The Edinboro Castle
57 Mornington Terrace
London
NW1 7RU

Supplementary Quantitative Ground Contamination Risk Assessment Report

Report Beneficiary:
Mitchells & Butlers plc
27 Fleet Street
Birmingham
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Project Reference: P16683

Report Reference: R16267

Document Control			
Issue No.	**Status**	**Issue Date**	**Notes**
1	Final	15th July 2024	

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FIGURES AND APPENDICES

1. INTRODUCTION

It is proposed to construct a new piled raft foundation to address ongoing ground movement within the outdoor seating area of The Edinboro Castle public house, located at 57 Morning Terrace, London. A copy of the proposed development layout is presented in Appendix A.

Ashdown Site Investigation Ltd. has prepared a ground contamination risk assessment[1] to support a planning application for the site.

The investigation encountered made ground, samples of which were tested a range of contaminants, as identified by the preliminary conceptual model. The concentrations of heavy metals, polycyclic aromatic hydrocarbon (PAH) compounds and petroleum hydrocarbons were all recorded to be less that published soil screening values (SSV). However, one of the samples of made ground screened recorded the presence of chrysotile asbestos fibres.

The report concluded that the presence of asbestos fibres within the made ground may pose an unacceptable risk to future end users of the site but that, as it was proposed to cover the majority of the site in hardstanding, the level of risk posed was considered to be "low". The report highlighted that consideration could be given to carrying out additional testing for asbestos within the limited areas of planting around the site boundary and existing trees, to determine whether asbestos materials are present within these areas. The quantitative conceptual model is included as Appendix B.

Ashdown Site Investigation Ltd. was subsequently commissioned to undertake further sampling of the soils in these areas. The scope of the works covered by this report, and the terms and conditions under which they were undertaken, were set out within the offer letter Q14228, dated 18th June 2024. The instruction to proceed was received on behalf of the client, Mitchells and Butlers plc.

[1] Project Ref: P16614, Report Ref: R16213, dated 11th June 2024.

2. SITE DESCRIPTION

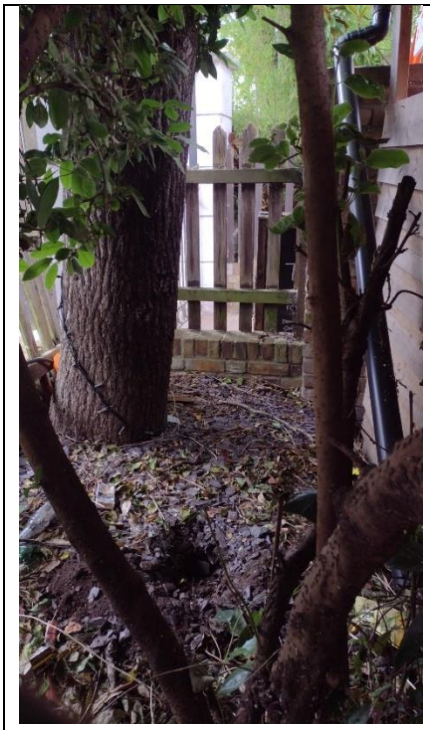
The site is located at Mornington Terrace, London, NW1 7RU and is centred on the approximate Ordnance Survey national grid reference 528746, 183552. A site location plan and site plan are presented as Figure 1 and Figure 2, respectively.

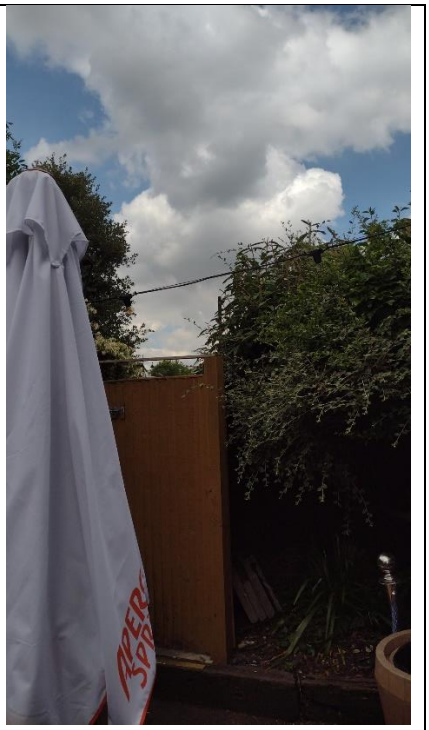
The site comprises the part paved and part asphalt surfaced pub garden, located to the north of The Edinboro Castle public house.

