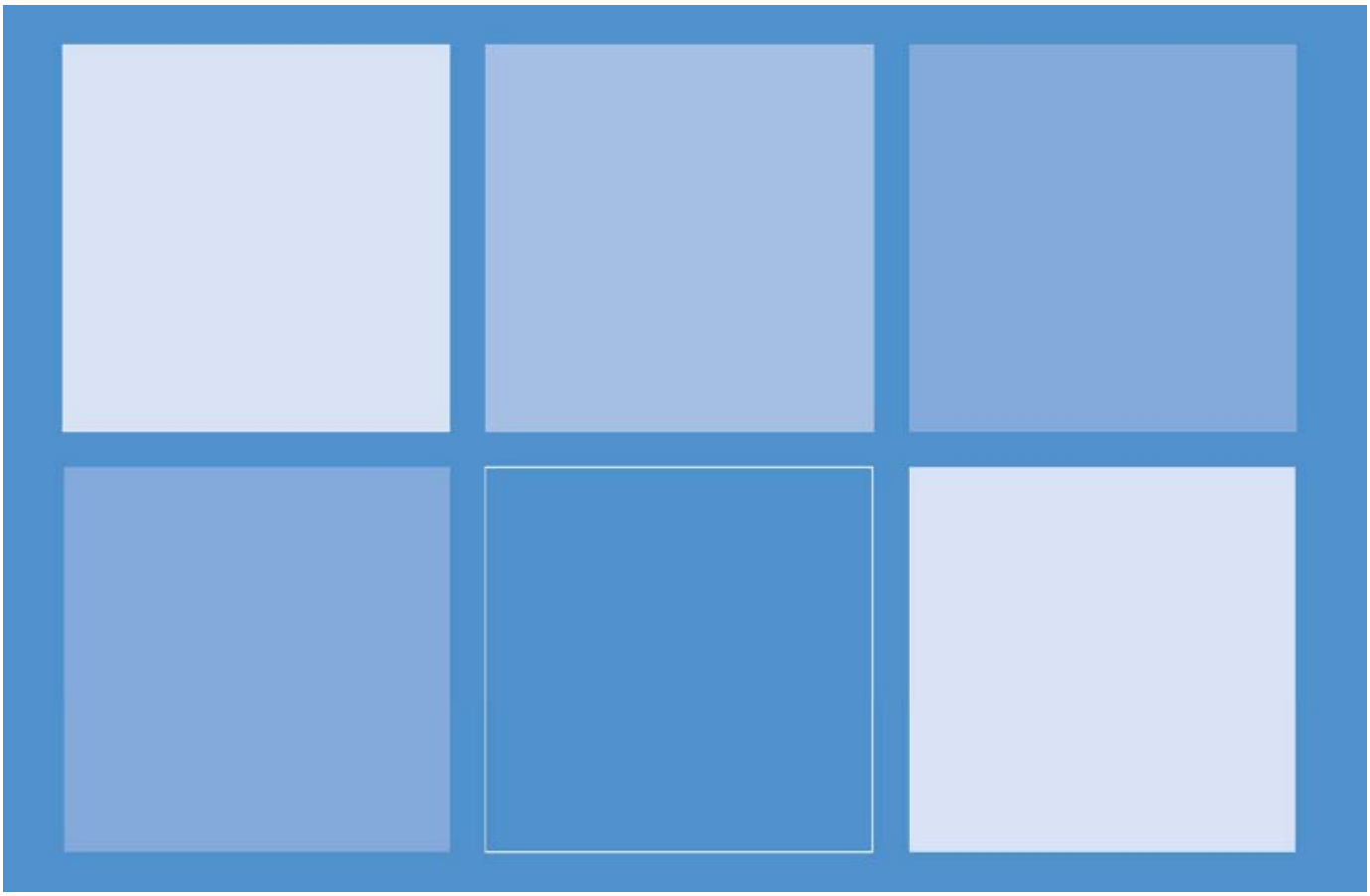
# Remediation Statement

## Project Hydrus Development

## AWE plc



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# Quality Management

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| **JER4214-011ib** | **Soil Contamination (Aliphatic Hydrocarbons)** |
| **JER4214-011iib** | **Soil Contamination (Aromatic Hydrocarbons)** |

# 1 Introduction

## 1.1 Background

RPS Planning and Development (RPS) have been commissioned by AWE plc to produce a Remediation Statement (RS) for the proposed Project Hydrus Application Site at AWE Aldermaston. This report details the requirements for remediation and mitigation of land contamination risks to protect construction workers, future site users and controlled water as identified in the Ground Conditions Technical Report (*Ref. 1*).

