



# Options Appraisal and Remediation Strategy

Winscott Farm,  
Soulbury

M43012-JNP-XX-XX-RP-G-1003 P01

December 2023

## DOCUMENT CONTROL SHEET

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## 1 INTRODUCTION

- 1.1.1 JNP Group was instructed by Daldorch Estates to undertake an options appraisal and design a remediation strategy for a site known as Winscott Farm (hereinafter referred to as ‘the site’). This report is subject to the limitations presented in Appendix A.
- 1.1.2 The farmyard is to be redeveloped for residential housing, retaining and refurbishing of the existing farmhouse and constructing five new properties with private gardens and areas of soft landscaping.
- 1.1.3 The site currently comprises the existing farm buildings, farmyard and an extensive garden area of the farmhouse. This area measures approximately 1.8 hectares. A 550 m long access track with associated verge areas connects the north-western corner of the site to Stewkley Road. The verge areas are occupied by hedge-type vegetation and a number of trees of varying maturity.
- 1.1.4 The proposed redevelopment is shown in Juliet Staddon Drawing 1203:02, dated September 2023, included in Appendix B.
- 1.1.5 Any comments given are based on the understanding that the proposed redevelopment will be as detailed above.
- 1.1.6 It should be noted that if there are any changes to the proposed redevelopment it may affect whether the remediation strategy outlined in this report is still appropriate, and hence warrants further consideration.
- 1.1.7 Should there be any deviation from the agreed remediation strategy, then it may affect whether final discharge of any planning conditions pertaining to the site is granted by the Local Authority.
- 1.2 Objectives
- 1.2.1 The purpose of this report is to identify the Best Practicable Techniques(s) (BPT) for the remediation of the site. This has been achieved by undertaking an options appraisal of potential remediation techniques and then designing a sustainable remediation strategy including verification plan.
- 1.3 Methodology
- 1.3.1 This report has been compiled in accordance with the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: <https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks>.
- 1.3.2 The LCRM guidance outlines a three-stage process in deriving a remediation strategy:
- Identification of Feasible Remediation Options – this considers the general and technical factors that may affect the remedial option as well as the remediation and managerial objectives and produces a short list of potential BPT;
  - Detailed Evaluation of Options – this considers the characterisation of the short listed remedial options and remediation costs. An evaluation of environmental attributes is undertaken to select the BPT most suitable for the site;

Remediation Strategy Design – this identifies the areas of the site requiring remediation and how the works are to be phased. It outlines the verification process and plan which ensure that the remediation works are complete in line with the desired remediation and managerial objectives.

1.3.3 This report should be read in conjunction with the following reports:

JNP Group M43012-JNP-XX-XX-RP-G-1001 Ground Investigation Report, November 2019;

JNP Group M43012-JNP-XX-XX-RP-G-0002 P02 Phase II Geo-environmental Report, November 2023.

## 2 REMEDIATION REQUIREMENTS

### 2.1 Pollutant Linkages

2.1.1 From the ground investigation and subsequent assessment undertaken at the site, contamination was recorded within the made ground at the site in the following locations on a plot-by-plot basis:

#### Unit 1

- No contamination recorded. Existing garden area.

#### Unit 2

- TP16 @ 0.20 m below ground level (bgl) in northern end of the plot. Much of the remainder of the plot will require removal of existing hardcore and replacement with suitable soil. Made ground at this location is 0.30 m in thickness.
- Area 146 m<sup>2</sup>, volume 44 m<sup>3</sup>.
- An exceedance of arsenic in deeper natural soils does not require remediation.

#### Unit 3

- TP08 @ 0.20 m bgl, TP12 @ 0.30 m bgl and WS08 @ 0.15 m bgl. Remediation of full area of private garden required. Arisings from foundations, patios, driveways etc will need to be treated as potentially asbestos-contaminated waste. Made ground was found to be 0.40 m thick in both locations.
- Area 251 m<sup>2</sup>, volume 100 m<sup>3</sup>.
- Arisings from foundations, patios, driveways etc in the south may need to be treated as potentially asbestos-contaminated waste due to their proximity to WS08 and TP12 depending on results of verification testing of the remedial excavation.

#### Unit 4

- Elevated concentrations of arsenic recorded in natural soils in main garden area – these do not require remediation.
- Front / side garden area to the west is affected by asbestos and arsenic recorded in TP12 and WS08. Made ground was found to be 0.40 m thick in both locations.
- Area 72 m<sup>2</sup>, volume 30 m<sup>3</sup>.
- Arisings from foundations, patios, driveways etc in the west may need to be treated as potentially asbestos-contaminated waste due to their proximity to WS08 and TP12 depending on results of verification testing of the remedial excavation.

#### Unit 5

- No contamination recorded, however an above ground oil tank is located within footprint of proposed building. Inspection and verification of location of oil tank required following removal of oil tank.

#### Unit 6

- PAH in DS2 @ 0.30 m bgl. TPH in WS09 at 0.40 m. Made ground varies from 0.30 m to 0.60 m bgl.
- Area 420 m<sup>2</sup>, volume 190 m<sup>3</sup>.

#### Open space

- PAH in TP10 @ 0.10 m bgl. Made ground 0.20 m thick. Area 288 m<sup>2</sup>, volume 58 m<sup>3</sup>.
- A marginal exceedance of the S4UL of arsenic in natural soils at 0.45 m in TP18. Remediation not required for naturally occurring arsenic.
- Arsenic in TP09. This area is to be used as a parking area, hence does not require remediation, however, removal of existing contaminated soils is likely to be required to create the new parking area. Area 86 m<sup>2</sup>, volume between 26 and 52 m<sup>3</sup>, depending on construction thickness of new parking area.

2.1.2 In general, the made ground comprised brown to dark grey, silt, sand and gravel, with occasional asphalt and organic pockets. The proportion of clay, sand and gravel varied between exploratory holes. The gravel fraction comprised flint, brick, concrete, and charcoal with rare clinker. Occasional fragments of wood, rusted scrap metal and plastic packaging were also encountered.

2.1.3 Hence remediation at the site is required in areas of private gardens and soft landscaping areas in order to break the source-pathway-receptor linkages and ensure that the site is suitable for use.

2.1.4 Deleterious materials (brick, clinker, concrete, plastic, scrap metal and wood) should not remain within the top 600 mm within private gardens, or the top 300 mm in front gardens, landscaping or areas of open space.

2.1.5 In addition, the Salvum Asbestos survey report (reference J027803) found no asbestos in the structures, however, access to all buildings was not possible, hence small amounts of asbestos may be present. Following the demolition, additional screening may locally be required to demonstrate that no asbestos remains within the shallow soils.

2.1.6 Some areas of hardcore-like material comprising brick and concrete gravel were present in the north, centre and west of the site. These materials are not considered texturally suitable for use in gardens and soft landscaping, however these materials may be re-used beneath areas of hardstanding, patios etc, subject to a valid Materials Management Plan.

## 2.2 Remediation Objectives

2.2.1 The overall remediation objective is to ensure that the site is suitable for use and to protect the identified receptors (future site residents).

2.2.2 The following remediation objectives specific to the contaminants apply to the site:

To remove the risk to receptors from asbestos, hydrocarbon and metallic contaminated made ground in specified garden areas and areas of soft landscaping.

2.2.3 The following remediation objectives relating to the remediation option are considered applicable to the site:

Any amount of material going off site to hazardous landfill must be kept to a minimum.

2.3 Material Volumes

2.3.1 It is not proposed to undertake significant re-levelling of the site.

2.3.2 JNP Group Drawing M43012-JNP-XX-XX-DR-G-2006 shows the areas across the site requiring remediation. Given the thickness of made ground across the site, it is anticipated that all made ground will be removed in areas of private gardens, landscaping and open space that require remediation. Validation work will confirm that the soils within the top 600 mm within rear gardens and 300 mm in soft landscaping areas and front gardens are free from contamination.

2.3.3 From drawing M43012-JNP-XX-XX-DR-G-2006, the total area requiring remediation is estimated to be 975 m<sup>2</sup>. This equates to an estimated volume of 445 m<sup>3</sup> of material requiring remediation.

2.3.4 The anticipated small volume of material requiring remediation is likely to warrant on-site treatment methods unviable at the site.