The garden is filled with a mixture of outdoor pub furniture, including seating/benches, picnic and high-top tables and covered wooden seating booths. The garden also features a wooden terrace coming off the pub building itself, with sheltered seating below and a small bar. A number of trees are located within the pub garden area.

A deep railway cutting is present along the western boundary of the pub garden, which is approximately 8m deep; Mornington Terrace is located to the east and Delancy Street to the north.

The focus of this investigation is the boundary with Morning Terrace. The area contains several mature trees and is mainly covered with slate chips, with shrubs growing through the slate chips in a number of locations. The area is generally slightly built up. Photographs of the area are shown below:





3. SUPPLEMENTARY CONTAMINATION ASSESSMENT

3.1 Site Works

The supplementary intrusive site works comprised a series of hand dug trial pits to a depth of 0.15m deep to enable sampling of the underlying soils. The intrusive work was carried out on 24th June 2024. The exploratory hole locations are shown on Figure 2.

The following table summarises the intrusive works undertaken at the site and a description of the soils encountered at the trial pit location.

Table 1. Summary of Intrusive Works Undertaken

Designation	Depth (m bgl)	Description
TP101	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is slate, flint, brick and organic material.
TP102	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is flint, brick, paper and glass.
TP103	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is glass, flint, brick ash-like material and concrete.
TP104	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is brick, asphalt, chalk and plastic.
TP105	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is flint, brick and glass.
TP106	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly slightly sandy clay. Gravel is flint, brick and glass.
TP107	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is slate, flint, brick and organic material.
TP108	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is flint, brick and chalk.
TP109	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is brick, mortar and chalk.
TP110	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is flint, slate, brick, and glass.
TP111	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is flint, slate, brick, and glass.
TP112	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is flint, slate, mortar and brick.
TP113	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is slate, flint, brick mortar and ash-like material.

Designation	Depth (m bgl)	Description
TP114	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is slate, flint, brick mortar and ash-like material.
TP115	0.15	Slate chippings over, MADE GROUND Dark brown slightly gravelly clayey sand. Gravel is slate, flint, brick mortar and ash-like material.

No visual evidence of any suspected asbestos materials was observed in any of the soils from the trial pit locations. A sample from ground level to the full depth of each trial pit (GL-0.15m) was obtained in a tub and was screened for the presence of asbestos.

The laboratory testing was undertaken by a laboratory with recognised (UKAS and MCERTS) accreditation for quality control. The results from the laboratory tests are provided in Appendix C.

3.2 Asbestos Screening

None of the fifteen additional samples screened recorded the presence of any asbestos fibres.

3.3 Conclusions

During the previous phase of ground investigation, a sample of the made ground taken from beneath the existing paving slabs recorded the presence of asbestos fibres.

The proposed construction works will result in majority of the pub garden area, including the location where the asbestos was detected, is to be encapsulated below hardstanding.

Extensive testing of the shallow soils within the planter along the boundary of the site has not found any evidence of further asbestos contamination within these made ground soils. This is the only area where future end users could potentially come into contact with made ground. As such, the level of risk posed is considered to be very low/negligible and remedial measures are not considered to be warranted within the planter areas along the boundary.

The final surface design around the trees within the within the pub garden denoted as "tbc" on the development proposal must take into account the potential for asbestos to be present within the underlying made ground soils. Whilst a landscape architect should be consulted as to the final design, consideration should be given to the use of self-compacting gravel or the use of resin finishes around the trees as recommended by sections 5.10.1 of A Regulator's Guide to Cover Systems and their Verification[2], and the final design should be submitted to the Local Authority.

