



**London Borough of
Hillingdon Council**

Endeavour Sea Scouts Group, Cowley

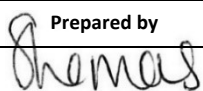


Remediation Strategy and Verification Plan



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Endeavour Sea Scouts Group, Cowley

Remediation Strategy and Verification Plan

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| - | February 2024 | - |  Sophie Thomas |  Ruth Easterbrook |  Claire Hooley |
| | | | | | |
| | | | | | |
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TEC is ISO 9001:2015 and ISO 14001:2015 certified by Advanced Certification Limited, a UKAS Accredited Certification Body (number 8872) and ISO 45001:2018 certified by QMS International Ltd for the scope of 'Specialist consultancy services across the UK in contaminated land assessment, ground engineering, waste management and construction phase monitoring'.

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1 INTRODUCTION

1.1 Terms of Reference

1.1.1 TEC has been appointed by BX Construction on behalf of London Borough of Hillingdon Council to prepare a Remediation Strategy and Verification Plan in support of the development at Endeavour Sea Scouts Group, Cowley. All works were undertaken in accordance with our proposal email dated 29 January 2024 and referenced ST.2401021.001_002.

1.2 Background

1.2.1 The site is located off Moorfield Road, Cowley (Figure 1). The site is approximately 0.05 hectares in size, with the centre of the site located at approximate National Grid Reference 505800, 181300. The nearest postcode to the site is UB8 3SJ.

1.2.2 The proposed development is understood to comprise the demolition of the existing scouts hut and construction of a new scout's hut with areas of soft landscaping and hard infrastructure at the site (Figure 2).

1.2.3 It is understood that planning permission has been granted by London Borough of Hillingdon Council (ref: 77079/APP/2022/534) for the development, and that Condition 5 related to the requirement for a Remediation Strategy and subsequent and Verification Report have also been applied.

1.2.4 A desk study and ground investigation and subsequent geotechnical investigation has previously been undertaken by TEC for the site, as detailed within the following reports:

- *Endeavour Sea Scout Group, Cowley – Desk Study and Ground Investigation Report. Prepared for London Borough of Hillingdon Council. Ltd. Report reference 2105014.001.01, dated July 2021; and*
- *Endeavour Sea Scout Group, Cowley – Geotechnical Assessment Addendum Report. Prepared for London Borough of Hillingdon Council. Ltd. Report reference 2105014.002.01A, dated September 2021.*

1.2.5 Full reference should be made to the previous reporting and assessment, although salient information is provided in Section 2 of this report.

1.2.6 This Remediation Strategy and Verification Plan has been undertaken in accordance with current guidance such as LCRM - *Land contamination: risk management* (Environment Agency, 2023) and NHBC Standards/ LABC Technical Manual.

1.2.7 From the outset, sustainability and the potential impact of climate change have been considered, to assist in identification of options to minimise the environmental, social, and economic impacts of the risk assessment approach, with reference to Sustainable Management Practices (SMPs) from Sustainable Remediation Forum UK (SuRF-UK).

2 SITE CONDITIONS SUMMARY

2.1 Introduction

2.1.1 A summary of the salient issues relating to the site and the proposed development, in relation to land contamination, is presented below. Reference to the previous report (TEC reference 2105014.001.01, July 2021 and 2105014.002.01A, September 2021) should be made for detailed information.

2.2 Previous Report Summary

Table 2.1: Previous Report Summary (TEC July and September 2021)

