
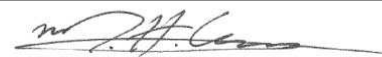



## 6.4 Ground Investigation Report [by GEA]

The Phoenix Garden, Stacey Street, London, WC2H 8DG  
The Phoenix Garden

Ground  
Investigation Report

### Document Control

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This report has been issued by the GEA office indicated below. Any enquiries regarding the report should be directed to the office indicated or to Steve Branch in our Herts office.

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The Phoenix Garden, Stacey Street, London, WC2H 8DG  
The Phoenix Garden

Ground  
Investigation Report

### EXECUTIVE SUMMARY

This executive summary contains an overview of the key findings and conclusions. No reliance should be placed on any part of the executive summary until the whole of the report has been read. Other sections of the report may contain information that puts into context the findings that are summarised in the executive summary.

### BRIEF

This report describes the findings of a ground investigation carried out by Geotechnical and Environmental Associates Limited (GEA) on the instructions of Carter Clack, on behalf of The Phoenix Garden, with respect to the construction of a new two-storey building. The purpose of the investigation has been to determine the ground conditions, to assess the extent of any contamination and to provide information to assist with the design of suitable foundations for the proposed building. A desk study has previously been carried out by GEA and is referred to in this report as appropriate.

### GROUND CONDITIONS

The investigation has broadly confirmed the expected ground conditions in that, below a significant thickness of made ground, Hackney Gravel overlies the London Clay Formation. The made ground comprised either dark grey silty sandy gravelly clay with brick fragments, reddish brown cobbly gravel of brick and pockets of brown and grey clay, or brownish grey silty sandy gravelly clay with fragments of brick, ash and concrete and extended to depths of between 4.20 m and 4.50 m. The Hackney Gravel typically comprised medium dense orange-brown slightly clayey and silty gravelly sand and extended to a depth of 5.20 m. The London Clay initially comprised soft becoming firm brown silty sandy clay and extended to a depth of 5.60 m whereupon firm becoming very stiff brownish grey silty slightly sandy fissured clay was encountered and extended to a depth of 12.25 m. Very stiff brownish grey sandy fissured clay with partings of grey fine sand was then encountered and extended to the maximum depth investigated, of 15.00 m.

Seepages of groundwater were encountered at the base of the made ground and in the Hackney Gravel, at depths of between 4.50 m and 4.80 m.

Contamination testing has not indicated elevated concentrations of contaminants in the samples of made ground tested.

### RECOMMENDATIONS

Due to the significant thickness of made ground, piled foundations will prove the most practical and economical foundation solution for the expected light loads. Consideration will, however, need to be given the presence of obstructions such as walls, floor slabs or foundations.

There should not be a requirement for remediation with regard to soil contamination.

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## Part 1: INVESTIGATION REPORT

This section of the report details the objectives of the investigation, the work that has been carried out to meet these objectives and the results of the investigation. Interpretation of the findings is presented in Part 2.

### 1.0 INTRODUCTION

Geotechnical and Environmental Associates (GEA) has been commissioned by Carter Clack, on behalf The Phoenix Garden, to carry out a ground investigation at The Phoenix Garden, Stacey Street, London, WC2H 8DG.

A desk study has previously been carried out by GEA (report ref J11076, dated 19 May 2011) and is referred to in this report as appropriate.

#### 1.1 Proposed Development

Consideration is being given to the demolition of the existing building on the site and subsequent construction of a new two-storey building with community space and warden facilities.

This report is specific to the proposed development and the advice herein should be reviewed if the development proposals are amended.

#### 1.2 Purpose of Work

The principal technical objectives of the work carried out were as follows:

- to review the history of the site;
- to determine the ground conditions and their engineering properties;
- to provide advice with respect to the design of suitable foundations;
- to provide an indication of the degree of soil contamination present; and
- to assess the risk that any such contamination may pose to the proposed development, its users or the wider environment.

#### 1.3 Scope of Work

In order to meet the above objectives, a review of our previous desk study was followed by an intrusive ground investigation which comprised, in summary, the following activities:

- a single borehole drilled by cable percussion techniques to a maximum depth of 15.00 m;
- two window sampler boreholes advanced to a maximum depth of 5.00 m;
- installation of a standpipe for subsequent gas and groundwater monitoring;
- two trial pits, manually excavated in order to investigate the configuration of existing foundations;

- laboratory testing of selected soil samples for geotechnical purposes and for the presence of contamination; and
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

This report includes a contaminated land assessment which has been undertaken in accordance with the methodology presented in Contaminated Land Report (CLR) 11<sup>1</sup> and involves identifying, making decisions on, and taking appropriate action to deal with, land contamination in a way that is consistent with government policies and legislation within the United Kingdom. The risk assessment is thus divided into three stages comprising Preliminary Risk Assessment, Generic Quantitative Risk Assessment, and Site-Specific Risk Assessment.