As long a soft finish is not provided around trees, then no remedial measures are considered to be warranted and the level of risk posed by these areas of the site would also be considered to be very low/negligible.

[2] National Contaminated Land Officers Group, 2024

4. REGULATORY APPROVAL

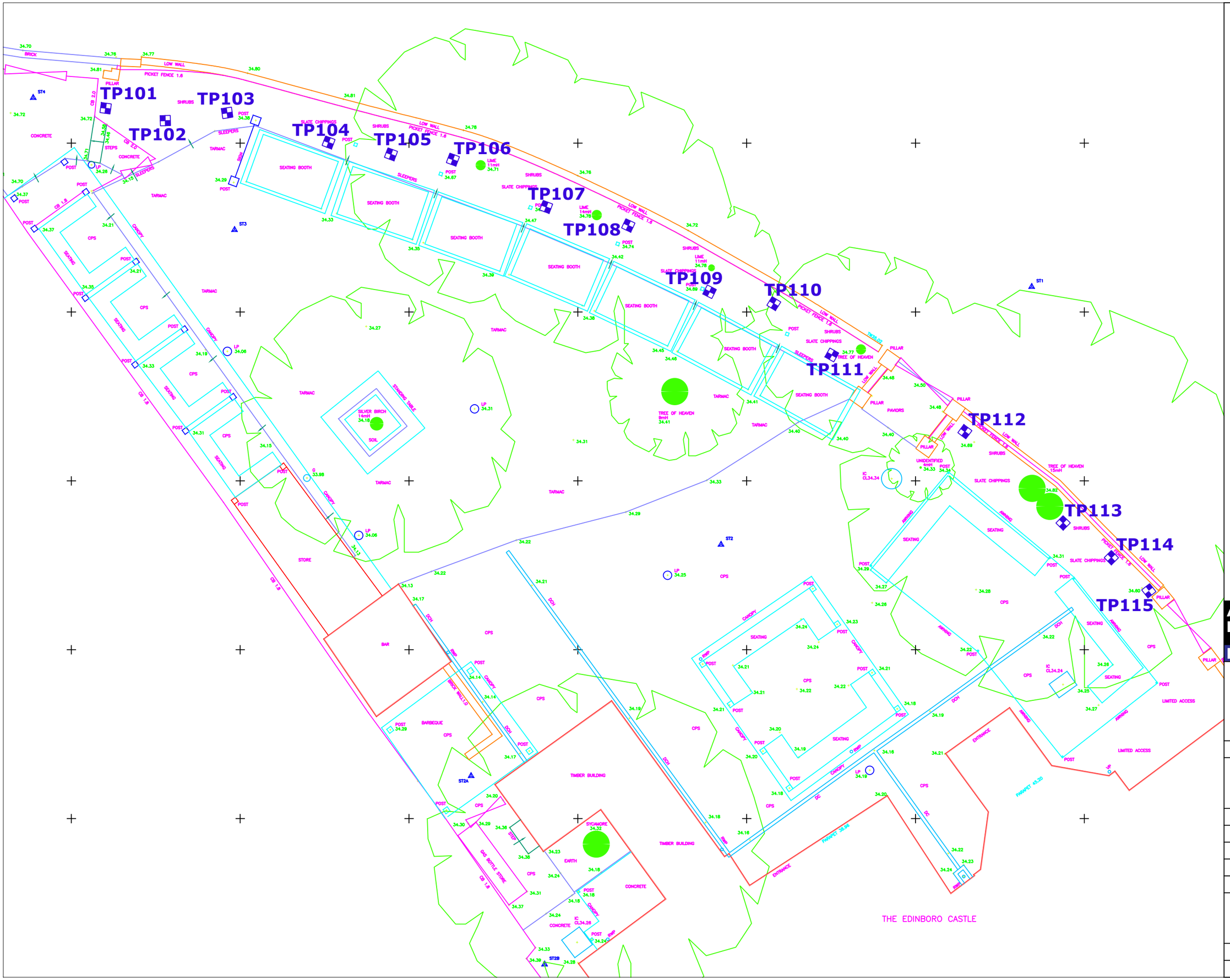
It is recommended that this report and the previous report are submitted to support the planning application for the site.