| | |
|--------------------------------------|---|
| Site History | <p>Earliest available mapping indicates the site remained undeveloped prior to 1934. From this date, a filter bed associated with the nearby Uxbridge & Yiewsley Joint Drainage Committee sewage works is depicted on site until 1948. From 1963, the sewage works infrastructure is no longer present and the site is noted to be part of a 'playground' and from 1972, the site is shown in its current layout.</p> |
| Environmental Setting | <p>BGS mapping indicates the site area is underlain by the superficial deposits of the Langley Silt Member which in turn is recorded to be underlain by the London Clay Formation. Both the Langley Silt Member and the London Clay Formation, are designated as Unproductive Strata by the EA.</p> <p>There are no reported Environment Agency Source Protection Zones or groundwater abstractions recorded within 1km of the site. The nearest discharge consent to groundwater is recorded ~580m west pf the site and is associated with a soakaway (not water company).</p> <p>The nearest surface water course is a drain/channel recorded ~190m east of the site. There is one surface water abstractions recorded ~500m south of the site associated for a cooling process, whilst the nearest licensed discharge consent is recorded ~285m south of the site. There are 7No. recorded pollution incidents within 500m, the nearest is recorded ~265m west of the site. In addition, an area ~95m west is recorded to be located within an area of classified as Extent of flooding and extreme flooding from rivers or seas without defences.</p> <p>Two historical landfills were recorded within 500m of the site, the closest of which is located at ~385m south. There is 3No. areas of potentially infilled land (water and non-water) within 500m of the site, the closest is recorded ~405m to the east.</p> |
| Encountered Ground Conditions | <p>During the initial phase of investigation, made ground was recorded to a maximum observed depth of 1.6mbgl and generally comprised slightly sandy, gravelly clayey silt with occasional rootlets. The gravel component was observed to comprise chert, brick, concrete, mudstone, and clinker. It should be noted that during this phase of works, all locations were terminated at depths between 1.0m and 1.6mbgl on suspected concrete within the made ground across the site, the natural ground was not encountered to depths in excess of 1.6mbgl.</p> <p>No perched water or groundwater was recorded during this phase of works.</p> <p>A subsequent return phase of works recorded made ground w to depths of between 1.0mbgl and >1.25mbgl and generally comprised brown slightly clayey silt with frequent rootlets underlain by brown mottled orangish brown slightly sandy, gravelly, slightly clayey silt. The gravel was generally recorded as concrete, clinker, wood, brick and sandstone. Within a single location TP03, the made ground below 0.4mbgl was recorded to comprise grey locally blueish grey slightly sandy gravel.</p> <p>The natural ground (superficial Langley Silt Member) was recorded from 1.0m to >1.6mbgl as 'dense' brown mottled orangish brown slightly silty gravelly sand / sandy angular to subrounded fine to coarse gravel of chert, sandstone and mudstone. Within a single location, TP01, stiff slightly gravelly slightly sandy silty clay. Gravel of angular to subrounded fine and medium chert and sandstone was recorded between 1.6m and 1.9mbgl.</p> <p>No perched water or groundwater was recorded during the intrusive works.</p> |
| Contamination Summary | <p>No visual or olfactory evidence of gross contamination was observed during the ground investigation.</p> <p>Laboratory analysis of representative made ground materials recorded exceedances of the GAC for heavy metals (lead (WS03 and WS06) and beryllium (WS03) and PAH compounds when considering a residential site end use.</p> <p>An asbestos screen completed on samples of the made ground at the laboratory recorded no suspected asbestos containing material or detectable asbestos fibres.</p> |
| Ground Gas/Radon | <p>No potential sources of ground gas were identified within proximity of the site, in addition, the site is underlain by cohesive strata, which will restrict any migration from off site sources.</p> <p>In addition, the site is reported to be located within a Lower Probability Radon Area where no protection measures are required.</p> |

2.3 Updated Conceptual Model

2.3.1 On the basis of the assessment works undertaken by TEC to-date, a number of relevant contaminant linkages (RCL) have been identified in relation to ground contamination and the proposed development, which are considered by TEC to be as follows:

- RCL1 Risk to site end users via exposure to Contaminants of Potential Concern (CoPC) within the made ground materials through ingestion, inhalation and dermal contact pathways in areas of proposed soft landscaping, where made ground remains;
- RCL2 Cumulative risk to brownfield construction workers and future site maintenance via exposure to Contaminants of Potential Concern (CoPC) within the made ground materials through the ingestion, inhalation and dermal contact pathways; and
- RCL3 Potential risk of statutory nuisance via disturbance of in-situ ground materials during development works resulting in the generation of dust, including fine particulate matter.

3 REMEDIATION OBJECTIVES AND CRITERIA

3.1 Introduction

3.1.1 LCRM defines remediation objectives as site-specific objectives that relate solely to the reduction, control or removal of the risks associated with one or more of the relevant contaminant linkages (RCL). LCRM also defines remediation criteria as site-specific measures against which compliance with remediation objectives will be assessed.

3.1.2 Remediation objectives and criteria for the identified RCL in relation to the proposed development are presented in Table 3.1.

