



ENVIRONMENTAL PROTECTION ACT 1990, SECTION 78H

REMEDICATION STATEMENT FOR LAND WHICH IS CONTAMINATED

In accordance with Part 2A of the Environmental Protection Act 1990 Redditch Borough Council has prepared this Remediation Statement for land which is Contaminated Land at:

37 MARLPOOL DRIVE, REDDITCH, WORCESTERSHIRE B97 4RX

68 MARLPOOL DRIVE, REDDITCH, WORCESTERSHIRE B97 4RX

(identified in Schedule 1 as land within the red boundary)

1. The location and extent of the Contaminated Land to which this Remediation Statement relates ("the land") is set out in Schedule 1.
2. The Council is precluded by Section 78H(5)(d) and Section 78N(3)(a) of the Environmental Protection Act 1990 from serving a Remediation Notice and has therefore prepared this Remediation Statement in accordance with Section 78H(7) and Section 78H(8).
3. The actions which have been, are being and are expected to be done by way of remediation and the time periods within which each of these actions are expected to be completed are set out in Schedule 2.
4. The particulars of the Significant Pollutant Linkages (SPLs) which were used to determine the site as Contaminated Land are set out in Schedule 3.
5. The person(s) below, or agents appointed by them, are expected to carry out each of the actions set out in Schedule 2:

Worcestershire Regulatory Services (on behalf of Redditch Borough Council)

Steve Jorden, Head of Regulatory Services, The Council House, Burcot Lane, Bromsgrove, Worcestershire, B60 1AA

Redditch Borough Council

Sue Hanley, Deputy Chief Executive, Town Hall, Walter Stranz Square, Redditch,
Worcestershire, B98 8AH

Dated 4th July 2012

A handwritten signature in black ink, appearing to read 'Sue Hanley', with a long horizontal flourish extending to the right.