The conclusions drawn and recommendations made are considered provisional until approved by the Local Authority and any other relevant regulator and/or warrantor for the development.

Ashdown Site Investigation Ltd.

FIGURES

ASHDOWN SITE INVESTIGATION LIMITED	Site Location Plan	Site Name	Figure No.	Project Reference
		The Edinboro Castle, 57 Mornington Terrace, London	1	P16683



ASHDOWN SITE INVESTIGATION
L•I•M•I•T•E•D

Unit 3
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Site:

The Edinboro Castle
57 Mornington Terrace
London

Project Ref:

P16683

Figure No.

2

Drawing Title

Site Plan

Scale

1:100

APPENDIX A

Proposed Development Layout

900mm gap to be maintained between slab edge and retaining wall

Existing Retaining Wall to Railway

EXISTING RETAINING WALL TO RAILWAY

34.20 FFL

LADIES

PIZZA KITCHEN & STORE

BAR SERVERY & CELLAR

NEW PREP KITCHEN & WALKIN FRIDGE/ FREEZER

UPPER GARDEN

LEFT LOWER GARDEN

RIGHTLOWER GARDEN

MID-GARDEN

GARDEN ENTRANCE

+LEVEL 34.70

+LEVEL 34.20

+LEVEL 34.50

rwp

fall

34.70 FFL

edge beam at step in level

Isolation joint between building and new foundation is to be provided

Existing trees trunks as shown on plan

Retaining wall to planter

zone in which specialist tree protection measures may be required

34.50 FFL

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31 P32 P33 P34 P35 P36 P37 P38 P39 P40 P41 P42 P43 P44 P45 P46 P47

Proposed Raft Foundation
(1:50)

Scale Bar 1:50

1m 0 1m 2m 3m 4m 5m

Loading Notes

Following live loads to be used in design of the raft slab

- 5kN/m^2 Under general areas
- 10kN/m^2 under new buildings (TBC subject to final design)

Pile depth to be agreed with Network Rail

GENERAL

1. Any dimensions taken from CAD files are to be verified against figured dimensions or by BGC.
2. This drawing must be read in conjunction with all relevant Architects, Engineers, Specialist Manufacturers and Contractors drawings and Specifications.
3. Any differences arising between these documents and/or variations between drawings and site conditions are to be referred to the Architect and Engineers.
4. All work is to be carried out in accordance with Health & Safety Regulations and to the full approval of the Planning Supervisor.
5. The Contractor must check and verify all dimensions before commencing and work and report any discrepancies to the Architect and Engineers.
6. The positions of services, plant or apparatus where shown on this drawing are indicative and reference should be made to the Specialist Consultants drawings for actual details.
7. The Contractor to take all necessary precautions to establish the location of buried services and obstructions prior to commencing excavations. All proprietary materials are to be installed in accordance with the manufacturers specification and recommendations.

PLANNING AND APPROVAL

1. **The drawing may be scaled for planning purposes.**
2. All dimensions in millimeters
3. All levels in metres AOD.

CONCEPT
This scheme is concept only and is subject to design development

Tree protection measures to be agreed with arboriculturalist

FOR APPROVAL

All setting out and levels are to be to the Architects details and are shown for guidance only

Note!
The proposed raft slab is assumed to be 250mm thick generally but where edges or steps required greater depth or pockets are to be provided for posts, lamps and other garden furniture these need to be allowed for

KEY :

- Specialist tree protection zone
- Line of new 250mm thick piled Raft slab
- Line of step in level of Raft slab
- Proposed Retaining walls
- P1 — Pile location below raft slab (piles assumed to be 200Ø CFA)
- Mass concrete infill to form ramp or step
- Gravel or paving slab area
- fall — Direction of fall to top of slab
- Proposed Aco drain layout
- rwp — Proposed RWP and gully locations