#### 1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the investigation. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled and the number of soil, gas or groundwater samples tested; no liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by GEA.

### 2.0 THE SITE

#### 2.1 Site Description

The Phoenix Garden is located approximately 300 m southeast of Tottenham Court Road London Underground station and 700 m northwest of Covent Garden London Underground station. It is bordered to the west by Stacey Street, to the south by New Compton Street, to the east by St Giles Passage and a raised playground, and to the north by Stacey Street and a three-storey building. The site may be additionally located by National Grid Reference 529950, 181184.

The site comprises an essentially level, and irregularly shaped area, with approximate dimensions of 70 m north-south by 25 m east-west. Access is gained to the site via a gate along St Giles Passage and the boundaries are mainly formed by a 0.5 m high brick wall with metal railings above.

The site is occupied by a garden comprising a soft landscaped area, with a single-storey building in the southwestern corner which is mainly used for storage. It is very well kept, with small isolated grass areas with numerous deciduous and coniferous trees up to 20 m in height separated by numerous paths. There are also a number of ponds in the garden, the largest of which occupies the northeastern corner of the site.

The investigation concentrated around the single storey building in the southwestern corner of the site and adjacent roofed storage lockups.

<sup>1</sup> Model Procedures for the Management of Land Contamination issued jointly by the Environment Agency and the Department for Environment, Food and Rural Affairs (DEFRA) Sept 2004



## 2.2 Previous Desk Study Findings

### 2.2.1 Site History

The previous desk study indicated that, at the time of Greenwood's Map of London, dated 1827, the site and surrounding area were developed with numerous houses fronting onto Stacey Street, New Compton Street and what is now St Giles Passage. The earliest Ordnance Survey (OS) map, dated 1875, indicated a similar situation although a public house is shown in the southeastern corner of the site which, by 1896 had been replaced by houses. The 1947 aerial photograph of the site shows the majority of the terraced houses in the centre of the site to have been destroyed or demolished, and the 1951 map also showed the houses to be absent. Second World War bomb damage maps indicate Stacey Street to have been largely destroyed by bombing, with the total destruction of one house and approximately eight buildings to have been damaged beyond repair.

The 1953 map shows a building in the north of the site and the 1961 map shows the western portion of the site to be in use as a car park which was extended over the southern portion of the site at some time between 1974 and 1984. The building in the north of the site was demolished between 1991 and 1993. The existing garden and small building in the southwestern corner of the site was built by 1993 and the maps showed no significant change to have occurred to the site to the present day.

### 2.2.2 Other Information

The desk study indicated that there is a single historical landfill site within 1 km of the site, approximately 760 m east of the site, but records do not provide any closure date or information on received waste. There are no licensed waste management facilities, transfer stations, treatment or disposal sites within 500 m of the site. There are no reported pollution incidents to controlled waters within 500 m of the site.

## 2.3 Preliminary Risk Assessment

Part IIA of the Environmental Protection Act 1990, which was inserted into that Act by Section 57 of the Environment Act 1995, provides the main regulatory regime for the identification and remediation of contaminated land. The determination of contaminated sites is based on a "suitable for use" approach which involves managing the risks posed by contaminated land by making risk-based decisions. This risk assessment is carried out on the basis of a source-pathway-receptor approach.

### 2.3.1 Source

The historical usage of the site that has been established by the desk study indicates that the site was occupied by houses for the majority of its developed history until they were destroyed or demolished following World War II. Subsequently it has been used as a car park and garden. No specific sources of contamination have therefore been identified, but there is likely to be a covering of made ground associated with the demolition of the houses previously on the site.

There are no landfills within 500 m of the site and there is thus not considered to be a risk of landfill gas.

### 2.3.2 Receptors

The use of the site for a commercial end use will limit the exposure to the soil and thus represents a relatively low sensitivity end-use. Buried services are likely to come into contact with any contaminants present within the soils through which they pass and site workers are

likely to come into contact with any contaminants present in the soils during construction works. Being underlain by a Secondary 'A' Aquifer, groundwater is considered as a moderate sensitive receptor.

### 2.3.3 Pathway

The proposed building will limit the exposure of the soil to end users however in areas of soft landscaping there will be pathways to site users, as is the existing situation. The Hackney Gravel will provide a potential pathway for contaminants to migrate off site. There will be a pathway for any soil gas to enter the building if no membrane is installed.

### 2.3.4 Preliminary Risk Appraisal

On the basis of the above it is considered that there is a low risk of there being a significant contaminant linkage at this site which would result in a requirement for any remediation work. Consideration will need to be given to the presence of ground gas from the made ground.