2.3.5 However, a contingency should be allowed for in the events that either hydrocarbon impacted material associated with underground oil tanks be encountered or should unexpected contamination be identified.

2.4 Hazardous Waste Assessment

2.4.1 The concentrations of contaminants recorded during the ground investigation have been assessed using the HazWasteOnline classification tool. This classification tool is based on the methodology outlined in the Hazardous Waste Technical Guidance publication WM3 (EA, SEPA, NIA, NRW. May 2015).

2.4.2 The concentrations of waste from the hotspots at WS9 and TP16 are considered to be hazardous. This would comprise the entirety of the soil in the northern end of Plot 2 garden (73m<sup>3</sup>) and a circular area of 5 m radius from WS09 (47m<sup>3</sup>).

2.4.3 WAC testing will be required on this material.

2.4.4 The concentrations of waste from the remainder of the made ground and natural soils are considered to be non-hazardous.

2.4.5 It may be possible for a groundworker to have natural soils reclassified as inert waste, should WAC testing be undertaken and prove suitability.

2.5 Remediation Target Values

2.5.1 The initial Remedial Target Values (RTV), given in Table 2.1 that follows, have been suggested for the remediation works. In addition, the proposed RTV has been selected to ensure that following remediation the site cannot be classified as "Contaminated Land" under Part IIA of the Environmental Protection Act 1990.



Table 2.1: Proposed RTV

Determinant	RTV (mg/kg)	Source
Arsenic	37	C4SL (Residential with plant uptake)
Lead	200	C4SL (Residential with plant uptake)
Benzo(b)fluoranthene	2.6	S4UL (Residential with plant uptake)
Benzo(a)pyrene	5	C4SL (Residential with plant uptake)
Dibenzo(a,h)anthracene	0.24	S4UL (Residential with plant uptake)
Aliphatic fraction C <sub>16-21</sub>	250	Professional Judgement
Aromatic fraction C <sub>12-16</sub>	250	Professional Judgement
Asbestos	<0.001%	CIRIA C733

### **3** EVALUATION OF REMEDIATION OPTIONS

#### 3.1 Management Objectives Affecting Remediation Options

##### 3.1.1 The following management objectives are considered to be appropriate for the site:

To reduce the amount of hazardous waste being landfilled in line with current UK waste hierarchy (reduce - re-use – recycle – recover – disposal);

To achieve a remediation strategy that can be agreed by all key stakeholders (client, regulators);

To meet all regulatory requirements relevant to the installation or operation of remediation options;

To avoid unacceptable health and safety, and adverse environmental impacts during remediation;

To minimise long term liabilities;

To avoid long term maintenance or monitoring obligations;

To ensure the scheme takes into account any design requirements of the overall redevelopment;

To undertake remediation in accordance with good technical practice;

To achieve successful remediation within a particular timescale and budget.

#### 3.2 Design Requirements Affecting Remediation Options

##### 3.2.1 There is no design requirement to raise ground elevation.

#### 3.3 Technical Factors Affecting Soil Remediation Options

##### 3.3.1 Contaminant type and soil type are the two key factors that affect the choice of any remediation option being considered.

##### 3.3.2 To treat gravelly clay soils contaminated with TPH and metals the following are options:

Chemical: accelerated natural attenuation;

Solidification / stabilisation: cement and pozzolan based system; eclays, vitrification;

Thermal: thermal desorption; high temperature incineration;

Other: cover; disposal to landfill;

Other: transfer to soil treatment centre.

##### 3.3.3 The following options are considered potentially available should any asbestos be identified with the ground following demolition:

Excavation and transfer to a soil treatment centre (some centres can accept low concentrations of asbestos);

Excavation and disposal to landfill.



### 3.4 Evaluation of Remediation Options

3.4.1 Given the layout and size of the site as well as the likely build timescales, in-situ or on-site treatment options are not considered to be viable. Hence the following options remain viable:

Excavation and transfer to a soil treatment centre (some centres can accept low concentrations of asbestos);

Excavation and disposal to landfill.

## 4 REMEDIATION STRATEGY – IMPLEMENTATION PLAN

### 4.1 Introduction

- 4.1.1 The main works shall be undertaken by a suitably qualified Earthworks Contractor and the works shall be supervised by JNP Group on an “as and when” required basis.
- 4.1.2 As there is asbestos present within the soils, all works undertaken must be in accordance with the guidance given in the CIRIA C733 (CIRIA 2014) and CL:AIRE Industry Guidance on Interpretation for Managing & Working with Asbestos in Soil and Construction and Demolition Materials (CL:AIRE 2016). The earthworks Contractor must be licensed to work with asbestos containing materials.
- 4.1.3 All works on site shall be undertaken following the guidance given in C762 Environmental Good Practice on-site (CIRIA C762) and Construction Site Safety GE700E/18 (CITB 2018).
- 4.1.4 A Construction Environmental Management Plan (CEMP) and method statements for all aspects of work shall be provided to JNP Group by the Earthworks Contractor, and any specialised subcontractors. These will include any details of proposed toolbox talks. The CEMP and method statements shall require approval prior to commencement of the works on site. The CEMP should cover, as a minimum, the following items: nuisance dust; asbestos fibres release; odours; noise and traffic management.
- 4.1.5 It is recommended that the proposed works are undertaken in accordance with the Definition of Waste Code of Practice (DoWCoP); in following this guidance and to ensure materials are managed correctly, a Materials Management Plan will need to be prepared and declared in advance by a Qualified Person, then implemented and documented in a Verification Report. If this process is not undertaken, then following recent changes in landfill tax regulations by HMRC, there is a risk of penalties equating to twice the landfill tax rate being applied to the re-use of material on site. If the proposed works are to be undertaken outside of the DoWCoP, there would need to be some form of Environmental Permitting, the requirements of such are likely to be more onerous and may take longer to be granted.

### 4.2 Programme of Works

- 4.2.1 In order to ensure the works are undertaken in a suitable order, the following are proposed:
- Surface strip, vegetation clearance (visible ACM clearance if required);
  - Breaking out of surface / subsurface structures (if any are encountered);
  - Demolition of existing buildings that are not to be retained;
  - Removal of above ground oil tanks and associated supports and slab.;
  - Excavation and removal of soils requiring remediation and replacement with suitable fill;
  - Excavation of ground for installation of drainage infrastructure;
  - Re-use of suitable site won material under hardstanding;
  - Removal of surplus material to a designated waste receiver;

Verification Work;

Any drainage / services work;

Construction phase.

#### 4.3 Removal of Concrete Slabs

4.3.1 All surface and subsurface concrete slabs shall be removed in their entirety.

4.3.2 Following the removal of the concrete slabs, the underlying ground in areas of proposed garden or soft landscaping shall be visually assessed by JNP Group. Soil samples shall be taken for chemical analysis if significant or obvious contamination is present.

#### 4.4 Demolition of Existing Buildings

4.4.1 The existing buildings in the centre of the site (with the exception of structures to be retained) will be demolished before the main / earthworks / remediation work commences.

#### 4.5 Residual Asbestos with Soils following Demolition

4.5.1 Following the completion of the demolition work, at random locations soil samples shall be taken by JNP Group for asbestos screening. It is suggested that the testing frequency used is two samples per former building. Should asbestos be identified then follow on quantification shall be undertaken.

#### 4.6 Removal of Above Ground Oil Tanks

4.6.1 The above ground oil tanks shall be removed by the earthworks contractor in line with current guidance and best practice. Should the tanks contain any residual oil then arrangements shall be made by the earthworks contractor for its extraction from the tank and off-site disposal to a suitable licenced disposal facility prior to removal of the tank.

4.6.2 Following the removal of the tanks, the underlying ground shall be assessed by JNP Group both visually and olfactory and soil samples shall be taken for chemical analysis for aliphatic–aromatic split total petroleum hydrocarbons. Should the material be identified as hydrocarbon impacted then it shall be remediated as specified below.

4.6.3 Photographic records of any tanks removed shall be kept by the earthworks contractor.

#### 4.7 Excavation and Removal of Soils Requiring Remediation

4.7.1 JNP Group Drawing M43012-JNP-XX-XX-DR-G-2006 shows the areas across the site requiring remediation. In these locations, made ground is to be removed to its entirety which varies in thickness between 0.2- 0.6 m bgl.