The Hydrus Application Site and the proposed development plan are outlined in *Drawing JER4214-001a.* This includes two pre-existing construction enclaves within AWE Aldermaston, namely the Central Area Construction Enclave (CACE) and West End Construction Enclave (WECE). Both areas will be used to support construction activities upon the Hydrus Development Area.

The Hydrus Application Site comprises the Project Hydrus Development Area (the Development Area) in the north-east, the two construction enclave and various routes of access / egress. Further information relating to the proposed development can be found within *Chapter 1: Introduction* and *Chapter 5: The Proposed Development* of the Environmental Appraisal (EA) for the Hydrus Development.

## 1.2 Previous Reports

To facilitate the completion of *Chapter 7: Ground Conditions* of the Environmental Appraisal a '*Ground Conditions Technical Report*' (GCTR) was produced by RPS (*Ref. 1*) and is provided in *Technical Appendix A* of the EA.

The GCTR provides a review of relevant ground conditions and site information from the extensive datasets available from numerous previous site investigations completed within the Application Site. The GCTR also presents qualitative and quantitative risk assessments for human health and groundwater based on data from soil and groundwater samples taken during those investigations. These have assessed the risks to human health (of both future site users and construction workers) and groundwater posed by radiological, explosive, chemical and ground gas contamination identified within the footprint of the Application Site.

# 2 Remediation Statement

## 2.1 Scope of Remediation Statement

The primary purpose of this report is to address the following potential risks remaining within the Application Site as detailed within the GCTR, which could pose unacceptable risks to human health and/or controlled waters if not managed appropriately.

## 2.2 Remediation Objectives

Contamination risks will be managed through the following objectives:

- Protect controlled waters (groundwater quality at the site boundary) from the risk posed by long chain aromatic hydrocarbons (C21-C35) present in soils in the north-east corner of the site.
- To ensure appropriate characterisation and sentencing of waste soils for off site disposal and/or retention and re-use on site;
- Protection of all buildings from a low risk of hazardous ground gas migration within the Hydrus Development area appropriate for Characteristic Situation 2 (CS2);
- To protect construction workers, AWE staff and site visitors and the general public from contaminants during construction;
- Provide guidance on the identification, assessment and management of previously unidentified gross contamination, should it be encountered; and,
- Provide details of the remedial verification and documentation process.

## 2.3 Works to be undertaken During Remediation

These works are described in the Remediation Statement and shall be implemented through the CEMP. These works include:

- Implementation of gas protection measures based on current understanding of soil gas regime and risk (conservative assumptions);
- Implementation of Safe Systems of Works (SSoW) for encountering and managing unexpected and unidentified contamination (including asbestos, explosive residue and ordnance) during construction, including minimising risks to construction workers; and

- Excavation and disposal of shallow soils in the north-east corner of the Hydrus Development Area.

# 3 Remediation Implementation Plan

## 3.1 General Procedures During Excavations in Contaminated Soils

The Contractor shall take into account the health and safety measures detailed in the following section to minimise potential risks to construction workers, AWE staff and the general public, together with nuisance issues, during the construction / remedial works. A SSoW shall be designed and implemented by the Contractor and must incorporate:

- Works will be monitored by the AWE PM, as required;
- Where possible, soils shall be pre-sentenced by appropriate sampling and analysis prior to excavation, to minimise the need for stockpiling of soils on site during construction.
- Should stockpiling of soils be necessary, they will be designated using clear markers to categorise whether they are 'clean' or 'dirty' (i.e. radioactively or chemically contaminated);
- Materials placed in stockpiles shall be stored such that cross-contamination from dust dispersal, run-off from rainfall and contamination of underlying clean soils is prevented;
- Any stockpiles will be recorded and inspected by a supervising Environmental Consultant, who will maintain a schedule of stockpiles;
- Where materials are disposed of off-site to a licensed waste management facility, under the Duty of Care Regulations, an Environmental Consultant shall keep a schedule of chain of custody and consignment notes, which will include waste transfer ticket number (including waste classification), vehicle registration, destination landfill and weight recorded by the weighbridge at the landfill;
- Following completion of the works a copy of the disposal record shall be provided to the AWE PM as part of the Verification Report.

The following procedures shall be adopted to protect site personnel, which will be supplemented by PPE/RPE and additional SSoWs as necessary.

- Provision of covers over any skips of waste to reduce dust and contact with the waste;
- Minimising dust from ground works by use of damping down equipment;

- Wheel wash/lorry wash for use by all vehicles leaving the development area during the ground works phase;
- Provision of welfare facilities to allow washing prior to use of mess facilities and leaving site for the day. Facilities also to allow for changing out of PPE.
- A full decontamination unit is required for the duration of the works within the Hydrus area due to the identified potential risks posed by previously unidentified contamination (and in particular asbestos).
- A SSoW will be needed to identify appropriate and safe working practices that should be adopted during the site redevelopment works. This will need to be designed and implemented by the contractor.

The following minimum Personnel Protective Equipment (PPE) is to be used, which will be maintained and worn during all redevelopment works:

- Hard hats, boots, gloves and high visibility vests;
- Disposable overalls to be used as necessary;
- P3 filter masks with particulate filters to be made available to staff, and worn as required.

Although considered unlikely given the nature of the works, additional PPE may also be required during the course of the site works and therefore should be made available where considered necessary (for example, ear defenders, protective eyewear, vapour masks and Respiratory Protective Equipment (RPE)).

## 3.2 Soil Gas Protection Measures

The migration of soil gas into buildings may have a negative impact on the Proposed Development. Elevated methane can present an explosive risk and carbon dioxide an asphyxiant under some conditions. Based on current monitoring data as a precautionary measure, simple gas protection measures appropriate for Characteristic Situation 2 (CS2) shall be included in development design. Typical scope of protective measures can include:

- Reinforced concrete cast in situ floor slab (suspended, non suspended or raft) with at least 1200 g DPM2;
- Beam and block or pre cast concrete slab and minimum 2000g DPM/reinforced gas membranes;

- Possible under-floor venting or pressurisation in combination with 1) or 2) depending on use; and,
- All joints and penetrations sealed, with minimum 2000g/reinforced gas proof membrane and passively vented under floor subspace with monitoring facility.

In keeping with the above requirements, protective measures proposed for the development will comprise:

- a reinforced concrete, cast in situ floor slab; and,
- a gas proof membrane (at least 1200 g DPM2) fixed between the concrete and the soil where soil and the concrete substructure are in contact.

## 3.3 Hydrocarbon Contamination of Soils in the North-East of the Site

For construction works in the north-east of the Development Area the detailed QRA for controlled waters (as presented in the GTCR (Ref 1.)) has identified potential for shallow soils to be present which have been impacted by hydrocarbon contamination (see *Drawing JER4214-011ia and 011iia*). These soils shall be excavated and disposed of appropriately (in accordance with *Section 3.1* and *Section 3.5*) to prevent an adverse impact on groundwater quality at the site boundary.

A qualified Environmental Consultant (Geoenvironmental Masters qualification or equivalent with a minimum of 2 years experience) shall be present during the ground works phase to regularly inspect excavations. In addition to a visual and olfactory inspection, a Photo Ionisation Detector (PID) would be used to monitor potentially impacted soils. Where significant visual evidence of contamination / elevated concentrations of volatile vapours are recorded, works must be immediately stopped and samples collected for field and / or laboratory analysis as deemed appropriate by the qualified Environmental Consultant.

