential receptor (the water pipe), consideration shall be given to whether a potential pathway between source and receptor exists, or may exist in the future, linking the two. There are normally only three pathways by which contamination may come into contact with water pipes. These are direct contact with the soil or backfill, an excessive vapour phase or a contaminated groundwater regime. If none of these conditions exist on site (adopting the source, pathway, receptor concept) then it is likely that extended and/or targeted soil testing will not be required and a simple risk assessment will suffice.

For those sites where land may be affected by contamination appropriate testing shall be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. The testing requirements are as described in the following section.

The signatories of the Water Supply Application Form and the Risk Assessment must ensure that all assessments of land condition have been carried out in accordance with applicable current standards and guidelines by or under the direction of a suitably qualified competent person.

The competent person to be a) a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, the Geological Society of London or the Royal Institution of Chartered Surveyors) with relevant experience of investigating contaminated sites or b) a Specialist in Land Condition (SiLC) with appropriate geo-environmental experience.

Information should be submitted in accordance with Contaminated Land Guidance Assessment dated January 2014 as agreed between Water UK and HBF.

Please visit the Water UK Website for further information:

<http://www.water.org.uk/contaminated-land-assessment-guidance>

Applicant and site information

Company (if appropriate) _____ Contact number _____

Name / for the attention of _____ Mobile number _____

Property name / number _____ Fax number _____

Street _____ Email address _____

Village / town _____

City / county _____ Postcode _____

Name of the site owner: _____

South West Water Work Request Reference: _____

Site address

Site-Details

Please provide details below of the current and historical use of the site and adjacent sites

If your supporting information has details of the current and historical site use, please reference below the relevant sections of your report.

Preliminary Risk Assessment

Has your desk study and site walkover identified any land potentially affected by contamination?

Yes No

If the site is potentially affected by contamination but you have not completed any intrusive site investigation please provide details below of the rationale behind the intended pipe selection.

If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.

Intrusive Site Investigation

Have you completed any intrusive site investigation? Yes No

Date(s) when the site investigation(s) undertaken _____

At what level has groundwater been encountered? _____ metres below ground level
 Not encountered

Table 1 (Pipeline Selection Risk Assessment Summary (PSRAS)) below classifies testing required where the preliminary risk assessment has identified land potentially affected by contamination. Please provide details below of any test groups which have not been tested and the rationale for not testing.

If your supporting information has details of the rationale behind not testing any particular test groups, please reference below the relevant sections of your report.

Intrusive Site Investigation (cont)

If the intrusive site investigation has identified concentrations above the PE threshold (see PSRAS) and your intended pipe selection is PE please provide details below of the rationale behind the intended pipe selection.

If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.

Site Remediation

Please provide details below of any site remediation (which may include a change in site levels) already completed.

If your supporting information has details of the site remediation already completed, please reference below the relevant sections of your report.

Has the PSRAS (Table 1) been completed using appropriate data after remediation? Yes No

Please provide details below of any proposed site remediation and an analysis of whether this will affect your intended pipe selection.

If your supporting information has details of any proposed site remediation and whether this will affect your intended pipe selection, please reference below the relevant sections of your report.

Final Use of Site

Please provide details below of any chemicals (including fuel) to be stored on site and any other future contamination risks which may affect your intended pipe selection.

If your supporting information has details of potential contamination risks which may affect your intended pipe selection, please reference below the relevant sections of your report.

What water pipe materials are intended to be used on site?

- PE
- PE Barrier Pipe Type A
- PE Barrier Pipe Type B
- Other (please specify) _____

Additional Information

Please use the section below to provide any additional details to support your intended pipe selection.

If your supporting information has additional information to support your intended pipe selection, please reference below the relevant sections of your report.

Risk Assessor

Name and relevant qualifications of person directing the risk assessment for water pipes	
Name and address of risk assessor's company	
Date risk assessment performed	

Declaration

I confirm I have completed this form and provided supporting information in accordance with 'UKWIR Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' and the water company's Supplementary Guidance. I also confirm that if any further site investigation is needed and carried out, I will be required to submit an additional Risk Assessment for Water Pipes with the relevant supporting information. I understand that failure to supply any of the required information may delay my application being processed.

Signature _____

Name _____

Company _____

Date _____

- 1) Testing must be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. Please use the appropriate testing data to complete Table 1 below.
- 2) If more than one pipe selection is being made, for example, for pipes in different areas of a large site, a completed PSRAS is required for each selection.

What materials have been tested to populate Table 1 below?

Existing ground materials Remediated materials Imported capping materials

All concentrations in mg/kg

Test Group	Testing Required?	PE Threshold	Metal Pipes/ Barrier Pipe	Laboratory Detection Limit	Testing UKAS accredited Y/N	Maximum concentration at proposed pipeline depth See Note [2]	Maximum site concentration See Note [3]	Locations and depths where concentrations exceed proposed pipeline threshold
Total VOCs	Where Preliminary Risk Assessment (PRA) has identified land potentially affected by contamination	0.5	Pass					
Total BTEX & MTBE		0.1	Pass					
Total SVOCs (excluding PAHs and those substances marked with an *)		2	Pass					
EC5-EC10 aliphatic and aromatic Hydrocarbons		2	Pass					
EC10-EC16 aliphatic and aromatic hydrocarbons		10	Pass					
EC16-EC40 aliphatic and aromatic Hydrocarbons		500	Pass					
Phenols* (from SVOC analysis)		2	Pass					
Cresols and chlorinated phenols* (from SVOC analysis)		2	Pass					
Ethers*	Only where identified	0.5	Pass					
Nitrobenzene*		0.5	Pass					
Ketones*		0.5	Pass					
Aldehydes*		0.5	Pass					
Amines		Fail	Pass					
Corrosive	Conductivity, Redox and pH	Pass	See note [1]					

Note [1] Threshold: For wrapped steel, corrosive if pH<7 and conductivity > 400µS/cm. For wrapped ductile iron corrosive if pH<5, Eh not neutral and conductivity > 400µS/cm.

For copper, corrosive if pH<5 or >8 and Eh positive.

Note [2] Water pipes are normally laid at 0.75-1.35m below finished ground level.

Note [3] Also state if liquid free product is present in soil or groundwater.