4.7.2 Where possible, excavated material should be transferred directly onto haulage lorries for removal off site. If this is not feasible, then excavated materials should be stockpiled in a designated location to await disposal. Stockpiles should be placed on and covered with tarpaulin. Hazardous and non-hazardous arisings should be stockpiled separately.

4.7.3 Once the made ground is removed the underlying natural ground will be chemically validated to confirm no contamination remains (refer to Validation Plan). Should further contamination remain at excavation level then further excavation may be required, JNP Group will advise on the best course of action.

- 4.7.4 Records shall be kept of any material removed off-site either for treatment and re-use or as a waste destined for landfill. The Waste License and Permit Register form, as given in Appendix C, detailing the waste codes, haulier and waste receiver details should be completed by the Contractor for each waste material generated requiring removal. In addition, all material removed off-site shall be logged on the Waste Disposal Log form given in Appendix D. The completed waste management form, duty of care and consignment notes shall be provided to JNP Group for inclusion in the verification report.
- 4.8 Specifics for Replacement Fill
- 4.8.1 Suitable imported fill will be used to backfill the excavations (refer to section 4.10).
- 4.9 Re-use of Site Won Material
- 4.9.1 Existing hardcore materials may be re-used beneath patios and driveways, access roads hardstanding, provided that it is free from asbestos and subject to a valid Materials Management Plan.
- 4.10 Imported Fill
- 4.10.1 Any imported fill such as subsoil or topsoil used at the site should be sourced from a suitable provider of such material, who should provide chemical testing certificates of the material destined for the site. These certificates should be issued to JNP Group for approval prior to accepting the material. In addition, the imported fill should be free of any deleterious material such as glass fragments, wire, wood and a visual inspection should be undertaken once the material arrives on site.
- 4.10.2 Any topsoil and subsoil imported to site shall be classified and characterised in accordance with the requirements of BS3882:2015 [Specification for topsoil and requirements for use] and BS8601:2013 [Specification for subsoil and requirements for use] respectively as well as the chemical testing criteria given in Tables 5.1 and 5.2.
- 4.10.3 The appointed contractor shall keep a record of all imported fill brought to site using a suitable documentation record. An example of such a form is given as Appendix E.
- 4.10.4 There reader is referred to section 5 for chemical testing requirements.
- 4.11 Verification
- 4.11.1 Following the excavation work the resulting excavation bases and faces shall be sampled at random locations by JNP Group.
- 4.11.2 Upon removal of the oil tanks JNP Group will verify the surrounding soils are not impacted by hydrocarbons.
- 4.11.3 Post demolition asbestos verification of surface soils will be undertaken by JNP Group upon completion of the demolition work.
- 4.11.4 The requirements for verification are outlined in the Validation Plan (Section 5).
- 4.12 Dealing with Unexpected Contamination
- 4.12.1 Whilst investigation works has been undertaken at the site, it remains possible that unexpected soil, groundwater contamination or visible asbestos containing materials may be

- encountered during the process of any site demolition, clearance, excavation and / or construction.
- 4.12.2 There is the potential for areas of previously unidentified and unexpected contamination to be present at the site such as ashy soils, brightly coloured soil, significantly oily or odorous material, asbestos impacted soils and underground tanks.
- 4.12.3 If during the works such material is encountered, then the Earthworks Contractor shall inform JNP Group immediately who shall then advise on the best course of action. Photographic and written records should be kept by the Earthworks Contractor detailing any such material.
- 4.12.4 A copy of this strategy for dealing with unexpected contamination should be made available on site and ground workers should be made aware of it.
- 4.13 Environmental Incidents
- 4.13.1 In the event of an unforeseen environmental incident (pollution occurrence) on-site work should be stopped in the area immediately affected and the Environmental Agency should be contacted via their incident hotline 0800 807 060.
- 4.13.2 Emergency spill kits shall be kept on-site in strategic locations and a member of staff who is trained to use them shall be present on-site at all times.

## 5 REMEDIATION STRATEGY – VALIDATION PLAN

### 5.1 Validation Chemical Testing – Excavation level and Site-won Stockpile Screening

5.1.1 Following excavation, the resulting excavation bases and faces shall be sampled at random locations by JNP Group to suit the size of the excavation and the samples sent for chemical analysis for asbestos, metals and PAHs as detailed in the following bullet points on a unit-by-unit basis.

#### Unit 2

- Analysis for arsenic required. It should be noted that an elevated concentration of arsenic was recorded in underlying natural soils, hence verification of the base should be confirmatory in nature that made ground has been removed.

#### Unit 3 and 4

- Analysis for arsenic, lead and asbestos required from sides and base. Remediation required across full area of Unit 3 private garden and western strip of Unit 4 garden.

#### Unit 4

- Contamination associated with TP10 in soft landscaping and TP09 beneath the proposed parking area for Plot 1 may extend into the garden area of Plot 4.
- The area of TP10 is to be remediated and validated (refer to Open Space bullet point) below.
- The area of TP09 will be used for parking for Unit 1. It is therefore recommended that the northern and eastern margins of this area are chemically verified when the existing made ground is removed as enabling works to install the subbase for this area. Testing required for arsenic at boundary of plot adjacent to the parking area.

#### Unit 5

- No contamination recorded, however above ground oil tank located within footprint of proposed building. Inspection of location of oil tank required following removal of oil tank. Testing required for TPH CWG from sides and base of excavation related to removal of tank supports or underlying slab.

#### Unit 6

- Made ground varies from 0.30 m to 0.60 m. Testing required for PAH from sides and base.

#### Open space

- PAH in TP10 @ 0.10 m.. Made ground 0.20 m thick. Testing required for PAH from sides and base of excavation.

5.1.2 Providing the chemical results are acceptable compared to the screening values given in Table 2.1, the areas can then be backfilled with imported fill.

- 5.1.3 Following the excavation of any soils containing asbestos fibres, then soil samples shall be taken by JNP Group and tested for asbestos. The results shall be compared to the criteria given in Table 2.1 and provided they are acceptable the area can be backfilled.
- 5.1.4 Following the excavation of any hydrocarbon impacted material associated with underground or above ground oil tanks, soil samples shall be taken by JNP Group and tested for aliphatic-aromatic split total petroleum hydrocarbons. The results shall be compared to the criteria given in Table 23.1 and provided they are acceptable the area can be backfilled.
- 5.1.5 Following the excavation of any unexpected contamination, soil samples shall be taken by JNP Group and tested for an appropriate testing suite. The results shall be compared to the criteria given in Table 2.1 and provided they are acceptable the area can be backfilled.
- 5.1.6 Should the chemical results fail then further material shall be excavated (it is suggested by 200mm) and the new excavation level sampled and tested as above.
- 5.1.7 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory using standard turnaround times.
- 5.1.8 Providing the chemical results are acceptable to the screening values given in Table 2.1, the areas can then be backfilled with imported fill.
- 5.1.9 Following the excavation of any unexpected contamination, soil samples shall be taken by JNP Group and tested for an appropriate testing suite. The results shall be compared to the criteria given in Tables 5.1 and 5.2 provided they are acceptable the area can be backfilled.
- 5.1.10 Post demolition asbestos verification of surface soils will be undertaken by JNP Group upon completion of the demolition work.
- 5.1.11 Should the chemical results fail then further material shall be excavated (it is suggested by 200 mm) and the new excavation level sampled and tested as above.
- 5.1.12 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory using standard turnaround times.
- 5.2 Validation Chemical Testing – Imported Fill
  - 5.2.1 Chemical testing certificates should be available for any imported fill including subsoil or topsoil, however, in line with the requirements of the NHBC guidance as the number of plots scheduled for development and requiring remediation in this area between one and five, each imported material used must have a minimum of three tests with a nominal sampling frequency of one test per plot. This sampling shall be undertaken by JNP Group.
  - 5.2.2 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory.
  - 5.2.3 Any chemical testing results shall be compared to the screening values given in Table 5.1. As the final end use of the site is a residential apartment building with private gardens, current UK residential with plant uptake guideline values have been selected for use.
  - 5.2.4 In addition, as copper, nickel and zinc are considered phytotoxic in nature, the criteria given in Table 5.2 should be used (these values are less than the published UK screening values and hence are considered protective of human health).