## 3.0 EXPLORATORY WORK

In order to meet the objectives described in Section 1.2 as far as was possible within the access constraints, a dismantlable cable percussion rig was used to advance a borehole to a depth of 15.00 m in front of the existing building in the southwestern corner of the site. In addition, two boreholes were drilled to a maximum depth of 5.0 m using window sampling equipment.

Two trial pits were manually excavated adjacent to existing elevations and nearby storage sheds in order to determine the configuration and bearing stratum of existing foundations.

Standard Penetration Test (SPTs) were carried out in the cable percussion borehole at regular intervals and undisturbed and disturbed samples were recovered for subsequent laboratory examination and testing. All of the field work was supervised by a geotechnical engineer from GEA.

A standpipe was installed in Borehole No 1 to a depth of 6.00 m to facilitate future groundwater and gas monitoring; the results of which will be reported in an addendum.

A selection of the samples recovered from the boreholes and trial pits was submitted to a soil mechanics laboratory for a programme of geotechnical testing and an analytical laboratory for a programme of contamination testing.

The borehole and trial pit records, and results of the laboratory analyses are appended together with a site plan indicating the exploratory positions.

## 3.1 Sampling Strategy

The borehole and trial pit positions were specified by Carter Clack and positioned on site by GEA, avoiding the areas of known services.

Two samples recovered from the made ground were subjected to analysis for a range of common industrial contaminants and contamination indicative parameters. For this investigation the analytical suite for the soil included a range of metals, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), total cyanide and monohydric phenols.



The soil samples were selected to provide a general view of the chemical conditions of the soils that are likely to be involved in a human exposure or groundwater pathway and to provide advice in respect of re-use or for waste disposal classification. The contamination analyses were carried out at an MCERTs accredited laboratory with the majority of the testing suite accredited to MCERTS standards. Details of the MCERTs accreditation and test methods are included in the Appendix together with the analytical results.

#### 4.0 GROUND CONDITIONS

The investigation has confirmed the expected ground conditions in that, below a significant thickness of made ground, Hackney Gravel was found to overlie the London Clay Formation.

##### 4.1 Made Ground

The made ground was found to comprise either dark grey silty sandy gravelly clay with brick fragments, reddish brown cobbly gravel of brick and pockets of brown and grey clay, or brownish grey silty sandy gravelly clay with fragments of brick, ash and concrete and extended to depths of between 4.20 m and 4.50 m. Borehole No 2 encountered a 0.10 m thick layer of concrete at a depth of 2.50 m.

No visual or olfactory evidence of contamination was observed within these soils, although extraneous material such as fragments of brick, ash and concrete present and no sources of contamination were noted during the site walkover. As a precautionary measure, two samples of made ground were scheduled for chemical testing and the results are discussed in Section 4.5.

##### 4.2 Hackney Gravel

The Hackney Gravel generally comprised medium dense orange-brown fine to coarse sunangular to subrounded gravelly sand, which was occasionally clayey and silty and extended to a depth of 5.20 m in Borehole No 1. The base of the gravel was not proved in Borehole Nos 2 and 3.

These soils were observed to be free of any visual or olfactory evidence of contamination.

##### 4.3 London Clay Formation

The London Clay initially comprised a weathered zone of soft becoming firm brown slightly silty slightly sandy clay which extended to a depth of 5.60 m. This weathered zone was underlain by firm becoming very stiff brownish grey silty slightly sandy fissured clay with rare shell fragments and occasional selenite crystals which extended to a depth of 12.25 m. Very stiff brownish grey sandy fissured clay with partings of grey fine sand and occasional selenite crystals was then encountered and extended to the maximum depth of the investigation, of 15.00 m.

The results of laboratory undrained triaxial compression tests indicate the clay to initially be of medium strength, becoming very high strength with depth.

Index property tests have indicated the clay to be of high shrinkability.

#### 4.4 Groundwater

Groundwater inflows were encountered from within the base of the made ground and Hackney Gravel at depths of between 4.50 m and 4.80 m.

#### 4.5 Soil Contamination

The table below sets out the values measured within two samples of made ground that have been analysed for contaminant concentrations; all concentrations are in mg/kg unless otherwise stated.