## 3.4 Procedures if Encountering Previously Unidentified Contamination

As a minimum, the following will need to be established by the Contractor prior to construction works commencing:

1. Development of a procedure that will be followed if previously unidentified asbestos, chemical contamination or suspected explosives residues are identified during earthworks; and

2. Ensuring ground workers have completed a health and safety risk assessment, developed a SSoW and have demonstrated that adequate control measures are put in place to manage the potential for soil contamination.

The following will need to be adhered to in relation to encountering previously unidentified chemical contamination and asbestos during construction works.

1. Ensure personnel involved in the earthworks are briefed on the likely nature and type of soils that could indicate the presence of contamination (e.g. discolouration, oils, odours, asbestos, ash and clinker materials);

2. If such material is encountered, an Environmental Consultant should be immediately contacted to inspect the material;

3. If material is identified as potentially contaminated, the extent should be delineated and samples collected for field and / or laboratory analysis as deemed appropriate by the Environmental Consultant;

4. Analytical results should be compared to derived Site Specific Target Levels (SSTLs) to assess the risk posed by the contamination to future site users and inform the potential for re-use or the requirement for disposal of this material. The SSTLs should also be derived to ensure appropriate protection of groundwater. Once the contamination has been sufficiently delineated, comparison with the relevant SSTLs applicable to either an indoor or outdoor scenario shall be used in conjunction with the development layout plan. Should a hotspot of contamination fall across the building footprint boundary the most conservative SSTLs should be utilised or alternatively advice sought from an Environmental Consultant; and,

5. Concentrations above the applicable SSTLs will require either further detailed risk assessment or remediation as advised by the Environmental Consultant.

Any further risk assessment or remedial action shall be agreed with the Local Planning Authority. Based on available information, it is anticipated that should remediation be the most applicable course of action, source removal of localised 'hot spots' is likely to be the most appropriate strategy, supported by verification testing. The remediation verification of any contamination sources identified during redevelopment will include:

- Delineation of the extent of contamination and verification by inspection and laboratory analysis of soils appropriate to the type of contamination being removed.

- Sentencing and disposal of contaminated materials off-site to a suitably licensed waste management facility;
- Analysis of suspected asbestos containing materials encountered during redevelopment for an asbestos screen analysis; and
- Disposal of encountered asbestos contaminated materials off-site to a suitably licensed landfill with appropriate chain of custody and consignment notes required under the Environmental Protection Act, Duty of Care Regulations.

## 3.5 General Waste Handling Arrangements

With regard to the general soil waste handling requirements, the Remediation Contractor shall adhere to the following general requirements while handling waste soils:

- Waste shall be stored and disposed of in accordance with AWE's existing Corporate Safety Instructions (CSI1604 and CSI1701);
- A Site Waste Management Plan should be prepared by the Contractor for AWE's approval and then implemented;
- All waste shall be segregated in labelled, appropriate containers / areas;
- Inert, Non hazardous and Hazardous wastes shall be segregated and not mixed;
- Waste containers shall be located in a secure, controlled location;
- All Contractors staff / personnel working within the enclave will be briefed on the waste management requirements and waste minimisation measures. Records will be kept of attendance;
- Waste audits shall be completed periodically by the construction Contractor and AWE, the latter shall, as a minimum, be represented by the Assurance Environmental Department (AED) and the AWE PM;
- If the Contractor requires any waste to be disposed of to a waste disposal facility, the Contractor shall inform the AWE PM in good time to allow an audit of the identified potential disposal facility;
- No waste will be brought onto the AWE site from off-site sources; and
- The Contractor shall be responsible for determining whether wastes are hazardous in line with WM2 (*Ref. 2*) and shall comply with both Hazardous Waste Regulations (*Ref. 3*) and Landfill Waste Regulations (*Ref. 4*) for disposal of waste to landfill.

## 3.6 Previously Unidentified Contamination Including UXO

It is anticipated that given the previous investigation coverage and sampling, if any soil contamination is encountered, it is likely to be limited in extent and either dismissed through minimal risk assessment or through remediation by way of source removal.