Table 3.1: Remediation Objectives and Criteria

| Relevant Contaminant Linkage (RCL) | Remediation Objectives | Remediation Criteria |
|--|---|--|
| RCL1: Chronic risk to site end users via exposure to Contaminants of Potential Concern (CoPC) within the made ground in areas of the proposed soft landscaping through ingestion, inhalation and dermal contact. | <ul style="list-style-type: none"> Long-term effective containment of contaminated made ground i.e. eliminating exposure to contaminated made ground Management of contaminant pathway Ensure the site is suitable for use in relation to the proposed residential development Satisfy planning requirements in relation land contamination | Compliance to be based on either the removal of made ground or the provision and maintenance of an appropriate cover system in all areas of the site, where made ground remains following site preparation. |
| RCL2: Risk to construction workers and future site maintenance workers via exposure to Contaminants of Potential Concern (CoPC) within the made ground through the ingestion, inhalation and dermal contact pathways. | <ul style="list-style-type: none"> Long-term effective containment of contaminated made ground Management of the pathway and receptor | Adoption of appropriate good brownfield working practices and implementation of appropriate site maintenance procedures and risk assessments. Compliance is to be based on the provision and maintenance of an appropriate cover system following site preparation, where made ground remains |
| RCL3: Short term disturbance of in-situ ground materials during development works resulting in the potential generation of dust, including fine particulate matter resulting in a potential risk of statutory nuisance. | <ul style="list-style-type: none"> Effective control of dust and dust generating activities | Employ best practice methods at all times. |

4 SCOPE OF REMEDIATION WORKS

4.1.1 Based upon the identified Relevant Contaminant Linkages (RCL), the following Remediation Strategy has been prepared to provide appropriate mitigation against the identified risks.

4.1.2 The Remediation Strategy has been undertaken in accordance with LCRM - *Land contamination: risk management* (Environment Agency 2023) and will require agreement in writing of the Regulatory Authorities prior to commencing any remediation on site.

4.2 Remedial Measures

4.2.1 Remedial measures to achieve the site-specific remediation objectives set out in Table 3.1 for RCL1 to RCL3 are presented below.

RCL1

4.2.2 RCL1 relates to the chronic risk to site end users via exposure to identified contaminants of potential concern within the made ground materials, through the dermal contact, ingestion and inhalation pathways.

Hard Standing and Building Footprint

4.2.3 The proposed development plan indicates a large portion of the site area is to be covered by the footprint of the proposed development buildings or hardstanding. Where present, such hard cover features would remove the identified potential contaminant pathways in relation to site end users.

Soft Landscaped Areas

4.2.4 Based upon the proposed development layout, areas of soft landscaping will be present onsite. Therefore, where made ground remains within these proposed soft landscaped/garden areas, exposure to identified CoPCs cannot be discounted based upon the current assessment. In order to mitigate against the potential risk to site end users, it is recommended that a cover system be provided within such areas, where made ground remains.

Simple Cover System

4.2.5 Based on the concentrations of contaminants recorded within the made ground materials on site, a simple cover system in accordance with Building Research Establishment (BRE) guidance (BRE 465) titled "Cover Systems for Land Regeneration – Thickness of Cover Systems for Contaminated Land" may be appropriate in the proposed soft landscaped areas to mitigate against the potential risk to site end users (Appendix A).

4.2.6 Remedial recommendations based on BRE 465 are designed to ensure that no soil, within a specific depth of finished level within the soft landscaped areas, is contaminated with concentrations above the human health remedial target concentrations for each contaminant of concern.

4.2.7 BRE 465 details methodology for specifying depths of general clean cover for marginally elevated levels of contamination. This methodology acknowledges that mixing between clean cover and underlying contaminated materials will occur over a period of time. The depth of clean cover required is therefore calculated to ensure that the concentration of the contaminant of concern, within the depth of this mixing zone, will always remain at below a site specific level. BRE 465 reports that except in extreme circumstances, research indicates that the mixing zone is generally limited to 600mm of the surface, i.e. the maximum depth for double digging for a garden or allotment.

4.2.8 Based upon site specific data and BRE465 calculations (Appendix A), to ensure contaminant levels remain below relevant screening values, a minimum depth of 460mm of clean cover should be provided within proposed soft landscaped areas (Figure 2), where made ground remains. This is conservatively based upon the maximum contaminant concentrations recorded within the made ground in this area of the site.