Determinant	BH1 – 0.50 m	TP8 – 0.50 m
pH*	8.5	8.1
Arsenic	19	13
Cadmium	0.23	0.16
Chromium	39	13
Copper	9.6	5.9
Mercury	<0.1	<0.1
Nickel	36	14
Lead	28	21
Selenium	0.29	<0.2
Zinc	84	60
Total Cyanide	<0.5	<0.5
Total Phenols	<0.3	<0.3
Sulphide	1.5	3.4
Total PAH	<2.0	26
Benzo(a)pyrene	<0.1	1.6
Naphthalene	<0.1	0.49
TPH	<10	30
Total Organic Carbon %	0.50	4.1

Notes: Figure in **bold** indicates concentration in excess of risk-based soil guideline values, as discussed in Part 2 of this report.  
\*pH units

##### 4.5.1 Generic Quantitative Risk Assessment

The use of a risk-based approach has been adopted to provide an initial screening of the test results to assess the need for subsequent site-specific risk assessments. To this end the table below indicates those contaminants of concern that have values in excess of a generic human health risk based guideline value, which is either that of the CLEA<sup>2</sup> Soil Guideline Value where available, or is a Generic Screening Value calculated using the CLEA UK Version 1.06 software” and “DEFRA Category 4 Screening values assuming a commercial end use. The key generic assumptions for this end use are as follows:

2 Updated Technical Background to the CLEA Model (Science Report SC050021/SR3) Jan 2009 and Soil Guideline Value reports for specific contaminants; all DEFRA and Environment Agency.

- that groundwater will not be a critical risk receptor;
- that the critical receptor for human health will be working female adults aged 16 to 65 years old;
- that young children will not have prolonged exposure to the site;
- that the exposure duration will be a working lifetime of 49 years;
- that the critical exposure pathways will be direct soil and indoor dust ingestion, skin contact with soils and dust, and inhalation of dust and vapours; and
- that the building type equates to a three storey office.

It is considered that these assumptions are acceptable for this generic assessment of this site. The tables of generic risk based screening values derived by GEA and an explanation of how each value has been derived are included in the Appendix.

Where contaminant concentrations are measured at concentrations below the generic screening value it is considered that they pose an acceptable level of risk and thus further consideration of these contaminant concentrations is not required. However, where concentrations are measured in excess of these generic screening values there is considered to be a potential that they could pose an unacceptable risk and thus further action will be required which could include;

- additional testing to zone the extent of the contaminated material and thus reduce the uncertainty with regard to its potential risk;
- site specific risk assessment to refine the assessment criteria and allow an assessment to be made as to whether the concentration present would pose an unacceptable risk at this site; or
- soil remediation or risk management to mitigate the risk posed by the contaminant to a degree that it poses an acceptable risk.

A comparison of the measured concentrations of contaminants and the generic risk based guideline values has indicated no elevated concentrations of contaminants. The significance of these results is considered further in Part 2 of the report.

#### 4.6 Existing Foundations

Trial Pit No 1 was excavated adjacent to a roofed storage unit which indicated the breeze block walls to be supported on an irregular shaped concrete foundation bearing on made ground at a depth of 420 mm. Trial Pit No 2 was excavated against a similar storage unit which indicated the wall to be supported by the concrete floor slab which was bearing on made ground at a depth of 270 mm.

## Part 2: DESIGN BASIS REPORT

This section of the report provides an interpretation of the findings detailed in Part 1, in the form of a ground model, and then provides advice and recommendations with respect to foundation options and contamination issues.

### 5.0 INTRODUCTION

Consideration is being given to the demolition of the existing building on the site and subsequent construction of a new two-storey building.

Proposed loads have not been provided but are expected to be light to moderate.

### 6.0 GROUND MODEL

The desk study has revealed that the site was first occupied by houses, which were destroyed or demolished following WWII. The site has subsequently been occupied by a car park and a garden. On the basis of the fieldwork, the ground conditions can be characterised as follows.

- A significant thickness of made ground is underlain by the Hackney Gravel, which overlies the London Clay Formation;
- the made ground is of variable composition, and comprises either dark grey silty sandy gravelly clay with brick fragments, reddish brown cobbly gravel of brick and pockets of brown and grey clay, or brownish grey silty sandy gravelly clay with fragments of brick, ash and concrete which extends to depths of between 4.20 m and 4.50 m;
- the Hackney Gravel comprises medium dense orange-brown slightly clayey and silty gravelly sand and extends to a depth of 5.20 m;
- the London Clay initially comprises soft becoming firm brown silty sandy clay which extends to a depth of 5.60 m, whereupon firm becoming very stiff brownish grey silty slightly sandy fissured clay was encountered and extends to a depth of 12.25 m. Very stiff brownish grey sandy fissured clay with partings of grey fine sand was then encountered and extends to the maximum depth investigated, of 15.00 m;
- groundwater was encountered at the base of the made ground and in the Hackney Gravel, at depths of between 4.50 m and 4.8 m; and
- contamination testing has not indicated any elevated concentrations of contaminants in samples of made ground tested.



## 7.0 ADVICE AND RECOMMENDATIONS

In view of the significant thickness of made ground, piles are likely to be the most practical and economical foundation solution for supporting the proposed building.