Table 5.1: Imported Fill Screening Values

Determinant	Screening Criteria (mg/kg)	Source	Determinant	Screening Criteria (mg/kg)	Source
TPH Aliphatic C <sub>5</sub> – C <sub>6</sub>	42	LQM S4UL	Acenaphthylene	5.0	Professional judgement <sup>6</sup>
TPH Aliphatic C <sub>6</sub> – C <sub>8</sub>	100	LQM S4UL	Acenaphthene	5.0	Professional judgement <sup>6</sup>
TPH Aliphatic C <sub>8</sub> – C <sub>10</sub>	27	LQM S4UL	Anthracene	5.0	Professional judgement <sup>6</sup>
TPH Aliphatic C <sub>10</sub> – C <sub>12</sub>	130	LQM S4UL	Benzo(a)anthracene	5.0	Professional judgement <sup>6</sup>
TPH Aliphatic C <sub>12</sub> – C <sub>16</sub>	250	Professional judgement <sup>1</sup>	Benzo(a)pyrene	5.0	Defra C4SL <sup>4</sup>
TPH Aliphatic C <sub>16</sub> – C <sub>21</sub>	250	Professional judgement <sup>1</sup>	Benzo(b)fluoranthene	2.6	LQM S4UL
TPH Aliphatic C <sub>21</sub> – C <sub>35</sub>	250	Professional judgement <sup>1</sup>	Benzo(k)fluoranthene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>5</sub> – C <sub>7</sub>	0.87	Professional judgement <sup>6</sup>	Benzo(g,h,i)perylene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>7</sub> – C <sub>8</sub>	130	LQM S4UL	Chrysene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>8</sub> – C <sub>10</sub>	34	LQM S4UL	Dibenzo(a,h)anthracene	0.24	LQM S4UL
TPH Aromatic C <sub>10</sub> – C <sub>12</sub>	74	LQM S4UL	Fluoranthene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>12</sub> – C <sub>16</sub>	140	Professional judgement <sup>1</sup>	Fluorene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>16</sub> – C <sub>21</sub>	260	Professional judgement <sup>1</sup>	Indeno(1,2,3,c-d)pyrene	5.0	Professional judgement <sup>6</sup>
TPH Aromatic C <sub>21</sub> – C <sub>35</sub>		Professional judgement <sup>1</sup>	Naphthalene	2.3	LQM S4UL
			Pyrene	5.0	Professional judgement <sup>6</sup>
Arsenic	37	Defra C4SL <sup>4</sup>	Phenanthrene	5.0	Professional judgement <sup>6</sup>
Cadmium	26	Defra C4SL <sup>4</sup>			
Chromium	910 <sup>2</sup>	LQM S4UL	Nickel	pH dependent	Refer to Table 5.2
Mercury	40 <sup>3</sup>	LQM S4UL	Selenium	250	LQM S4UL
Lead	200	Defra C4SL <sup>4</sup>	Benzene	0.87	Defra C4SL <sup>4</sup>
Copper	pH dependent	Refer to Table 5.2	Toluene	130	LQM S4UL
Zinc	pH dependent	Refer to Table 5.2	Ethylbenzene	47	LQM S4UL
asbestos	None present	CIRIA C733	Xylene	56 <sup>5</sup>	LQM S4UL

LQM S4UL selected for organics based on 1% SOM for conservatism

1 Professional judgement – conservative value selected, less than LQM S4UL

2 Based on LQM S4UL for chromium III, assumes no chromium VI is likely to be present



- 3 Based on LQM S4UL for inorganic mercury, assumes that no elemental or methyl mercury is likely to be present
- 4 defra category 4 screening value
- 5 Based on LQM S4UL for p-xylene for conservatism
- 6 Professional judgment – cannot be classified as contaminated land under Part IIA

Table 5.2: Imported Fill Screening Values- Phytotoxic Metals

Determinant	Screening Criteria (mg/kg)			Source
	pH <6	pH 6-7	pH >7	
Copper (nitric acid extractable)	<100	<135	<200	BS 3882:2015 and BS 8601:2013
Nickel (nitric acid extractable)	<60	<75	<110	BS 3882:2015 and BS 8601:2013
Zinc (nitric acid extractable)	<200	<200	<300	BS 3882:2015 and BS 8601:2013

### 5.3 Verification Reporting

- 5.3.1 Following the completion of the remediation works, all records of works undertaken (including drawings and photographs), duty of care certificates and imported soil chemical testing certificates shall be provided to JNP Group.
- 5.3.2 Following the completion of the remediation works a verification report shall be produced by JNP Group that details the remediation work undertaken, the validation testing undertaken, and the details of any material removed from or brought to the site.
- 5.3.3 It is recommended that a copy of this report is submitted to the regulatory authorities for their approval.

### 5.4 Recommendations

- 5.4.1 It is recommended that a copy of this options appraisal and remediation strategy be submitted to the Regulatory Authorities for their approval.

## 6 REFERENCES

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- 26 Yorkshire and Humberside Pollution Advisory Council. Version 3.1 October 2014. Verification Requirements for Cover Systems. Technical Guidance for Developers, Landowners and Consultants.