If previously unidentified gross chemical contamination is encountered during the construction phase, works must be immediately stopped and a qualified Environmental Consultant contacted to undertake an inspection of the contamination. Provision for such occurrences is to be detailed within a SSoW.

Similarly, if suspected explosive residues or unexploded ordnance (UXO) are encountered during the construction phase, works must be immediately stopped and a qualified Explosive Ordnance Disposal (EOD) Engineer contacted to undertake an inspection of the residue / ordnance, although the requirement for this is considered unlikely.

# 4 Remediation Verification Plan

## 4.1 Routine Documentation

In order to provide appropriate 'lines of evidence' to demonstrate to the Regulators that appropriate remedial works have been undertaken for each specified area appropriate information will require collection to enable a Verification Report to be produced.

Any remedial works, such as the removal of asbestos contaminated soils or chemically contaminated soils, waste disposal of materials off site or capping requirements shall be carefully documented by the Contractor. The routine documentation of the works to be carried out by the Contractor shall include, but not necessarily be limited to the following:

- Daily record sheets detailing activities on the site;
- Excavation records detailing the material in each excavation;
- Excavation plans showing the dimensions and nature of each excavation together with any sampling locations;
- Details of any material changes to the remedial works due to findings on the site;
- Stockpile plans showing the dimensions and nature of stockpiled material where appropriate;
- Sample records detailing the location and composition of every sample collected with the results of on-site inspections and verification testing;
- Location and results of laboratory analysis, comparisons to SSTLs and other remedial goals;
- As built drawings, construction drawings;
- Any locations where previously unidentified contaminated soils are encountered; and
- Groundwater monitoring results including a comparison with previous data.
- For Duty of Care, records of contaminated soil arisings detailing waste transfer ticket number, vehicle registration, landfill address and weight recorded at the landfill shall be provided by the Remediation Contractor.

## 4.2 Remediation Verification Report

A final Remediation Verification Report will be prepared and will detail any remedial works carried out and present all excavation records, plans, sample records and laboratory results and a summary of the information identified in this section.

The Remediation Verification Report will demonstrate the following were met during the works.

- That an additional 40 samples of soils that are to be excavated during redevelopment have been collected and subject to tritium analysis to ensure appropriate waste sentencing and management with a statistical confidence level of 95%;
- Any soils exhibiting visual evidence of asbestos containing materials and/or visual and olfactory evidence of chemical contamination not previously identified, were subject to inspection and analysis by a suitably experienced and qualified Environmental Consultant and the remedial goals were met;
- Any laboratory analysis of samples were undertaken using a UKAS accredited laboratory methodology and in the case of soil analysis MCERTS accreditation was also adopted;
- The extent of contamination identified was delineated and verified by inspections, and laboratory analysis of soils appropriate to the type of contamination being removed was undertaken;
- Analysis results of encountered contamination were compared to the appropriate SSTLS to determine whether contaminant levels could pose a risk and therefore require removal/treatment;
- Verification sampling to demonstrate soils remaining in the ground following removal of contamination are below the relevant SSTLs and not likely to pose a risk to both human health or controlled water;
- Materials contaminated with asbestos or other waste soils were disposed of to a suitably licensed landfill facility with the appropriate chain of custody and consignment notes required under the Environmental Protection Act, Duty of Care Regulations and AWE Corporate Safety Instruction CSI 1706; and,
- Records of volumes of waste removed, name of the disposal facility and copies of waste transfer notes.

The format and contents of the Verification Report shall be compiled using guidance provided in the Environment Agency's Verification of Remediation of Land Contamination (*Ref. 5*).

## 4.3 Construction Quality Assurance Validation

Following completion of the placement of the damp proof membrane, and obligatory sealing of all joints and penetrations, the integrity of the DPMs shall be tested by the Contractor to ensure that the membrane has been correctly installed and an effective gas proof barrier has been constructed.

This testing shall be undertaken in line with the recommendations outlined in CIRIA 665 (*Ref. 6*) and BRE 414 (*Ref. 7*). The installation and integrity testing of the gas protective measures must also be inspected by an Environmental Consultant as part of the QA/QC measures for the installation of the membrane.