Consideration will need to be given to the possible presence of obstructions at shallow depths, such as old walls, floor slab, foundations and other obstructions.

### 7.1 Piled Foundations

For the ground conditions at this site, driven or bored piles could be adopted. Driven piles would have the advantage of minimising the spoil that is generated, but consideration would need to be given to the effects of noise and vibrations on neighbouring sites and may therefore prove impractical. Some form of bored pile is therefore likely to be the most appropriate type and to avoid the requirement for casing, bored piles installed using continuous flight auger (cfa) techniques may be the most suitable.

The following table of ultimate coefficients may be used for the preliminary design of bored piles, for retaining walls and for any structural loads, based on the measured SPT and cohesion / depth graph in the appendix.

<i>Ultimate Skin Friction</i>		<i>kN/m<sup>2</sup></i>
Made ground	GL to 4.5 m	Ignore
Hackney Gravel	4.5 m to 5.2 m	30
London Clay ( $\alpha = 0.5$ )	5.2 m to 15.0 m	Increasing linearly from 30 to 80
<i>Ultimate End Bearing</i>		<i>kN/m<sup>2</sup></i>
London Clay	10.0 m to 15.0 m	Increasing linearly from 950 to 1400

In the absence of pile tests, guidance from the London District Surveyors Association<sup>3</sup> (LDSA) suggests that a factor of safety (FOS) of 2.6 should be applied to the above coefficients in the computation of safe theoretical working loads. On the basis of the above coefficients, ignoring about 4.5 m of made ground and applying a factor of safety of 2.6, it has been estimated that a 450 mm diameter pile extending to a depth of 10 m should provide a safe working load of about 170 kN. Alternatively, a similar diameter pile extending to a depth of 15 m should provide safe working load of approximately 365 kN.

The above examples are not intended to constitute any form of recommendation with regard to pile size or type, but merely serve to illustrate the use of the above coefficients. Specialist piling contractors should be consulted with regard to the design of an appropriate piling scheme, and their attention should be drawn to the presence of groundwater within the Hackney Gravel, the presence of sandy partings in the London Clay and the potential for obstructions in the made ground such as old walls, floor slabs and foundations.

<sup>3</sup> LDSA (2009) *Foundations No 1 – Guidance notes for the design of straight shafted bored piles in London Clay*. LDSA Publications

## 7.2 Ground Floor Slab

Given the depth of the made ground encountered at the site, it is considered that floor slabs will need to be suspended.

## 7.3 Effect of Sulphates

Chemical analyses have revealed moderate concentrations of soluble sulphate and near-neutral pH in accordance with Class DS-3 conditions of Table C2 of BRE Special Digest 1:SD Third Edition (2005). The measured pH values of the samples show that an ACES class of AC-3 would be appropriate for the site. This assumes a mobile water condition at the site.

The guidelines contained in the above digest should be followed in the design of foundation concrete.

## 7.4 Contamination Risk Assessment

The desk study has indicated that the site was first occupied by houses, which were destroyed or demolished following WWII. The site has subsequently been occupied by a car park and a garden.

The contamination testing has not indicated any elevated concentrations of contaminants when compared to a commercial end use. No remedial measures are therefore considered necessary with regard to soil contamination.

However, as with any previously developed site, there may be areas of contamination not encountered by the investigation and it would be prudent to maintain a watching brief during groundworks.

## 7.5 Waste Disposal

Any spoil arising from excavations or landscaping works, which is not to be re-used in accordance with the CL:AIRE guidance<sup>4</sup>, will need to be disposed of to a licensed tip. Under the European Waste Directive, waste is classified as being either Hazardous or Non-Hazardous and landfills receiving waste are classified as accepting hazardous or non-hazardous wastes or the non-hazardous sub-category of inert waste in accordance with the Waste Directive. Waste going to landfill is subject to landfill tax at either the standard rate of £64 per tonne (about £120 per m<sup>3</sup>) or at the lower rate of £2.50 per tonne (roughly £5 per m<sup>3</sup>). However, the classifications for tax purposes and disposal purposes differ and currently all made ground and topsoil is taxable at the 'standard' rate and only naturally occurring rocks and soils, which are accurately described as such in terms of the 2011 Order<sup>5</sup>, would qualify for the 'lower rate' of landfill tax.