## Figures / Drawings



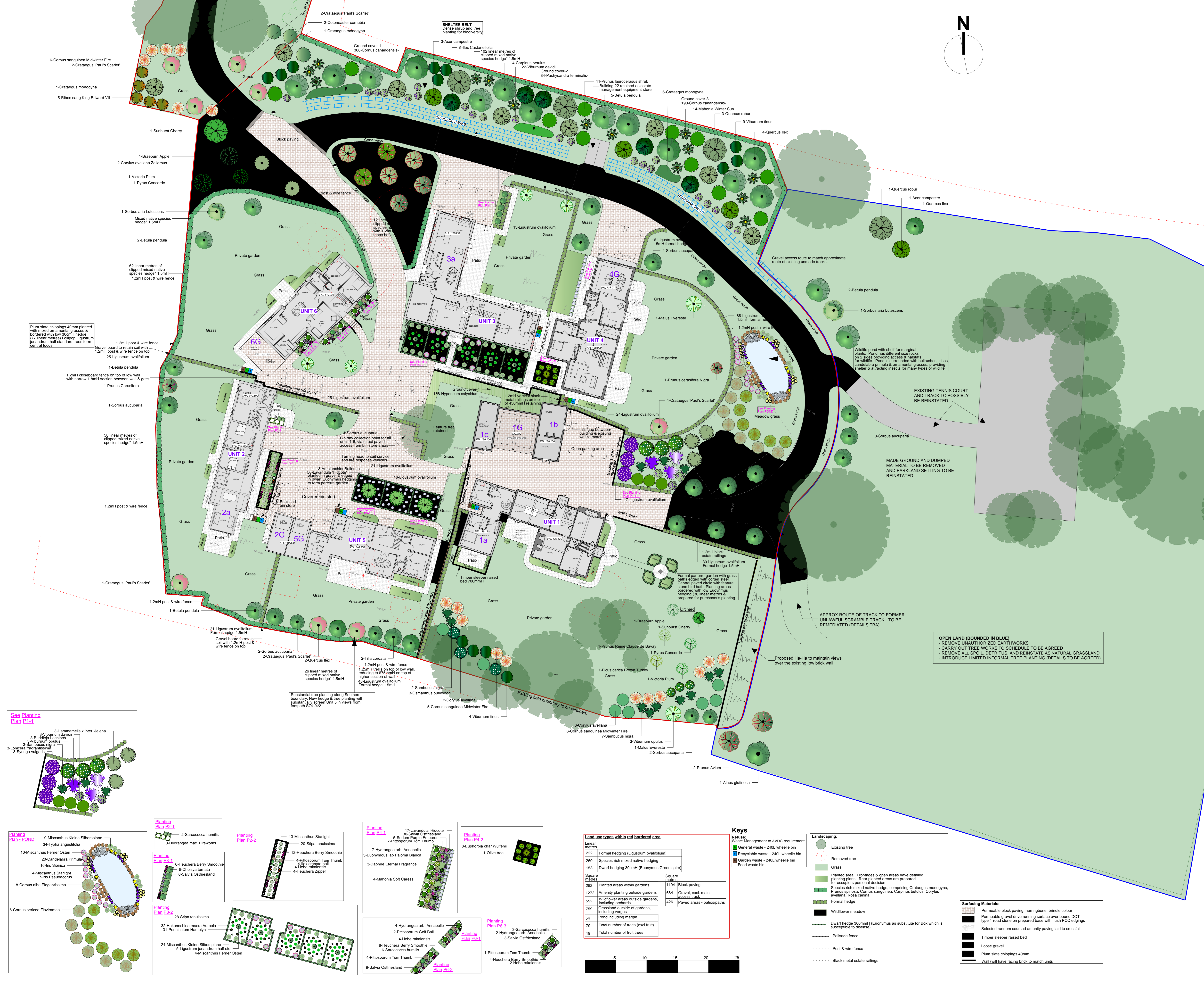




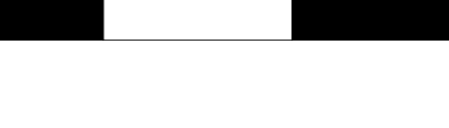
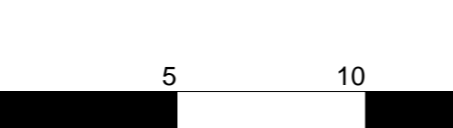
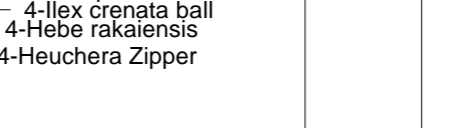
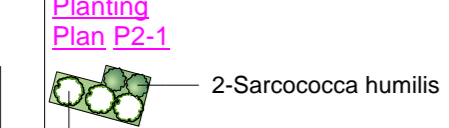
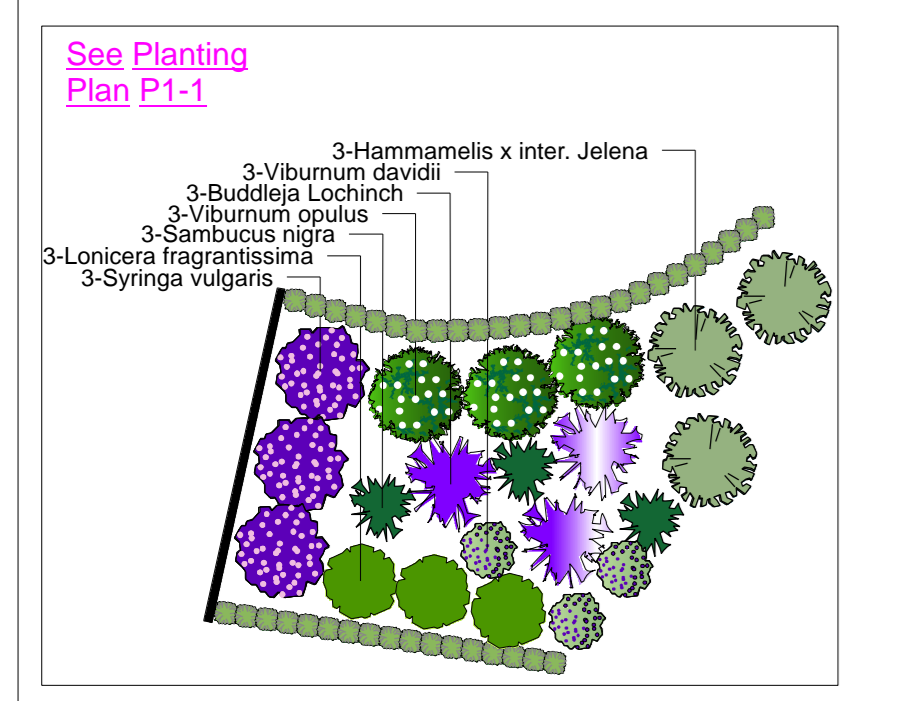


**PLANTING SCHEDULE - TREES, SHRUBS, HEDGES & PLANTS**

Category	Quantity	Latin Name	Notes
Formal Hedge	399	Ligustrum ovalifolium	222 linear metres, B/R @ 1.5mH
Grasses	32	Hakonechloa macra Aureola	2L
Grasses	18	Miscanthus Fernaldii	2L
Grasses	34	Miscanthus Klarae Silberspinne	2L
Grasses	17	Miscanthus Starlight	2L
Grasses	31	Pennisetum Hamelyni	2L
Grasses	48	Sipa tenuissima	2L
Ground cover	558	Cornus canadensis	
Ground cover	158	Hypericum calycidum	
Ground cover	84	Pachysandra terminalis	
Perennials	20	Candalaria Primula	2L
Perennials	30	Heuchera Berry Smoothie	2L
Perennials	4	Heuchera Zeppel	2L
Perennials	7	Iris Pseudacorus	Bulbs
Perennials	16	Iris Silbica	Bulbs
Perennials	48	Salvia Ostfriesland	2L
Perennials	5	Sedum Purple Emperor	2L
Perennials	34	Typha angustifolia	2L
Shrubs	3	Buddleia Lochnoh	3L
Shrubs	5	Cholisia tenata	2L
Shrubs	8	Cornus alba Elegantisima	2L
Shrubs	17	Cornus sanguinea Midwinter Fire	2L
Shrubs	6	Cornus sericea Flaviramea	2L
Shrubs	8	Corylus avellana	5L
Shrubs	3	Daphne Eternal Fragrance	2L
Shrubs	3	Eucymnus sap Falonia Blanca	2L
Shrubs	8	Euphorbia char Wulfeni	2L
Shrubs	3	Hammamelis x inter. Jelena	5L
Shrubs	10	Hebe rakaisensis	2L
Shrubs	13	Hydrangea arb. Annabelle	3L
Shrubs	3	Hydrangea mac. Fireworks	3L
Shrubs	87	Lavandula 'Hidcot'	1L
Shrubs	3	Lonozera fragrantissima	3L
Shrubs	4	Mahonia Soft Caress	2L
Shrubs	14	Mahonia Winter Sun	3L
Shrubs	3	Osmanthus burkwoodii	3L
Shrubs	2	Pittosporum Golf Ball	2L
Shrubs	16	Pittosporum Tom Thumb	2L
Shrubs	11	Prunus laurocarpus shrub	3L
Shrubs	5	Ribes sang King Edward VII	3L
Shrubs	12	Sambucus nigra	3L
Shrubs	11	Sarcococca humilis	2L
Shrubs	3	Syringa vulgaris	3L
Shrubs	2	Viburnum davidii	2L
Shrubs	6	Viburnum opulus	3L
Shrubs	13	Viburnum tinus	3L
Topiary	4	Ilex crenata ball	30cm
Topiary	1	Ligustrum ponandrum half std	1/2 STD
Trees	4	Acer campestre	STD 8-10cm girth, 2.5MH+
Trees	1	Alnus glutinosa	STD 8-10cm girth, 2.5MH+
Trees	3	Amelanchier Ballerina	STD 8-10cm girth, 2.5MH+
Trees	11	Betula pendula	STD 8-10cm girth, 2.5MH+
Trees	4	Carpinus betulus	STD 8-10cm girth, 2.5MH+
Trees	3	Cornaeaster cornubia	STD 8-10cm girth, 2.5MH+
Trees	8	Crataegus 'Paul's Scarlet'	STD 8-10cm girth, 2.5MH+
Trees	8	Crataegus monogyna	STD 8-10cm girth, 2.5MH+
Trees	5	Ilex Castaneifolia	STD 8-10cm girth, 2.5MH+
Trees	6	Malus Evereste	STD 8-10cm girth, 2.5MH+
Trees	1	Olive tree	2MH
Trees	2	Prunus Avium	STD 8-10cm girth, 2.5MH+
Trees	1	Prunus Cerasifera	STD 8-10cm girth, 2.5MH+
Trees	1	Prunus cerasifera Nigra	STD 8-10cm girth, 2.5MH+
Trees	7	Quercus ilex	STD 8-10cm girth, 2.5MH+
Trees	4	Quercus robur	STD 8-10cm girth, 2.5MH+
Trees	2	Sorbus aria Lutescens	STD 8-10cm girth, 2.5MH+
Trees	19	Sorbus aucuparia	STD 8-10cm girth, 2.5MH+
Trees	2	Tilia cordata	STD 8-10cm girth, 2.5MH+
Trees - Fruit	2	Braeburn Apple	Maiden 1.5mH+
Trees - Fruit	2	Coldest cherry tree	Maiden 1.5mH+
Trees - Fruit	2	Corylus avellana Zellerinus	Maiden 1.5mH+
Trees - Fruit	1	Ficus carica Brown Turkey	Maiden 1.5mH+
Trees - Fruit	1	Prunus Fraise Claude de Bavay	Maiden 1.5mH+
Trees - Fruit	2	Pyrus Concorde	Maiden 1.5mH+
Trees - Fruit	2	Sunburst Cherry	Maiden 1.5mH+
Trees - Fruit	3	Sunburst cherry tree	Maiden 1.5mH+
Trees - Fruit	2	Sylvia cherry tree	Maiden 1.5mH+
Trees - Fruit	2	Victoria Plum	Maiden 1.5mH+
Hedge - Native	260 linear m	Species rich mixed native hedge	B/R 1.2mH. Plant in double row @ 7 plants per linear metre
Hedge - Dwarf	153 linear m	Eucymnus Green Spire dwarf hedge	25-30cmH planted @ 7 plants per linear metre