General Cover System Requirements

4.2.9 Careful management of the site works will be required to ensure potential cross-contamination from materials containing CoPC is avoided (Section 5).

4.2.10 Imported material will likely be required to provide the proposed depth of cover system within the soft landscaped areas. Therefore, geochemical verification testing should be undertaken on all imported

material as well as any excavated material proposed for re-use. The testing regime for such material is detailed below and in Section 6.

4.2.11 Topsoil should meet the requirements of BS3882:2015 for multipurpose topsoil whilst subsoils should meet the requirements of BS8601:2013 for multipurpose subsoil. Appropriate certificates of analysis should be provided, in advance of material importation, to demonstrate compliance with these criteria.

4.2.12 Further, in accordance with BS3882:2015 and BS8601:2013, all imported material should be free from propagules of aggressive weeds and bulk vegetative matter, and topsoil and subsoil should have a maximum stone size of 20mm and 50mm, respectively.

RCL2

4.2.13 RCL2 relates to the risk to construction workers and future site maintenance workers via exposure to contaminants of concern recorded within the made ground materials on site through dermal contact, ingestion and inhalation pathways.

4.2.14 The adoption of good brownfield working practices, including good site welfare and hygiene facilities and the provision of appropriate Personal Protective Equipment (PPE) should be implemented.

4.2.15 Full site maintenance procedures and risk assessments should be documented and implemented to ensure that future maintenance workers are protected from potential residual risk during possible exposure to materials beneath the capping layer.

RCL3

4.2.16 RCL3 relates to the potential risk of statutory nuisance via disturbance of in situ ground materials during remediation and development works resulting in the generation of dust, including fine particulate matter.

4.2.17 Development works will provide a long-term betterment with respect to dust generation as potentially contaminated materials will be effectively capped (e.g. by hardstanding or clean cover). Given the proposed development works for the site, the short-term potential for the generation of dust and fine particulate matter cannot be discounted. This is due to the requirement for the excavation and handling of potentially dry materials and their transportation on and off-site. In addition, wind blow across bare ground or stockpiles of excavated and treated materials can also represent a potential significant source of dust generation.

4.2.18 Fugitive dust and fine particle generation from remediation and construction activities can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne, it is very difficult to prevent them from dispersing into the surrounding area. The most effective technique is to control dust at source and prevent it from becoming airborne.

4.2.19 The contractor will be required to take all necessary measures to avoid creating a dust nuisance during both remediation and construction works. Best practicable means should be used to minimise dust.

4.3 General Remedial Measures

Previously Unidentified Contamination

4.3.1 During the site clearance works, should contamination be found at any time when carrying out the development that was not previously identified, it will be reported in writing immediately to the Local Planning Authority. Following which, further investigation and risk assessment will be undertaken, and where further remediation is considered necessary, a revised remediation scheme will be produced and forwarded to the Local Planning Authority for approval in writing. Section 6 of this Remediation Strategy provides the communication process should further assessment be undertaken.

Services Protection

4.3.2 Should water supply pipes be placed within the made ground encountered at the site, due consideration would need to be given to the UK Water Industry Research Ltd (UKWIR) guidance.

5 GENERAL REQUIREMENTS

5.1 Environmental Permits / Licences

- 5.1.1 The Contractor will be required to comply with all relevant legislation, statutory requirements and guidance, Codes of Practice, British Standards and all relevant HSE Guidance and Approved Codes of Practice.
- 5.1.2 The Contractor will be responsible for obtaining and complying with all necessary permissions, licenses and permits required to undertake the works.

5.2 Materials Excavation

- 5.2.1 Given the presence of elevated contaminant concentrations within the made ground, as a minimum, made ground shall be segregated in accordance with current waste regulations to allow for separate treatment/disposal. Further, segregation may be required should further grossly contaminated materials be encountered. Characterisation of waste materials will be undertaken by suitably experienced person and will be limited to ensure appropriate visual characterisation of materials.
- 5.2.2 All on site waste material movements on site will be undertaken in a controlled fashion to avoid cross contamination of materials.

5.3 Stockpiling

- 5.3.1 Temporary stockpiles should be on suitable hardstanding or membrane to prevent mixing with underlying materials and such stockpiles will be covered with an impermeable membrane. In addition, in order to avoid potential cross-contamination, work methodologies should be adopted such that the trafficking over contaminated areas is minimised and, wherever possible, avoided.