This assurance validation will be reported as part of the Remediation Verification report and will include details of the works undertaken including

- dates of inspections;
- relevant testing procedures and results; and
- As Constructed drawings of the works.

## 4.4 Off Site Disposal of Waste

### 4.4.1 Site Waste Management Plan

The Contractor shall prepare a Site Waste Management Plan to meet the requirements of The Site Waste Management Plans Regulations 2008 (*Ref. 8*). During the works the Contractor shall wherever possible seek to minimise waste being generated and recover and re-use wastes. The Contractor shall provide the Principal Contractor and AWE detailed information in volumes of waste generated and volumes of waste recovered.

### 4.4.2 Waste Transfer Notes

Under the Environmental Protection (Duty of Care) Regulations 1991 all those responsible for producing or handling wastes have legal requirements placed upon them for the safe keeping, transport and subsequent recovery or disposal. Consequently, at the basic minimum, the Contractor shall ensure that all waste leaving site must have a

Waste Transfer Note and a copy of every Waste Transfer Note for each load leaving site must be provided to the AWE PM.

The Waste Transfer Note as a minimum shall include detail on:

1. Type of Waste and its six digit European Waste Code;
2. What type of container is used;
3. Time, date, and place the waste was transferred to;
4. The names and addresses of both persons involved in the transfer;
5. Details of which category of authorised person each one is (i.e. producer, waste licence holder, registered waste carrier);
6. Certificate number of registered waste carrier;
7. Waste management licence number of waste facility;
8. The name and addresses of any broker involved in the transfer; and
9. Signatures of both parties.

All Waste Transfer Notes shall be kept for a minimum of three years.

### 4.4.3 Hazardous Waste

Hazardous waste generated during the construction phase, will require AWE plc to register with the Environment Agency that they intend to produce hazardous waste and comply with the Hazardous Waste Regulations. The AWE PM shall register the 'premises code' and provide the Contractor with these details.

The Contractor shall be responsible for record keeping of all hazardous waste materials removed from site. This record keeping shall include:

1. Maintaining records and registers of all hazardous waste removed from site. A consignment note must be completed to accompany hazardous waste that is removed from the site;
2. AWE shall obtain hazardous waste consignment numbers from the Environment Agency and the Contractor shall obtain from AWE a consignment

number for each and every consignment of hazardous waste removed from site;

3. The Contractor shall provide returns from consignees of hazardous waste to the AWE PM so that AWE can provide completed waste consignment returns back to the Environment Agency for each consignment number given to the Contractor; and

4. Supply information to the Environment Agency or emergency services at the request of the AWE PM.

The Contractor shall ensure that he records the following details of all hazardous waste consignments:

- **Quantity** – Quantity of waste in kilograms
- **Nature** – A full description of the waste and its EWC code and components
- **Origin** – Name and address of the premises at which the waste was produced
- **Destination**- The name and address of the Consignee
- **Frequency of Collection** - Where applicable
- **Mode of Transport** – Mode of transport used to transport waste off site to the treatment facility
- **Treatment Method –** Method of disposal or recovery
- **Identification of Carrier** – Name and registration number of carrier used to transport waste off site to the treatment facility

In addition to the above the Contractor shall ensure that he follows the guidance provided in '*A Guide to the Hazardous Waste Regulations – Records, Registers and Returns*' (*Ref. 9*).

### 4.4.4 Waste Disposal Testing, Inspection and Verification Requirements

The Remediation Contractor shall be responsible for any additional testing required of wastes to facilitate disposal to a licensed waste management facility. This shall include Waste Acceptance Criteria testing of soils and other materials being disposed to either inert or hazardous landfills as required under the Landfill (England and Wales) Regulations (*Ref. 4*).

Any such testing necessary shall be identified to the AWE PM and the Remediation Contractor shall pass copies of any analysis results to the AWE PM.

# References


Ref. 1 RPS, Ground Conditions Technical Report, Project Hydrus, AWE Plc, Rev 2, April 2010.