**OPEN LAND (BOUNDED IN BLUE)**  
 - REMOVE UNAUTHORIZED EARTHWORKS  
 - CARRY OUT TREE WORKS TO SCHEDULE TO BE AGREED  
 - REMOVE ALL SPILL, DEBRIS, AND REINSTATE AS NATURAL GRASSLAND  
 - INTRODUCE LIMITED INFORMAL TREE PLANTING (DETAILS TO BE AGREED)



**Land use types within red bordered area**

Linear	222	Formal hedging (Ligustrum ovalifolium)
260	Species rich mixed native hedging	
153	Dwarf hedging 30cmH (Eucymnus Green spire)	
Square metres	252	Planted areas within gardens
1272	Amenity planting outside gardens	
552	Wildflower areas outside gardens, including orchards	
799	Grassland outside of gardens, including verges	
54	Pond including margin	
79	Total number of trees (excl fruit)	
19	Total number of fruit trees	

**Keys**

General waste - 240L wheeled bin	Recyclable waste - 240L wheeled bin	Garden waste - 240L wheeled bin	Food waste bin
----------------------------------	-------------------------------------	---------------------------------	----------------

**Landscaping:**

Existing tree	Removed tree	Planted area	Planned area	Wildflower meadow	Dwarf hedge 300mmH (Eucymnus as substitute for Box which is susceptible to disease)	Palisade fence	Post & wire fence	Black metal estate railings
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**Surfacing Materials:**

Permeable block paving, herringbone, brick colour	Permeable gravel drive running surface over bound DOT type 1 road stone on prepared base with flush PCC edgings	Timber sleeper raised bed	Loose gravel	Plum slate chippings 40mm	Wall (will have facing brick to match units)
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Client Name: Dalcorb Estates Ltd Drawing No: 1203/02  
 Site Name: WINSOTT FARM Date: 20 Sept 2023  
 Scale: 1:200 on A0 Date of revision:  
 Drawing Name: LANDSCAPE DESIGN PLAN Drawn by: Juliet Staddon  
 Juliet Staddon, Professional Garden Design & Consultancy  
 1 Derehams Lane, Loudwater, High Wycombe, Bucks HP10 9RH  
 M: 07740 104459



## Appendix A Limitations



## 1 INTRODUCTION

- 1.1.1 This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom an agreement has not been executed.
- 1.1.2 Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.
- 1.1.3 Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.
- 1.1.4 The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.
- 1.1.5 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.
- 1.1.6 The report represents the finding and opinions of experience geotechnical and geoenvironmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.
- 1.1.7 It should be noted that the following were not included as part of the agreed scope of works with the client: detailed; groundwater monitoring and sampling; geotechnical requirements.
- 1.1.8 JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant regulatory authorities.
- 1.2 Objectives
- 1.2.1 The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be



considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly. It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

### 1.3 Phase II Intrusive Investigations

1.3.1 The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made.

1.3.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered. The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

1.3.3 The objectives of the investigation have been linked to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and ground water. The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to areas unoccupied by the building(s) on the site and by buried services.

1.3.4 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

### 1.4 Remediation and Verification Reports Limitations

1.4.1 The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

1.4.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered.

1.4.3 If costs have been included in relation to the site remediation these must be confirmed by a qualified quantity surveyor. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed from Third Party should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may

affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly.

- 1.4.4 Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.
- 1.4.5 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

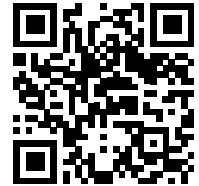
## Appendix B Hazardous Waste Assessment



## Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



LGP2Z-5A875-2H63Y

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

### Job name

Winscott Farm M43012

### Description/Comments

Waste disposal

### Project

M43012 Winscott Farm

### Site

M43012 Winscott Farn

### Classified by

Name: **Hilary Ilsley**  
Date: **06 Dec 2023 14:37 GMT**  
Telephone: **01926 889955**  
Company: **JNP Group**  
**Mitaka House**  
**4-12 Morton Street**  
**Leamington Spa**  
**CV32 5SY**

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

**HazWasteOnline™ Certification:**

**Course**  
Hazardous Waste Classification

**Date**

### Purpose of classification

7 - Disposal of Waste

### Address of the waste

Winscott Farm, Soulbury, Leighton Buzzard

Post Code LU7 0DJ

### SIC for the process giving rise to the waste

41202 Construction of domestic buildings

### Description of industry/producer giving rise to the waste

Redevelopment of the site for residential dwellings

### Description of the specific process, sub-process and/or activity that created the waste

Waste created during excavation and development works

### Description of the waste

made ground and possible natural ground from foundation arisings

**Job summary**

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	General Made ground maximum		Non Hazardous		3
2	Natural ground WS9 Hotspot		Hazardous	HP 3(i), HP 7, HP 11	5
3	Natural ground General maximum		Non Hazardous		7
4	Made ground Tp16 hotspot		Hazardous	HP 14	9

**Related documents**

#	Name	Description
1	JNP Updated 2023 Standard	waste stream template used to create this Job


**Report**

Created by: Hilary Ilesley

Created date: 06 Dec 2023 14:37 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	11
Appendix B: Rationale for selection of metal species	12
Appendix C: Version	13

Classification of sample: General Made ground maximum

 **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>General Made ground maximum</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

**Determinands**

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic pentoxide }				42	mg/kg	1.534	64.423	mg/kg	0.00644 %		
	033-004-00-6	215-116-9	1303-28-2									
2	barium { barium sulphide }				180	mg/kg	1.233	222.029	mg/kg	0.0222 %		
	016-002-00-X	244-214-4	21109-95-5									
3	beryllium { beryllium oxide }				2.1	mg/kg	2.775	5.828	mg/kg	0.000583 %		
	004-003-00-8	215-133-1	1304-56-9									
4	boron { diboron trioxide }				4.8	mg/kg	3.22	15.455	mg/kg	0.00155 %		
	005-008-00-8	215-125-8	1303-86-2									
5	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.942	mg/kg	0.000194 %		
	048-002-00-0	215-146-2	1306-19-0									
6	chromium in chromium(III) compounds { chromium(III) oxide }				36	mg/kg	1.462	52.616	mg/kg	0.00526 %		
		215-160-9	1308-38-9									
7	copper { copper(II) oxide }				82	mg/kg	1.252	102.646	mg/kg	0.0103 %		
	029-016-00-6	215-269-1	1317-38-0									
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	500	mg/kg		500	mg/kg	0.05 %		
	082-001-00-6											
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	1	mg/kg		1	mg/kg	0.0001 %		
	080-002-00-6											
10	nickel { nickel sulfate }				41	mg/kg	2.637	108.104	mg/kg	0.0108 %		
	028-009-00-5	232-104-9	7786-81-4									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				2.9	mg/kg	1.405	4.074	mg/kg	0.000407 %		
	034-002-00-8											
12	vanadium { divanadium pentoxide; vanadium pentoxide }				70	mg/kg	1.785	124.963	mg/kg	0.0125 %		
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate (hydrated) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				300	mg/kg	4.398	1319.378	mg/kg	0.132 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	naphthalene				0.67	mg/kg		0.67	mg/kg	0.000067 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	• acenaphthylene	205-917-1	208-96-8		0.52 mg/kg		0.52 mg/kg	0.000052 %		
16	• acenaphthene	201-469-6	83-32-9		0.19 mg/kg		0.19 mg/kg	0.000019 %		
17	• fluorene	201-695-5	86-73-7		0.61 mg/kg		0.61 mg/kg	0.000061 %		
18	• phenanthrene	201-581-5	85-01-8		3.4 mg/kg		3.4 mg/kg	0.00034 %		
19	• anthracene	204-371-1	120-12-7		1.1 mg/kg		1.1 mg/kg	0.00011 %		
20	• fluoranthene	205-912-4	206-44-0		4.6 mg/kg		4.6 mg/kg	0.00046 %		
21	• pyrene	204-927-3	129-00-0		4.1 mg/kg		4.1 mg/kg	0.00041 %		
22	benz[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.7 mg/kg		2.7 mg/kg	0.00027 %		
23	chrysene	601-048-00-0	205-923-4	218-01-9	2.1 mg/kg		2.1 mg/kg	0.00021 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	4.2 mg/kg		4.2 mg/kg	0.00042 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.4 mg/kg		1.4 mg/kg	0.00014 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	3.6 mg/kg		3.6 mg/kg	0.00036 %		
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.95 mg/kg		0.95 mg/kg	0.000095 %		
28	• benzo[ghi]perylene	205-883-8	191-24-2		4.3 mg/kg		4.3 mg/kg	0.00043 %		
29	• indeno[123-cd]pyrene	205-893-2	193-39-5		3.5 mg/kg		3.5 mg/kg	0.00035 %		
30	• TPH (C6 to C40) petroleum group		TPH		215 mg/kg		215 mg/kg	0.0215 %		
31	• confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
Total:								0.278 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