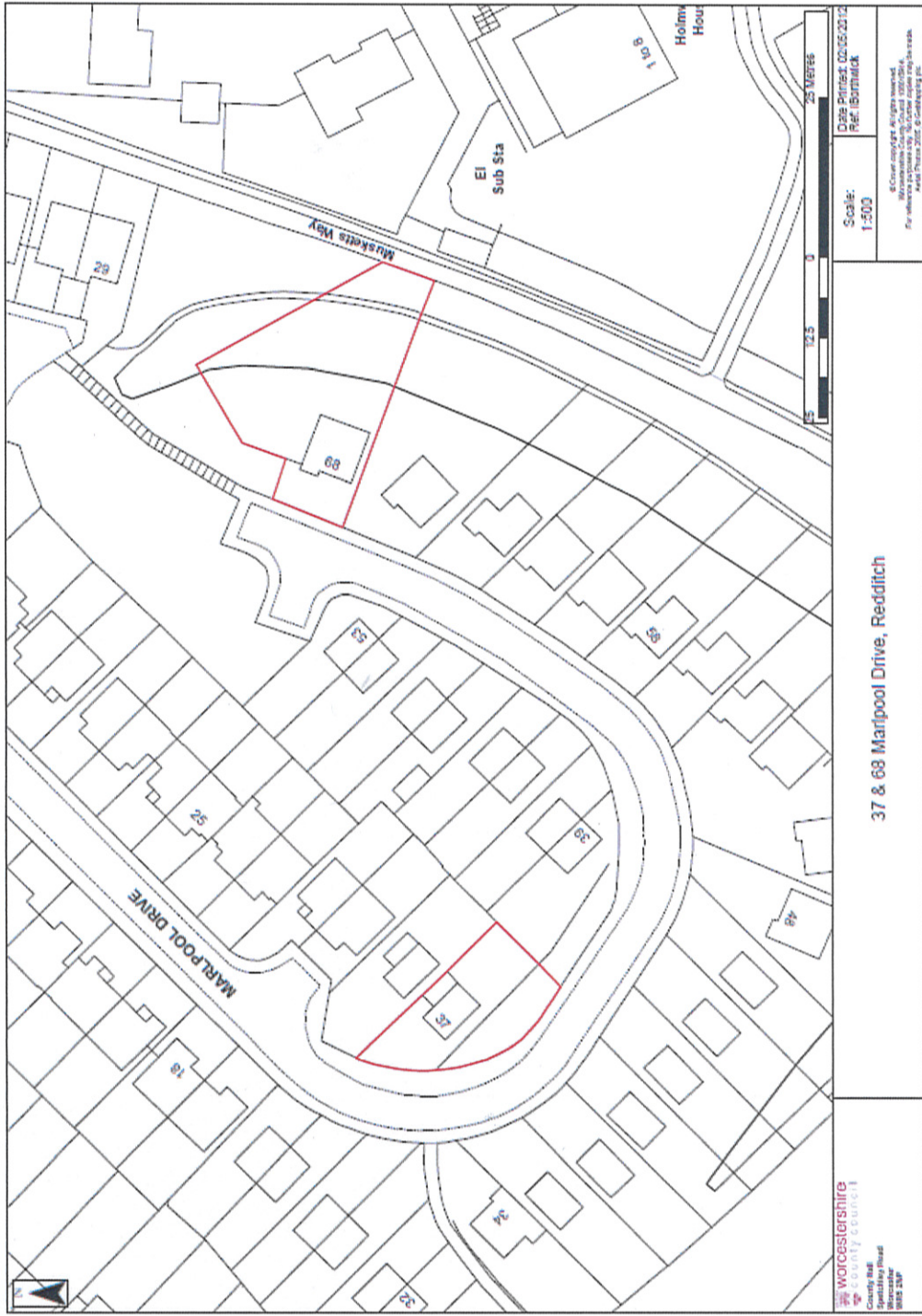
Sue Hanley

Deputy Chief Executive

Redditch Borough Council

SCHEDULE 1 - The Land

The physical extents of the land determined as Contaminated Land are outlined in red on the plan below:



SCHEDULE 2 – Remediation Actions

SKM Enviros, commissioned by Worcestershire Regulatory Services, have completed a Remedial Options Appraisal which provides recommendation on suitable remediation techniques that would break each of the SPLs and identifies the Best Practical Technique for remedial action.

The Statutory Guidance (DEFRA Contaminated Land Statutory Guidance, April 2012) outlines the standard of remediation required for each identified SPL, this comprises:

- (a) ensuring the linkage is no longer significant by doing one or more of the following:
 - i. reducing or treating the pollutant
 - ii. breaking, removing or disrupting the pathway
 - iii. protecting or removing the receptor

Part 2A also specifies that the standard for remediation should be achieved using a package of measures forming the Best Practicable Technique (BPT) for remediation. The BPT takes into account the volume of the significant pollutant concerned, the timescale of remediation and must be:

- (a) reasonable, taking into account the costs involved and the seriousness of the harm or pollution being addressed
- (b) represent the best combination of the following qualities:
 - i. practicability
 - ii. effectiveness in achieving the standard of the remediation
 - iii. durability in maintaining that effectiveness over the timescale that the significant harm may occur.

Following completion of the SKM Enviros Remediation Options Appraisal the following remedial actions were identified as the Best Practicable Technique. The identified actions break the existing pathway and satisfy the Part 2A objective considerations of practicability, durability and effectiveness. The application of these tests is detailed in Table 4.2 of SKM Enviros *No.37 & No.68 Marlpool Drive, Redditch Remedial Options Appraisal* Report (June 2012).

The following remedial actions are concluded to be the Best Practical Techniques and are considered to constitute the necessary urgent remedial actions.

Urgent Remedial Actions:**1. Retrofitting with positive (active) systems:**

Previous investigations have demonstrated that the existing gas dispersal system beneath each property is suitable for activation and capable of maintaining a clean air blanket below the structure. Activation is achieved by the retrospective installation of a single 100mm outlet Positive Pressurisation Unit (PPU).

