



ENVIRONMENTAL PROTECTION ACT 1990, SECTION 78H(5)C

REMEDIATION STATEMENT

**Radcliffe Road Allotments (South), Northam, Southampton.
NGR SU 429 126**

Document Reference: 2000/A/P2A/Doc 2

Note: Type in italics relates to terms quoted in Section 78 of the Environmental Protection Act 1990 (“the 1990 Act”) or circular 02/2000 (the “Statutory Guidance”)

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1. On 9th December 2002 Southampton City Council determined the land detailed in Schedule One below (“the land”) as constituting *contaminated land* in accordance with the 1990 Act.
2. Southampton City Council was of the opinion that lead (Pb) levels identified in surface soils on the land by invasive investigations (Site Investigation and Assessment – Public Allotments and Park Area, Northam, Southampton. Casella Stanger – December 2002 and Further Site Investigation – Radcliffe Road South Allotments, Northam, Southampton. Casella Stanger – July 2004) presented a *significant possibility of significant harm being caused*.
3. Southampton City Council (“the Enforcing Authority”) was precluded from serving a Remediation Notice in respect of the Land in accordance with Section 78H(5)c of the 1990 Act since the Enforcing Authority was the only *appropriate person* responsible to pay for *remediation*. However, Southampton City Council has prepared a *Remediation Statement* for the Land in accordance with Section 78H(7) of the 1990 Act.
4. Schedule Two details the *remediation scheme* and time frames proposed and to be undertaken by Kier Partnership Homes Ltd on behalf of Southampton City Council, Directorate of Neighbourhoods.

Schedule 1

Plan of Radcliffe Road South Allotments, Northam



Schedule 2

Remediation Scheme

1. Aims

In accordance with section 78E of the 1990 Act the Enforcing Authority shall give regard to the guidance provided by the *Statutory Guidance*.

The *Statutory Guidance* sets the overall aims for *remediation* of each *significant pollutant linkage*. These are:

- (a) *ensuring that the linkage is no longer a significant pollutant linkage, by doing any one or more of the following:*
 - (i) *removing or treating the pollutant;*
 - (ii) *breaking or removing the pathway; or*
 - (iii) *protecting or removing the receptor; and*
- (b) *Remedying the effect of any significant harm or pollution of controlled waters which is resulting, or has resulted from, the significant pollutant linkage”.*

However, it is recognised that in some circumstances it may not be possible to achieve these aims. This might be because it is not technically practicable, or because the *remediation* needed would not be *reasonable*.

C.19 of the *Statutory Guidance* defines what represents the *best practicable technique* with regard to *remediation*.

Table 2 details the assessment processes used to select the most appropriate remediation option from five available schemes.

Method

The preferred and most appropriate *remediation scheme* is detailed in Table 1. This scheme will remove the pollutants from the site thereby breaking the *pollutant linkage* and any associated risk.

Table 1: Remedial Actions and Timeframe

Period in weeks	Action
Week 1	Clear site
Week 1 to 3 inclusive	Excavate contaminated soils to levels detailed in Figure 1 and remove from site by an appropriately licensed waste carrier to dispose at an appropriately licensed facility.
Week 1 to 3 inclusive	Undertake validation testing of soils from base and sides of excavation using MCerts accredited methodology (minimum of 25 samples at appropriate intervals).
Week 1 to 3 inclusive	If sides of excavation indicate any exceedance of the Pb Soil Guideline value (450 mg/kg) install a protective barrier (geomembrane) to that wall to prevent soil mixing.
Week 1 to 3 inclusive	If testing of soils to the base of the excavation exceeds the Pb Soil Guideline value (450 mg/kg) excavate the 'hotspots' a further 100mm (to a maximum depth of 1000mm) and repeat the validation testing at that location until no lead contamination is identified.
Week 1 to 3 inclusive	Backfill excavations with suitable clean soil, including at least 300mm of "top soil" grade soil. All Imported soils obtained from a reputable source and tested in accordance with the specifications in Schedule Three.
Week 4	Reinstate the site as a working allotment.
Week 9	Provide a documented 'Completion Statement' detailing all actions undertaken and all validation testing.

The anticipated start date is 5th June 2006.

Figure 1

Intended Excavation Levels at Radcliffe Road South Allotments, Northam



Table 2**Remedial Options Appraisal**Radcliffe Road Allotments (South),
Northam.

Test	Aspect	For Example	Possible Score	Option A	Option B	Option C	Option D	Option E
PRACTICABILITY	Technical Constraints	Whether the technique is commercially available at the necessary scale	5	5	5	5	2	2
	Site Constraints	Location and access, it's physical or other condition and the presence of other substances	5	5	1	5	2	4
	Time Constraints	Time available to obtain necessary approvals & to design the remediation action	5	5	1	3	3	2
	Regulatory Approvals	Whether approvals are likely to be forthcoming, and effect cost & environmental impact	5	5	1	2	3	3
Sub-Total			20	20	8	15	10	11
EFFECTIVENESS		In terms of ability to achieve aims	10	10	1	5	5	5
		In terms of the necessary timescale	10	10	10	10	7	7
Sub-Total			20	20	11	15	12	12
DURABILITY		In terms of the time that the contamination would continue to exist or recur assuming normal maintenance and repair	20	20	10	5	15	15
Sub-Total			20	20	10	5	15	15
SUSTAINABILITY		In terms of overall environmental cost	20	5	20	15	15	10
Sub-Total			20	5	20	15	15	10
TOTAL			80	65	49	50	52	48

Evaluation of the Remediation Options	Option A	Remove soils to a variable thickness 1.00m to 0.25m according to findings of investigation reference LSXOO62/SJRC/R1/Rev0. Validate remaining soil levels and reinstate with a suitable, clean soil.
	Option B	Remove contaminated material from growing areas and encapsulate on site in less sensitive areas as a 5m bund. Import suitable, clean soil into excavated plots.
	Option C	Strip top 300mm of contaminated soil, fit a barrier layer then raise existing ground levels by 450mm by importing 750mm of suitable, clean soil to cover any remaining contamination.
	Option D	Remediate affected soil on-site using mobile soil washing technology.
	Option E	Remediate soils off-site using established soil washing plant at "soil treatment centre".

Table 3**Specification for Soil to be Imported to Radcliffe Road (South),
Southampton.**

All imported soil must be verified as coming from a reputable source (i.e. established wholesaler or Greenfield site). If possible, it is preferred that wholesalers provide details of the sources of topsoil mixed in the provided batch. Topsoil must comply with BS 3882 and subsoil be of a type similar to that extracted.

For each source of imported soil at least three samples or one sample per 50m³ is required, whichever is the greatest. Samples must be analysed for the following determinants using a MCerts accredited methodology. Results must include all the appropriate laboratory quality control data. Appropriate statistical tools can be applied to interpret the analytical results (e.g. Contaminated Land Report 7 – Assessment of Risks to Human Health from Land Contamination: An Overview of the Development of Soil Guideline Values and Related Research).

General Suite of Determinants	Concentration Not Exceeding (mg/kg)
Arsenic	20
Cadmium	1
Chromium – total	130
Chromium – hexavalent	25
Lead	450
Mercury	8
Selenium	35
Boron (water soluble)	3
Copper	130
Nickel	75
Zinc	300
Total PAH (US EPA 16)	40
Benzo-a-Pyrene	1.5
Phenols (total)	5
Cyanide (total)	25
Sulphate	10,000
Sulphide	250
pH Value	>pH5
TPH by laboratory GC	50
Asbestos	None