**Supplementary Hazardous Property Information**

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

**Force this Hazardous property to non hazardous because** No visual or olfactory evidence of free hydrocarbons in samples except WS09


Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0215%)

Classification of sample: Natural ground WS9 Hotspot

 **Hazardous Waste**  
Classified as **17 05 03 \***  
in the List of Waste

Sample details

Sample name:	LoW Code:
<b>Natural ground WS9 Hotspot</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
	Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

**Force this Hazardous property to hazardous because** No visual or olfactory evidence of free hydrocarbons in samples except WS09

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.251%)

**HP 7: Carcinogenic** "waste which induces cancer or increases its incidence"

Hazard Statements hit:

**Carc. 1B; H350** "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.251%)

**HP 11: Mutagenic** "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

**Muta. 1B; H340** "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.251%)

Determinands

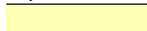



Moisture content: **0% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic pentoxide }				18	mg/kg	1.534	27.61	mg/kg	0.00276 %		
	033-004-00-6	215-116-9	1303-28-2									
2	barium { barium sulphide }				150	mg/kg	1.233	185.024	mg/kg	0.0185 %		
	016-002-00-X	244-214-4	21109-95-5									
3	beryllium { beryllium oxide }				1.4	mg/kg	2.775	3.885	mg/kg	0.000389 %		
	004-003-00-8	215-133-1	1304-56-9									
4	boron { diboron trioxide }				0.4	mg/kg	3.22	1.288	mg/kg	0.000129 %		
	005-008-00-8	215-125-8	1303-86-2									
5	cadmium { cadmium oxide }				1.6	mg/kg	1.142	1.828	mg/kg	0.000183 %		
	048-002-00-0	215-146-2	1306-19-0									




#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
6	chromium in chromium(III) compounds { chromium(III) oxide } 215-160-9   1308-38-9				19	mg/kg	1.462	27.77	mg/kg	0.00278 %		
7	copper { copper(II) oxide } 029-016-00-6   215-269-1   1317-38-0				60	mg/kg	1.252	75.107	mg/kg	0.00751 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6			1	58	mg/kg		58	mg/kg	0.0058 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex } 080-002-00-6			1	0.1	mg/kg		0.1	mg/kg	0.00001 %		
10	nickel { nickel sulfate } 028-009-00-5   232-104-9   7786-81-4				21	mg/kg	2.637	55.37	mg/kg	0.00554 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				0.1	mg/kg	1.405	0.141	mg/kg	0.0000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8   215-239-8   1314-62-1				65	mg/kg	1.785	116.037	mg/kg	0.0116 %		
13	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] } 030-006-00-9   231-793-3 [1]   7446-19-7 [1]   231-793-3 [2]   7733-02-0 [2]				310	mg/kg	4.398	1363.357	mg/kg	0.136 %		
14	TPH (C6 to C40) petroleum group TPH				2510	mg/kg		2510	mg/kg	0.251 %		
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>							
Total:										0.443 %		

Key

	User supplied data
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: Natural ground General maximum

 **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>Natural ground General maximum</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

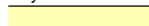


**Determinands**

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic pentoxide } 033-004-00-6   215-116-9   1303-28-2				68	mg/kg	1.534	104.304	mg/kg	0.0104 %		
2	barium { barium sulphide } 016-002-00-X   244-214-4   21109-95-5				65	mg/kg	1.233	80.177	mg/kg	0.00802 %		
3	beryllium { beryllium oxide } 004-003-00-8   215-133-1   1304-56-9				1.5	mg/kg	2.775	4.163	mg/kg	0.000416 %		
4	boron { diboron trioxide } 005-008-00-8   215-125-8   1303-86-2				2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
5	cadmium { cadmium oxide } 048-002-00-0   215-146-2   1306-19-0				0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
6	chromium in chromium(III) compounds { chromium(III) oxide }   215-160-9   1308-38-9				40	mg/kg	1.462	58.462	mg/kg	0.00585 %		
7	copper { copper(II) oxide } 029-016-00-6   215-269-1   1317-38-0				44	mg/kg	1.252	55.078	mg/kg	0.00551 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6			1	44	mg/kg		44	mg/kg	0.0044 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex } 080-002-00-6			1	0.1	mg/kg		0.1	mg/kg	0.00001 %		
10	nickel { nickel sulfate } 028-009-00-5   232-104-9   7786-81-4				73	mg/kg	2.637	192.478	mg/kg	0.0192 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				0.1	mg/kg	1.405	0.141	mg/kg	0.0000141 %		
12	vanadium { divanadium pentoxide; vanadium pentoxide } 023-001-00-8   215-239-8   1314-62-1				86	mg/kg	1.785	153.526	mg/kg	0.0154 %		
13	zinc { zinc sulphate (hydrated) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] } 030-006-00-9   231-793-3 [1]   7446-19-7 [1]   231-793-3 [2]   7733-02-0 [2]				430	mg/kg	4.398	1891.108	mg/kg	0.189 %		
14	naphthalene 601-052-00-2   202-049-5   91-20-3				0.1	mg/kg		0.1	mg/kg	0.00001 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		0.18 mg/kg		0.18 mg/kg	0.000018 %		
16	acenaphthene	201-469-6	83-32-9		0.1 mg/kg		0.1 mg/kg	0.00001 %		
17	fluorene	201-695-5	86-73-7		0.1 mg/kg		0.1 mg/kg	0.00001 %		
18	phenanthrene	201-581-5	85-01-8		2.1 mg/kg		2.1 mg/kg	0.00021 %		
19	anthracene	204-371-1	120-12-7		0.17 mg/kg		0.17 mg/kg	0.000017 %		
20	fluoranthene	205-912-4	206-44-0		3.3 mg/kg		3.3 mg/kg	0.00033 %		
21	pyrene	204-927-3	129-00-0		2.6 mg/kg		2.6 mg/kg	0.00026 %		
22	benz[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.91 mg/kg		0.91 mg/kg	0.000091 %		
23	chrysene	601-048-00-0	205-923-4	218-01-9	1.2 mg/kg		1.2 mg/kg	0.00012 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.4 mg/kg		1.4 mg/kg	0.00014 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.5 mg/kg		0.5 mg/kg	0.00005 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.1 mg/kg		1.1 mg/kg	0.00011 %		
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.11 mg/kg		0.11 mg/kg	0.000011 %		
28	benzo[ghi]perylene	205-883-8	191-24-2		0.62 mg/kg		0.62 mg/kg	0.000062 %		
29	indeno[123-cd]pyrene	205-893-2	193-39-5		0.61 mg/kg		0.61 mg/kg	0.000061 %		
30	TPH (C6 to C40) petroleum group		TPH		0.001 mg/kg		0.001 mg/kg	0.0000001 %		
31	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
Total:								0.261 %		