5.4 Waste Management

- 5.4.1 Excavated contaminated material will be disposed from site to an appropriately licensed facility. Additional testing may be required in accordance with guidance outlined by the Environment Agency's document '*Waste Sampling and Testing for Disposal to Landfill*' (EBPRI 11507B), dated March 2013, to allow determination of an appropriately licensed landfill for disposal. The waste producer must develop a sampling plan using Best Practice with reference to BS EN 14899 (and supporting technical guidance CEN/TR 15310) to ensure samples are representative of the waste being produced.

5.5 Materials Transport and Disposal

- 5.5.1 All waste disposal activities will be undertaken in accordance with the Waste (England and Wales) (Amendment) Regulations 2014 and consequently, the haulier will need to be a licensed waste carrier and evidence of registration will need to be obtained prior to any consignment.
- 5.5.2 All waste will only be sent to a class of disposal facility permitted to accept the materials identified.
- 5.5.3 Laboratory results of the excavated material will need to be passed on to the haulier and the material will need to be transported and disposed of accordingly. All excavated contaminated waste materials are to be transported off-site in appropriately sheeted lorries.

5.6 De-Watering

- 5.6.1 No groundwater was encountered on site during the previous TEC ground investigation to a maximum depth of 1.4mbgl. Based on observations made during the ground investigations, groundwater ingress into excavations is considered unlikely to be significantly problematic although some dewatering may be required, particularly where excavations are left open for any length of time.
- 5.6.2 To minimise the generation of water requiring management, surface run-off and collection should be reduced by ensuring that the scale of open excavation is restricted to that necessary for the immediate works.

5.7 Backfilling

- 5.7.1 Where excavation of contaminated materials occurs, the resultant excavation should be backfilled with general fill or imported clean material. Excavated contaminated materials should not be used for backfilling.

5.8 Site Maintenance

- 5.8.1 Site maintenance procedures and risk assessments should be documented and implemented to ensure that the capping layer and hard cover areas are appropriately maintained and future maintenance workers are protected during exposure to materials beneath the capping layer and hardstanding.
- 5.8.2 Due consideration should be given as to whether the depth of any clean cover system is sufficient for the planting proposed, e.g. planting of vegetation with a rooting zone in excess of the depth of clean cover may require deepened excavations or use of containers.
- 5.8.3 Should significant future excavation works be required within the site then full reinstatement in accordance with this Remediation Strategy will be required.

5.9 General Site Safety

- 5.9.1 All aspects of health and safety during site works will be undertaken in accordance with the Construction (Design and Management) Regulations, 2015 (CDM), or superseding documentation. In addition, all remedial works will be undertaken in accordance with the Health and Safety Executive publication (HSG66) "Protection of workers and the general public during the development of contaminated land" (1991), CIRIA Report 132 "A guide for safe working on contaminated sites" (1996).

6 VERIFICATION PLAN

6.1 Materials Importation and Verification Testing

Material Importation

- 6.1.1 Appropriate chemical testing of imported materials will be required if the origin of the imported clean cover capping materials is other than one of the following:
- A “greenfield” site where an appropriate desk study has been undertaken in accordance with BS10175:2011+A2:2017 which shows that no sources of contamination are or have been present; or
 - A site where suitable site investigation and testing has been undertaken in accordance with BS10175:2011+A2:2017 which clearly demonstrates the chemical suitability of the imported material.
- 6.1.2 If the source of the capping materials does not comply with the above or is from a site that is known to be, or suspected of being, contaminated, sufficient testing should be undertaken to confirm the materials are suitable for use. Where separate subsoil and topsoil materials are used in the cover system, it will be necessary to confirm the chemical quality of both of these components.
- 6.1.3 All imported material, whether used as part of a clean cover system or not, will comply with the limits set out within Table 6.1.
- 6.1.4 In addition, all imported topsoil and subsoil materials should meet the requirements of BS3882:2015 and BS8601:2013. All imported topsoil and subsoil should be free from foreign objects discernible by the naked eye (e.g. glass, brick, concrete, wire, tarmac, plastic, ceramic, metal, treated wood) or potentially hazardous foreign matter which may represent a risk of traumatic injury or damage to health.
- 6.1.5 In all cases, a copy of the delivery ticket should be available to confirm the imported materials have been transferred directly from the approved source site.
- 6.1.6 Where capping materials (including manufactured soils) are sourced from a commercial provider, a copy of the supplier’s routine chemical test certificate(s) and delivery tickets to site should be included within the remediation Verification Report. All test certificates should be current and representative of the material actually being used on site. Should importation be undertaken over an extended period of time, separate certification may be required. The amount of testing undertaken by the commercial provider should be linked to the former uses of the source site and the potential for contamination to be present. It is noted that the use of skip waste will not be accepted as capping materials without extensive testing to confirm it is suitable for use.
- 6.1.7 Quarried aggregate need not be subject to this testing regime where supported by appropriate certification.
- 6.1.8 Placement of fill materials associated with these remedial works should not be permitted unless this information has been received and approved in advance by the Client’s representative.
- 6.1.9 All samples will be submitted to an appropriate accredited laboratory (MCERTS/UKAS) for analysis. Given the proposed development includes soft landscaped communal greenspace, limits have been set on the basis of a ‘residential with homegrown produce’ site end use.