Based upon on the technical guidance provided by the Environment Agency<sup>6</sup> it is considered likely that the made ground from this site, as represented by the two chemical analyses carried out, would be classified as NON-HAZARDOUS waste under the waste code 17 05 04 (soils and stones not containing dangerous substances) and would be taxable at the standard rate. It is likely that the natural soils, if separated out, could be classified as an INERT waste also under the waste code 17 05 04. This material would be taxable at the lower rate, if accurately

<sup>4</sup> CL:AIRE (2011) *The Definition of Waste: Development Industry Code of Practice* Version 2, March 2011

<sup>5</sup> *Landfill Tax (Qualifying Material) Order 2011*

<sup>6</sup> Environment Agency (2008) *Hazardous Waste: Interpretation of the definition and classification of hazardous waste. Technical Guidance WM2 Second Edition* Version 2.2, May 2008

described as naturally occurring clay in terms of the 2011 Order on the waste transfer note. As the site has never been developed or used for the storage of potentially hazardous materials, it is likely that WAC leaching tests would not be required for such inert waste going to landfill. This would however need to be confirmed by the receiving landfill site.

Under the requirements of the European Waste Directive all waste needs to be pre-treated prior to disposal. The pre-treatment process must be physical, thermal, chemical or biological, including sorting. It must change the characteristics of the waste in order to reduce its volume, hazardous nature, facilitate handling or enhance recovery. The waste producer can carry out the treatment but they will need to provide documentation to prove that this has been carried out. Alternatively, the treatment can be carried out by an approved contractor. The Environment Agency has issued a position paper<sup>7</sup> which states that in certain circumstances, segregation at source may be considered as pre-treatment and thus excavated material may not have to be treated prior to landfilling if the soils can be "segregated" on site by sufficiently characterising the soils insitu prior to excavation.

The above opinion with regard to the classification of the excavated soils and its likely landfill taxable rate is provided for guidance only and should be confirmed by the receiving landfill once the soils to be discarded have been identified.

The local waste regulation department of the Environment Agency (EA) should be contacted to obtain details of tips that are licensed to accept the soil represented by the test results. The tips will be able to provide costs for disposing of this material but may require further testing.

If consideration were to be given to the re-use of the soil as a structural fill on this or another site, in accordance with the Code of Practice for the definition of waste, it would be necessary to confirm its suitability for use, its certainty of use and to confirm that only as much material is to be used as is required for the specific purpose for which it was being used. A materials management plan could then be formulated and a tracking system put in place such that once placed the material would no longer be regarded as being a waste and thus waste management licensing and landfill tax would not apply.

## 8.0 OUTSTANDING RISKS AND ISSUES

This section of the report aims to highlight areas where further work is required as a result of limitations on the scope of this investigation, or where issues have been identified by this investigation that warrant further consideration. The scope of risks and issues discussed in this section is by no means exhaustive, but covers the main areas where additional work is considered to be required.

The ground is a heterogeneous natural material and variations will inevitably arise between the locations at which it is investigated. This report provides an assessment of the ground conditions based on the discrete points at which the ground was sampled. The ground conditions should be subject to review as the work proceeds to ensure that any variations from the Ground Model that are revealed are properly assessed by a suitably qualified person.

The investigation has not encountered any significant contamination and on this basis, is not considered that any remedial measures to protect sensitive receptors are necessary. However, as with any site there is a potential for areas of contamination to be present within the made

<sup>7</sup> Regulatory Position Statement (2007) *Treating non-hazardous waste for landfill - Enforcing the new requirement* Environment Agency 23 Oct 2007

ground beneath parts of the site not covered by the investigation. If any suspicious soils are encountered during the works they should be inspected by a geoenvironmental engineer and further assessment may be required.

Gas and groundwater monitoring is currently ongoing and the results will be issued as an addendum to this report.

The piling contractors should be made aware of the potential of encountering obstructions in the made ground, such as old walls, floor slabs, foundations or other objects, and pre-probing of pile positions may be required.



**Pendrell House Residents Association  
New Compton Street WC2H 8DF**

The Phoenix Garden  
21 Stacey Street  
London, WC2H 8DG

6<sup>th</sup> November 2014

Dear Chris Raeburn,

**Re: Phoenix Garden building planning application**

I am writing to reaffirm the support here at Pendrell House for the new Phoenix Garden building.

Attached is the letter of support signed by residents from Pendrell House when you were previously fundraising to secure monies from the Section 106 Community Safety Fund.

Pendrell House was built by Soho Housing Association in partnership with Camden Council 19 years ago. Throughout the years, Phoenix Garden has been the glue that holds a community together. Our support for your building project is unchanged and residents very much want to see this realised.

St Giles has certainly improved over the years, however, its locality does mean residents and visitors have to endure extreme levels of anti-social behaviour in and around New Compton Street, particularly at the back of the Odeon Covent Garden cinema, as detailed in the letter previously sent.

In the past 19 years residents have seen Camden Council approve many business developments in and around St Giles, which we have welcomed and supported, as it has made our area more desirable, cleaner and safer to some degree.