Ref. 2 Environment Agency Technical Guidance WM2 – Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste (Second Edition, Versions 2.2).

Ref. 3 Statutory Instrument 2009 No 507. The Hazardous Waste (England and Wales) (Amendment) Regulations 2009.

Ref. 4 Statutory Instrument 2002 No 1559. The Landfill (England and Wales) Regulations 2002

Ref. 5 Environment Agency, Verification of Remediation of Land Contamination. Science Report NC/00/38/SR, 2006.

Ref. 6 CIRIA Report C6565. Assessing Risks Posed by Hazardous Ground Gasses to Buildings, 2007.

Ref. 7 BRE, BRE 414 – Protective Measures for Housing Gas on Contaminated Land, 2001.

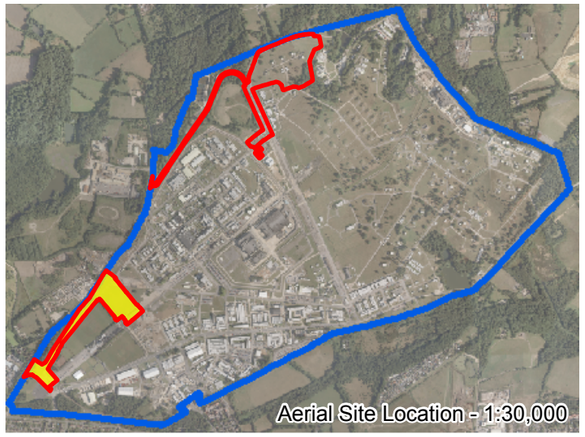
Ref. 8 Statutory Instrument 2008 No 314. The Site Waste Management Plans Regulations 2008.

Ref. 9 Environment Agency , Guide to Hazardous Waste Regulations – Records Registers and Returns, December 2005.

Ref. 10 Statutory Instrument (c.12) 1993. The Radioactive Substances Act 1993.

Ref. 11 Statutory Instrument 1986 No. 1002 and 1992 No. 647 (amendment). The Substances of Low Activity (SoLA) Exemption Order.

# Drawings




## LEGEND

- AWE Aldermaston Fence Line
- Hydrus Site Boundary
- Development Area

**Proposed Development Layout**

- Operations Building
- Support Building
- Access Roads & Hardstanding
- Other Hardstanding
- Laydown Areas
- New Borehole Installation
- Detention Basin
- Swale
- Existing Vegetation
- Central Area Construction Enclave (CACE)
- West End Construction Enclave (WECE) - only visible in the inset

Proposed Development features taken from AWE Drawing Ref:
AWE-HYDRUS-ATK-99-XX-DRW-CD-900-111-001000 &
AWE-HYDRUS-ATK-99-XX-DRW-CD-900-111-001008

| Rev: | Date: | Amendment: | Name: | Checked: |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| A | 23/11/09 | Revised Redline Boundary | RJ | AG |

Data Source: AWE 2009

Status: UNCLASSIFIED

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Client: AWE Plc

Project: Hydrus

Title: Site Plan, Including Development Areas

Scale: A3 @ 1:3,000

0 0.05 0.1 km

N

Date: 06/08/09 Datum: OSGB36 Projection: BNG

Drawn: RJ Checked: AG Job Ref: JER4214

Figure No: **JER4214-001a** Revision: **A**

Project Ref: J:\Drawings\JER4214

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## LEGEND

- AWE Aldermaston Fence Line
- Hydrus Site Boundary
- Approximate Extent of Area to be Dewatered

**Proposed Excavation Depths**

- No Excavation
- 0.30m
- 0.45m
- 1.20m
- 3.00m
- 6.00m
- Not Known

**Soil Sample Locations**

***RPS (March 2009)***

- Borehole
- Window Sample Borehole

***BAE Systems (October 2007)***

- Borehole
- Trial Pit*
- Soil Sample* (not labelled)