#### Key

	User supplied data
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

#### Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

**Force this Hazardous property to non hazardous because** No visual or olfactory evidence of free hydrocarbons in samples except WS09


Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 1.0e-07%)

**Classification of sample: Made ground Tp16 hotspot**

 **Hazardous Waste**  
Classified as **17 05 03 \***  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>Made ground Tp16 hotspot</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
	Entry: 17 05 03 * (Soil and stones containing hazardous substances)

**Hazard properties**

**HP 14: Ecotoxic** "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

**Aquatic Chronic 1; H410** "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.572%)

**Determinands**

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic pentoxide } 033-004-00-6   215-116-9   1303-28-2				43	mg/kg	1.534	65.957	mg/kg	0.0066 %		
2	barium { barium sulphide } 016-002-00-X   244-214-4   21109-95-5				120	mg/kg	1.233	148.019	mg/kg	0.0148 %		
3	beryllium { beryllium oxide } 004-003-00-8   215-133-1   1304-56-9				0.73	mg/kg	2.775	2.026	mg/kg	0.000203 %		
4	boron { diboron trioxide } 005-008-00-8   215-125-8   1303-86-2				2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
5	cadmium { cadmium oxide } 048-002-00-0   215-146-2   1306-19-0				4.6	mg/kg	1.142	5.255	mg/kg	0.000525 %		
6	chromium in chromium(III) compounds { chromium(III) oxide }   215-160-9   1308-38-9				58	mg/kg	1.462	84.77	mg/kg	0.00848 %		
7	copper { copper(II) oxide } 029-016-00-6   215-269-1   1317-38-0				56	mg/kg	1.252	70.099	mg/kg	0.00701 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6			1	130	mg/kg		130	mg/kg	0.013 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex } 080-002-00-6			1	0.1	mg/kg		0.1	mg/kg	0.00001 %		
10	nickel { nickel sulfate } 028-009-00-5   232-104-9   7786-81-4				47	mg/kg	2.637	123.924	mg/kg	0.0124 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				0.1	mg/kg	1.405	0.141	mg/kg	0.0000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8   215-239-8   1314-62-1				56	mg/kg	1.785	99.97	mg/kg	0.01 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
13	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				1300 mg/kg	4.398	5717.304 mg/kg	0.572 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	TPH (C6 to C40) petroleum group				95 mg/kg		95 mg/kg	0.0095 %		
			TPH							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
Total:								0.655 %		

Key

- User supplied data
- Hazardous result
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

**Supplementary Hazardous Property Information**

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

**Force this Hazardous property to non hazardous because** No visual or olfactory evidence of free hydrocarbons in samples except WS09

Hazard Statements hit:

**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0095%)

## Appendix A: Classifier defined and non GB MCL determinands

### ♦ **barium sulphide** (EC Number: 244-214-4, CAS Number: 21109-95-5)

GB MCL index number: 016-002-00-X

Description/Comments:

Additional Hazard Statement(s): EUH031 >= 0.8 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

### ♦ **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHA's C&L inventory database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 30 Apr 2020

Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

### ♦ **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium [www.reach-lead.eu/substanceinformation.html](http://www.reach-lead.eu/substanceinformation.html) (worst case lead compounds). Review date 29/09/2015

### ♦ **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

### ♦ **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

### ♦ **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

### ♦ **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

### ♦ **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

### ♦ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 21 Aug 2015  
 Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 23 Jul 2015  
 Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database  
 Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
 Data source date: 06 Aug 2015  
 Hazard Statements: Carc. 2; H351

• **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013  
 Data source: WM3 1st Edition 2015  
 Data source date: 25 May 2015  
 Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

• **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)  
 Data source: WM3 1st Edition 2015  
 Data source date: 25 May 2015  
 Hazard Statements: None.

**Appendix B: Rationale for selection of metal species**

**arsenic {arsenic pentoxide}**

Worst case most likely species to be present

**barium {barium sulphide}**

Chromate less likely to be found on site

**beryllium {beryllium oxide}**

most likely species to be present on site

**boron {diboron trioxide}**

most likely species to be on site

**cadmium {cadmium oxide}**

Most likely species present on site

**chromium in chromium(III) compounds {chromium(III) oxide}**

no known source of Cr(VI)

**copper {copper(II) oxide}**

most likely species to be present on site

**lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}**

Chromate unlikely to be found on site

**mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}**

most likely species to be present on site

**nickel {nickel sulfate}**

worst case most likely species to be present on site

**selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}**

most likely species to be present on site



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**vanadium {divanadium pentaoxide; vanadium pentoxide}**

Only choice available

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**zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}**

Chromate unlikely to be on site

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### Appendix C: Version

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HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2023.332.5826.10798 (28 Nov 2023)

HazWasteOnline Database: 2023.332.5826.10798 (28 Nov 2023)

This classification utilises the following guidance and legislation:

**WM3 v1.2.GB - Waste Classification** - 1stEditionv1.2.GB-Oct2021

**CLP Regulation** - Regulation1272/2008/ECof16December2008

**1st ATP** - Regulation790/2009/ECof10August2009

**2nd ATP** - Regulation286/2011/ECof10March2011

**3rd ATP** - Regulation618/2012/EUof10July2012

**4th ATP** - Regulation487/2013/EUof8May2013

**Correction to 1st ATP** - Regulation758/2013/EUof7August2013

**5th ATP** - Regulation944/2013/EUof2October2013

**6th ATP** - Regulation605/2014/EUof5June2014

**WFD Annex III replacement** - Regulation1357/2014/EUof18December2014

**Revised List of Waste 2014** - Decision2014/955/EUof18December2014

**7th ATP** - Regulation2015/1221/EUof24July2015

**8th ATP** - Regulation(EU)2016/918of19May2016

**9th ATP** - Regulation(EU)2016/1179of19July2016

**10th ATP** - Regulation(EU)2017/776of4May2017

**HP14 amendment** - Regulation(EU)2017/997of8June2017

**13th ATP** - Regulation(EU)2018/1480of4October2018

**14th ATP** - Regulation(EU)2020/217of4October2019

**15th ATP** - Regulation(EU)2020/1182of19May2020

**The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)**

**Regulations 2020** - UK:2020No.1567of16thDecember2020

**The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020** - UK: 2020 No. 1540 of 16th December 2020

**GB MCL List** - version1.1of09June2021

**GB MCL List v2.0** - version2.0of20thOctober2023



## Appendix C Waste License and Environmental Permit





## Appendix D Waste Disposal Records





## Appendix E Imported Soil Documentation



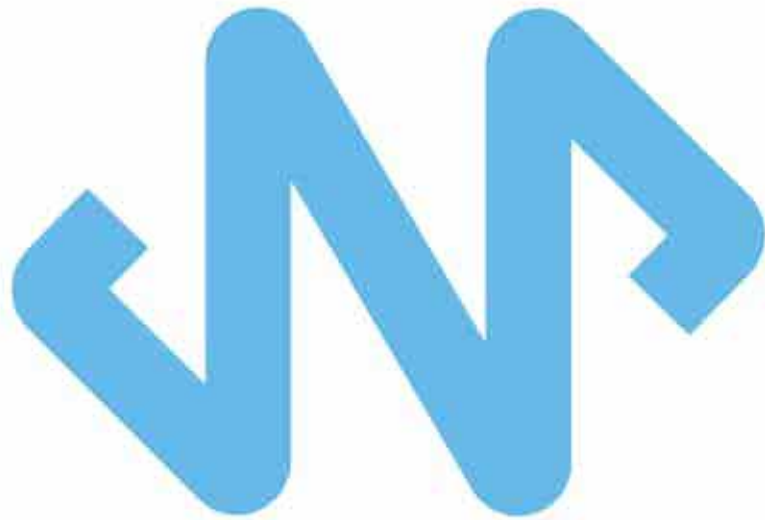
**IMPORTED SOIL DOCUMENTATION FORM**

<b>Stockpile Identification Reference</b>	
<b>Material Type</b>	
<b>Source Site</b>	
<b>Consignment Note Reference Numbers</b>	
<b>Volume of Stockpile (Or number of loads)</b>	
<b>Plots Material to be Used In</b>	

Signed.....

Position.....

Date.....



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