However, Phoenix Garden has not been in a position to upgrade at the same rate. Residents would like to see a new purpose built structure at Phoenix Garden with facilities that bring both residents and the business community together to create better community cohesion.

As we have stated previously, your present building on site is not fit for any community purpose other than for storing tools and garden furniture. It is in a woeful state and has been for some time now. It continues to lack amenities. It urgently requires replacing with a modern, multi-purpose space that would allow the Phoenix Garden to carry on its good work, not just in St. Giles, but

also with the neighbouring community and business in and around Soho, Covent Garden and Bloomsbury.

Your plans to host educational visits from local schools, youth groups and offer facilities to accommodate community resident groups from further afield, is exactly what the residents want to see the space utilised for. But clearly this is not possible with the present building.

Therefore I am writing to say that residents continue to fully support the new building planning application.

Please feel free to contact me if you wish to discuss our support further.

Yours sincerely,



**Martin Bull  
Chair  
Pendrell House Residents Association  
07990 978234**



## Bury Place Residents Association: Phoenix Garden building support

Hello Chris.

I hope you are successful and obtain planning permission for your multi-purpose garden building.

The Phoenix Garden is unique because it was the last of six built in Covent Garden by the Open Spaces Committee.

On three of these and because the GLC had ownership or control of the land, houses were built - Odhams, Goldsmith's Building (Stukely St.) and the small block at the end of Neal St.-near Cambridge Circus.

The Phoenix was owned by Camden and had been used as a car-park and when it obtained control of the site, it intended to use it for housing.

We had a long battle with the Council because my experience of councillors is they have tunnel-vision as soon as housing is brought onto the agenda.

We, could, however, point to our activities in obtaining housing- particularly Odhams which was obtained with members of our group leading the campaign which eventually persuaded the site owners to give a 99year lease at £1 per year to the GLC for it to build 120 flats on the site.

To this we added the purpose of the Open Spaces Comm- to turn neighbourhoods into Garden Neighbourhoods-reflecting the Garden City Idea which some of us were committed to, and you couldn't realise this purpose without a proportionate approach to civic design.

Camden agreed-gave us a lease and continued financial support.

I hope you are successful and obtain planning permission and, if so, retain a portion to tell of the self- activities' groups which sprung around that

time - building gardens etc. Camden was particularly strong in this respect- ones which immediately come to mind is Calthorpe on Grays Inn Road, one in Somers Town and the Natural Garden on the Northern fringe of Kings Cross. Therefore, having a place for this period in your programme, should help your students and visitors to do likewise.

with regards,

Alan.

The Sandringham Flat's Residents Association  
C/O, 20, Sandringham Flats  
Charing Cross Road  
London  
WC2H 0BJ

9<sup>th</sup> November 2014

The Phoenix Garden Garden Building.

Dear Chris,

The Sandringham Flats Residents Association, and residents, wholeheartedly support the building of a new specifically designed multi-purpose Phoenix Garden building.

Sandringham residents over the years, have enjoyed the Phoenix Garden. Having a new space provided to host community events, an education/meeting room, and providing essential facilities – such as hot and cold running water, toilets, and full disabled access, can only benefit our elderly and disabled residents.

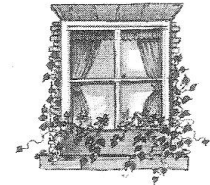
The local community has seen The Phoenix Garden go from strength to strength over recent years, whilst being constrained by the lack of facilities. Without the help and support from the Phoenix Garden, we at Sandringham wouldn't have achieved such great success, with the greening of our three roof terrace area in the summer of 2011.

We also understand and appreciate, that a new building will allow you to further develop your programme of community and garden events, which is key for the future development strategy of the charity. This would be of great benefit for Sandringham, as this will encourage vulnerable residents to take part, that perhaps previously wouldn't have had the confidence to do so, due to lack of facilities.

Kind Regards,

Peter Hawker  
Chairman

COVENT GARDEN HOUSING COOPERATIVE LTD.



2<sup>nd</sup> March 2012

The Phoenix Garden  
21 Stacey Street,  
London WC2H 8DG

Dear Chris:

I am writing on behalf of our 76 Co-op members (all local residents) in support of the design for your new garden building. As you know, we have attended several community meetings where the plans were presented and discussed and there has always been widespread support and admiration for the design and certainly recognition of the need for a purpose-built structure, with dedicated educational space.

It is surprising the old building hasn't been condemned even though 'civilians' are not encouraged through the door. It is useful as a storage area, but your plans for an amenity building that could host school groups, workshops, a seedling and plant nursery with office space, toilets and water are most welcome. We were lucky last spring when you held the planting workshops that the weather was fine enough for us to sit outside. We could not have done it in the rain.