Table 6.1: Importation & Re-use Criteria

| Contaminant | Maximum Import Concentration (mg/kg) ⁽¹⁾ |
|------------------|---|
| Arsenic | 37 |
| Boron | 290 |
| Cadmium | 22 |
| Chromium (Total) | 910 |
| Chromium (VI) | 21 |
| Copper | 2400 |
| Lead | 100 ⁽³⁾ |
| Mercury | 40 |
| Nickel | 130 |
| Selenium | 350 |

| Contaminant | Maximum Import Concentration (mg/kg) ⁽¹⁾ |
|--|---|
| Zinc | 3700 |
| Beryllium | 0.85 ⁽³⁾ |
| Barium | 1300 |
| Vanadium | 410 |
| Cyanide | 20 |
| Total Phenol | 120 |
| Banded Petroleum Hydrocarbons⁽²⁾ | |
| TPH Aliphatic C5-C6 | 42 |
| TPH Aliphatic C6-C8 | 100 |
| TPH Aliphatic C8-C10 | 27 |
| TPH Aliphatic C10-C12 | 130 |
| TPH Aromatic C5-C7 | 70 |
| TPH Aromatic C7-C8 | 130 |
| TPH Aromatic C8-C10 | 34 |
| TPH Aromatic C10-C12 | 74 |
| TPH Aromatic C12-C16 | 140 |
| TPH Aromatic C16-C21 | 260 |
| Total Petroleum Hydrocarbons (TPH) | 500 ⁽²⁾ |
| Other Petroleum Hydrocarbons⁽²⁾ | |
| Naphthalene | 2.3 |
| Acenaphthylene | 170 |
| Acenaphthene | 210 |
| Fluorene | 170 |
| Phenanthrene | 95 |
| Fluoranthene | 280 |
| Benzo(a)anthracene | 7.2 |
| Chrysene | 15 |
| Benzo(b)fluoranthene | 1.3 ⁽³⁾ |
| Benzo(k)fluoranthene | 77 |
| Benzo(a)pyrene | 1.1 ⁽³⁾ |
| Indeno(1,2,3-cd)pyrene | 27 |
| Dibenzo(a,h)anthracene | 0.12 ⁽³⁾ |
| Benzo(g,h,i)perylene | 320 |
| Benzene | 0.087 |
| Ethylbenzene | 47 |
| m & p-xylene | 56 |
| o-xylene | 60 |
| MTBE | 49 |
| Other | |
| Asbestos Screen | Absent |

Notes:

1. Importation criteria based on human health screening values for 'residential (with homegrown produce)' end use (based on DEFRA C4SL (2014), Environment Agency Soil Guideline Values (2009) and CIEH/LQM GAC (2014), where appropriate, based upon a 'worst-case' Soil Organic Matter (SOM) of 1%).
2. Speciated hydrocarbon contaminants with screening values >500mg/kg are not included as total TPH limit has been set at 500mg/kg.
3. Concentrations of Contaminants of Potential Concern have been set at half the screening value for residential site end use (with homegrown produce) as detailed within the BRE 465 Spreadsheet (Appendix A).