***Golder Associates (March 2007)***

- Borehole*
- Trial Pit*

***Golder Associates (April 2004)***

- Borehole
- Trial Pit

***Golder Associates - SCRT2 (2003)***

- Borehole

***Other Known Locations***

- Trial Pit

* - Indicative Location Only: Exact Co-ordinates not Available

| Rev: | Date: | Amendment: | Name: | Checked: |
|---|---|---|---|---|
| B | 07/04/10 | Addition of Dewatering Area | RJ | AG |
| A | 23/11/09 | Revised Redline Boundary | RJ | AG |

Data Source: AWE 2009

Status: UNCLASSIFIED

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Client: AWE Plc

Project: Hydrus

Title: Proposed Excavation Depths

Scale: A3 @ 1:1,750

0 0.02 0.04 km

N

Date: 05/08/09 Datum: OSGB36 Projection: BNG

Drawn: RJ Checked: AG Job Ref: JER4214

Figure No: **JER4214-004b** Revision: **B**

Project Ref: J:\Drawings\JER4214

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## LEGEND

- AWE Aldermaston Fence Line
- Hydrus Site Boundary
- Demolished Buildings
- Approximate Extent of Area to be Dewatered

**Soil Sample Locations**

***RPS (March 2009)***
- Borehole
- Window Sample Borehole

***BAE Systems (October 2007)***
- Borehole
- Trial Pit*
- Soil Sample* (not labelled)

***Golder Associates (March 2007)***
- Borehole*
- Trial Pit*

***Golder Associates (April 2004)***
- Borehole
- Trial Pit

***Golder Associates - SCRT2 (2003)***
- Borehole

***Other Known Locations***
- Trial Pit

**>EC12-EC16 Aromatics (mg/kg)**
- LOD -< 1

**>EC16-EC21 Aromatics (mg/kg)**
- 100 -< 200

**>EC21-EC35 Aromatics (mg/kg)**
- LOD -< 30
- 30 -< 100
- 100 -< 200
- 200 -< 500
- 500 -< 1,000

* - Indicative Location Only: Exact Co-ordinates not Available

| Rev: | Date: | Amendment: | Name: | Checked: |
|---|---|---|---|---|
| B | 07/04/10 | Addition of Dewatering Area | RJ | AG |
| A | 23/11/09 | Revised Redline Boundary | RJ | AG |

Data Source: AWE 2009

Status: UNCLASSIFIED

RPS
Park House Greyfriars Road Cardiff CF10 3AF
T 02920 668662 F 02920 668622 E rpsca@rpsgroup.com W www.rpsplc.co.uk

Client: AWE Plc

Project: Hydrus

Title: Soil Contamination - Aromatic Hydrocarbons

Scale: A3 @ 1:1,750

0 0.02 0.04 km

N

Date: 10/08/09 Datum: OSGB36 Projection: BNG

Drawn: RJ Checked: AG Job Ref: JER4214

Figure No: **JER4214-011ib** Revision: **B**

Project Ref: J:\Drawings\JER4214

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## LEGEND

- AWE Aldermaston Fence Line
- Hydrus Site Boundary
- Demolished Buildings
- Approximate Extent of Area to be Dewatered

### Soil Sample Locations

***RPS (March 2009)***
- Borehole
- Window Sample Borehole

***BAE Systems (October 2007)***
- Borehole
- Trial Pit*
- Soil Sample* (not labelled)

***Golder Associates (March 2007)***
- Borehole*
- Trial Pit*

***Golder Associates (April 2004)***
- Borehole
- Trial Pit

***Golder Associates - SCRT2 (2003)***
- Borehole

***Other Known Locations***
- Trial Pit

### >C12-C16 Aliphatics (mg/kg)
- LOD -< 10
- 10 -< 50

### >C21-C35 Aliphatics (mg/kg)
- LOD -< 10
- 10 -< 20
- 20 -< 50
- 50 -< 100
- 100 -< 150

* - Indicative Location Only: Exact Co-ordinates not Available

| Rev: | Date: | Amendment: | Name: | Checked: |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| B | 07/04/10 | Addition of Dewatering Area | RJ | AG |
| A | 23/11/09 | Revised Redline Boundary | RJ | AG |

Data Source: AWE 2009

Status: UNCLASSIFIED

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