The PPU operates by taking clean fresh air and introducing it below the floor slab. This acts to dilute and disperse any accumulating ground gas and, by producing a net positive pressure, creates and maintains a clean air blanket below the structure.

The units are normally wall mounted externally or mounted on a frame away from the structure.

Installation of the PPU is achieved by:

- Survey of building to confirm accessibility (including presence of obstructions such as decking, flower beds that would need to be removed and replaced)
- Survey of underground services
- Installation of Positive Pressure Unit (PPU) to include:
 - 2no. shallow excavations formed at the location of 2no. existing external vents immediately adjacent to the property
 - 2no. existing 75mm horizontal sub-floor vents to be cleared of any debris and utilised as activation input points
 - 1no. 100mm outlet PPU to be wall mounted on structure or frame remote from structure and connected to the air input points by a bifocated section of 110mm plastic pressurisation manifold located within the ground
 - Manifold to contain 1no. sub-floor probe connected back to PPU with 8mm probe pipe
 - PPU to include 1no. GSM telemetry system to allow connect to 24 hour call out and maintenance system
 - PPU electricity supply to be connected to 1no. fused spur outlet
 - Where necessary existing external vents to be cleared or blocked off
 - All excavations to be backfilled and disturbed surfaces reinstated as is reasonably practicable
 - Internally where possible any major air loss points to be located and sealed

- System to be commissioned

2. Verification of active (positive) systems:

Verification of the PPU system to be achieved through the following monitoring actions:

- Continuous monitoring of selected vents to confirm no hazardous concentrations of ground gas during falling atmospheric pressure events

3. Ensure annual maintenance of installed active (positive) systems:

Servicing undertaken by and to specification of appropriate specialist contractor.

4. Ensure annual running costs of installed active (positive) systems:

Annual running costs of installed active (positive) systems are approximately £140 per property per year (at July 2011).

Timescales

Remedial actions 1 and 2 above are to be completed by 31st August 2012.

Remedial actions 3 and 4 are ongoing until such time as the operation of active (positive) systems at the site is no longer deemed to be necessary.

SCHEDULE 3 – Significant Pollutant Linkages

SPL Ref	Source	Pathway	Receptors	
	Description	Description	Human Health	Building
Methane Linkages				
1	Landfill Waste	Vertical migration via stone columns, accumulation beneath building perimeter, ingress via cracks and service entries, accumulation leading to fire and/or explosion risk	Occupants of residential properties	Residential Properties
2	Landfill Waste	Vertical migration via stone columns, accumulation beneath building perimeter and venting through underfloor vents leading to fire and/or explosion risk	Occupants of residential properties	Residential Properties
Carbon Dioxide linkages				
3	Landfill Waste	Vertical migration via stone columns, accumulation beneath building perimeter, ingress via cracks and service entries, accumulation in confined spaces and inhalation leading to asphyxiation risk and toxic effect	Occupants of residential properties	Residential Properties

Removal of the identified SPLs

The Positive Pressure Unit provides continuous air pressurisation of the underfloor gas dispersion layer to create a zone of pressure that is greater than the pressure of the gas in the ground. This zone of pressure prevents gas migration into the existing gas dispersal system and the property itself.

Identified SPLs are broken as follows:

SPL1 – gas ingress into the property is prevented therefore removing the identified pathway.

SPL2 - gas ingress into the gas dispersal system and vents beneath the property is prevented therefore removing the identified pathway.

SPL3 - gas ingress into the property is prevented therefore removing the identified pathway.

References

DEFRA. *Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance*. Apr, 2012.

SKM Enviros, *No 37 & No 68 Marlpool Drive, Redditch Remedial Options Appraisal*. June, 2012

SKM Enviros. *Marlpool Drive, Redditch Report on Further Assessment Actions*. July, 2011.