Verification Testing

- 6.1.10 Following the placement of the appropriate cover system, verification pits should be excavated to prove the depth, and where necessary, the chemical quality of the clean cover. A written description and photographic record of each verification pit shall be obtained.
- 6.1.11 Given the proposed development, it is suggested that where appropriate supporting current certification is not available an appropriate number of validation samples of the placed imported cover system will be taken and chemically analysed.
- 6.1.12 Where appropriate supporting current certification is not available in relation to the chemical quality of placed imported cover system material, verification samples will be taken and chemically analysed. The number of validation samples required will be confirmed with the regulatory authorities prior to undertaking the sampling but would be initially suggested as follows:
- One sample for every 100m³ of fill, if the material is imported from a known 'Greenfield' source.
 - One sample per 50m³ of fill if the material is derived from site or imported from an unknown source or off site source without appropriate documentation of non-contaminative history.
- 6.1.13 However, where different sources are utilised to provide the cover system, there may be the need for further testing to confirm the chemical composition of the imported materials.

6.2 Verification Reporting

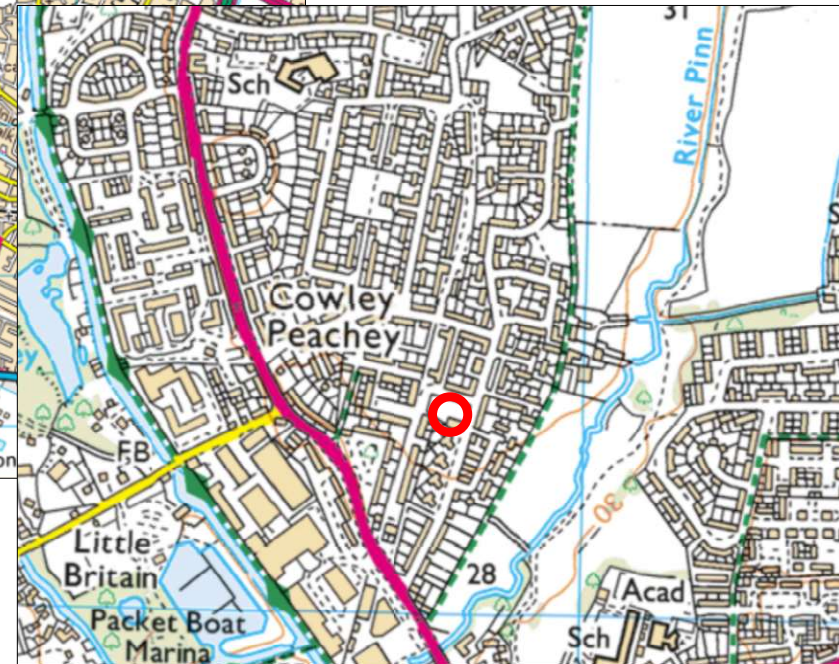
- 6.2.1 In accordance with current guidance, upon completion of the final works a verification report(s) will be prepared that demonstrates the effectiveness of the remediation carried out and identifying any requirements for longer-term monitoring of identified pollutant linkages, maintenance and arrangements for contingency action, if appropriate. It may be that, with prior agreement of the regulatory authorities, partial verification of the site may be obtained should the development be completed in a phased manner.
- 6.2.2 The verification report(s) will be prepared in accordance with the LCRM - *Land contamination: risk management* (Environment Agency, 2023).

6.3 Communications Plan

- 6.3.1 Should, at any time, verification information show that remediation activities have not achieved the remediation criteria derived for the relevant pollutant linkages or additional assessment is undertaken, the following action plan shall be implemented:
- The results shall be notified to the Local Planning Authority immediately and confirmed in writing;
 - Any agreed remedial action will be undertaken within such reasonable time as required by the Local Planning Authority; and
 - A report detailing any remedial works undertaken, the monitoring results and the effectiveness of the action plan shall be forwarded to the Local Planning Authority.