Having a meeting place for projects as well as your own internal governance will make it much easier for you to provide professional support to the community, store and access plans and even have a computer available for Phoenix Garden without fear of damp.

But most exciting will be your opportunity to work with schools and youth groups. Our children have little ownership of open space and it will be wonderful to have dedicated educational space with toilets available so they can have planned projects.

Phoenix Garden has provided services to our Co-op from advice on window boxes and help on replanting damaged patios, to our current project, greening Shelton Street. If we can help in any way to further support the building, please let me know.

Yours sincerely,



Jessica Skippon

1/47 Shelton Street London WC2H 9HJ tel: 020 7240 8777  
Jessica Skippon, Chair Rhu Weir, Treasurer  
VAT no. 656 6142 25 registered no. 27924R





To whom it may concern

### Planning Application at the Phoenix Garden

I am writing to support an application to create a new, improved multi-purpose garden building in the Phoenix Garden to replace the current shed there, which is now rather dilapidated.

We believe that the Phoenix Garden is a vital local resource to help strengthen the local community. We have residents living on both sides of the garden, in Pendrell House on New Compton Street, and also in Phoenix Street and Stacey Street on the other side. Many of our residents get involved with projects in the garden, and many more of our residents and other local residents use the gardens throughout the year. We have been very happy to support The Phoenix Garden Agricultural Show and St Giles Fayre on several occasions including the latest event in September 2014, all of which have been very successful and well attended.

Green spaces are hugely valued by residents in the built-up environment of central London and Phoenix Garden, in particular, has a quality and style which are quite different from other local green spaces. I therefore support the application for a new garden building.

If you have any queries, please do not hesitate to get in touch with me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Jowett'.

Mark Jowett  
Executive Assistant  
[mark@sohoha.org.uk](mailto:mark@sohoha.org.uk)  
020 7557 7404



17 Stukeley Street  
London WC2B 5LT  
Tel: 020 7404 7274  
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[www.dragonhall.org.uk](http://www.dragonhall.org.uk)

[info@dragonhall.org.uk](mailto:info@dragonhall.org.uk)

1<sup>st</sup> March 2012

Dear Chris,

I am writing to you in support of your planning application to replace the existing garden shed in the Phoenix Garden with a multi-purpose garden building.

Dragon Hall and Covent Garden Community Centre provide services and activities to a wide range of local people, the majority of whom have no outside living space and are often in overcrowded situations at home. We have found the Phoenix Garden an important part of our service delivery as it does give us the ability to programme outdoor and environmental activities. However this use has been very limited as there are no facilities or running water available.

With a new building on the site we would be able to consolidate our partnership activities with the Phoenix Garden, enable joint fund-raising bids to be made and further develop our educational, environmental and outdoor programming for our under 5s group, our two after school clubs and three youth clubs. We would also look to establish specific environmental projects after consultation with our various groups. Our senior group – the Livewires – have already expressed interest in forming a gardening group.

At present Dragon Hall supports the Phoenix Garden in the administration of commercial bookings in the garden itself. Our experienced team market, process and facilitate the generation of this important commercial income to support the charity. We would be happy to extend this process to include the commercial aspects of the new building. I have no doubt that it would be possible to generate a healthy income from this.

Best

Nicky Furre  
Director  
Dragon Hall Trust & Covent Garden Community Centre  
020 7404 7274  
07564 250 877  
[director@dragonhall.org.uk](mailto:director@dragonhall.org.uk)  
[www.dragonhall.org.uk](http://www.dragonhall.org.uk)  
[www.sevendialsclub.com](http://www.sevendialsclub.com)



St James' Residences, 23 Brewer Street, W1F 0RN

0207 439 1578

To whom it may concern

**Re: Phoenix Garden**

My name is Ian Marshall, I am Executive Director of the Soho Family Centre and lead for the West End Children's Centre.

The Centre provides childcare and integrated support services for families which live and work in Soho and the West End. We work with groups of up to fifteen under 2's and twenty 3 to 5 year olds at any one time, both separately and together.

The Centre frequently visits the Phoenix Garden with groups of children in order to take advantage of the opportunities it provides for safe, open air play and learning. You will understand that in a very busy built up area like Soho access to such spaces is at a premium and, whilst we do have a small and much valued 'outdoor' playground within the nursery area, the facility is actually in a fully enclosed basement and cannot properly substitute for a real open space.

Because the garden is such an asset for us and for many other members of the community, I am writing this letter in support of the garden's application for planning permission to build a multi-purpose garden building to replace the current building.

I have no doubt that the planned development will serve to enhance both the look and utility of the garden and will certainly make it more attractive to our very young users as well as many others in the community.

I hope this letter will help to secure the garden the permission it seeks and would want to wish both it and the project well.

Yours faithfully

Ian Marshall  
Executive Director.