TEC

Figures and Drawings



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Approximate Site Location:



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Site Name:
Endeavour Sea Scout Group, Cowley

Drawing Name:
Site Location Plan

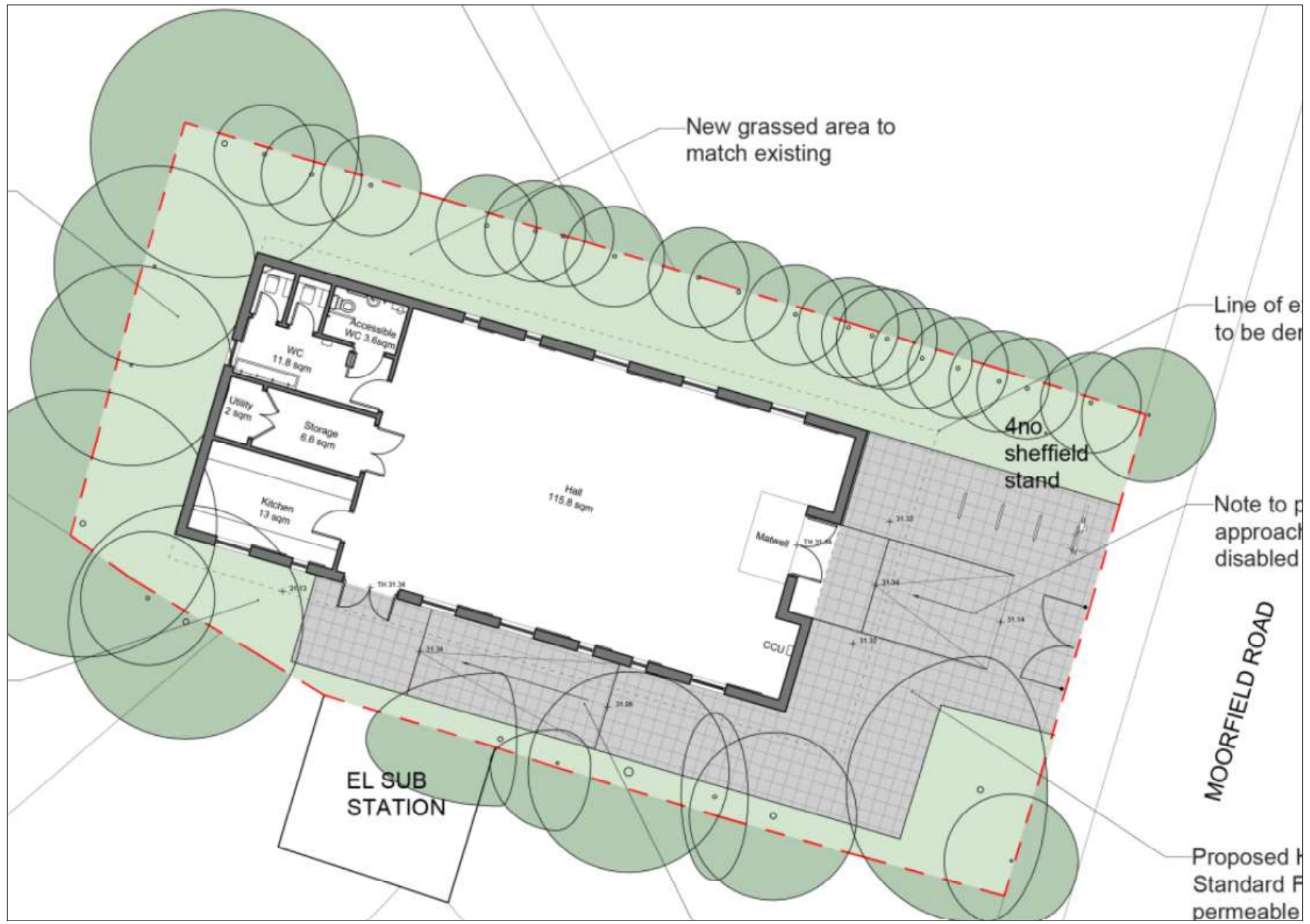
Client Name:
London Borough of Hillingdon Council

Project No:
2401021.001

Figure No:
1

Date:
February 2024

Scale:
NTS



Extract of Inter Urban Studios 'Endeavour Sea Scout Group - Proposed Site Plan'. Dwg No.: PL-03 A, 29.03.22.

Appendix A

BRE 465 Spreadsheet

Design Chart

- $C_c = 0.00 - 0.25 \times \text{Trigger levels}$
- $C_c = 0.25 - 0.50 \times \text{Trigger levels}$
- $C_c = 0.50 - 0.75 \times \text{Trigger levels}$
- $C_c = 0.75 - 1.00 \times \text{Trigger levels}$
- ▲ Target Guideline Value 2
- ▲ Target Guideline Value 1

If site specific data falls in shaded area consideration should be given to the applicability of using a cover system