Rev.	Revision Description.	Date
/	First Issue	23.01.24

Baxter Glaysher Consulting
Civil and Structural Engineers
33-35 Bell Street
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RH2 7AW
Tel.: 01737 240241
Email: contact@bg-consulting.co.uk

Client: Mitchells & Butlers

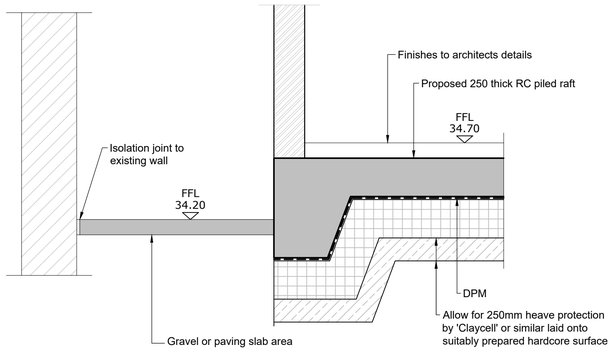
Project: The Edinboro Castle
Greater London, NW1 7RU

Drawing Title: Proposed External Graden Raft Foundation Layout

Drawn	Checked	Approved	Contract / Drawing No.	Rev.
MD	LD	LD	223410 D01	/
Date: 11.01.24	Scale @ A1: AS SHOWN			

Baxter Glaysher Consulting Ltd

BGC.stb



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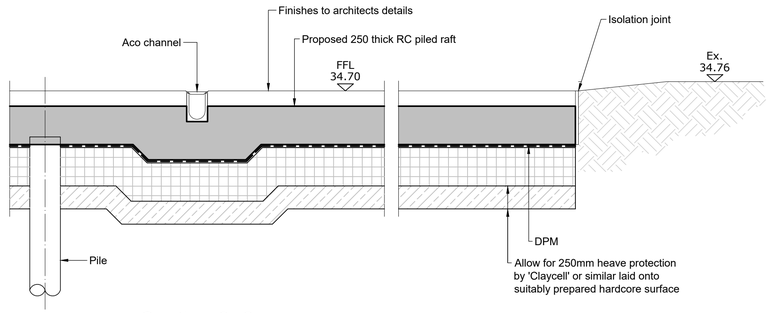

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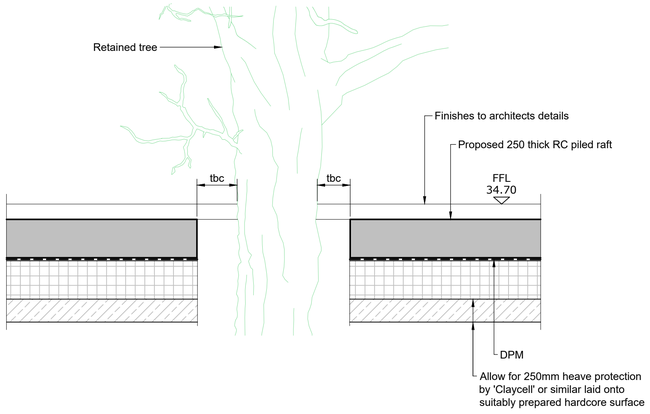

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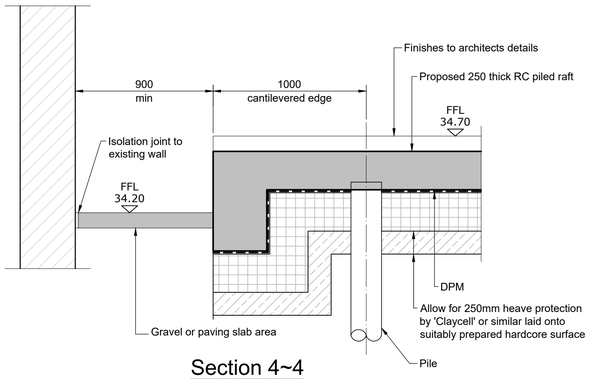

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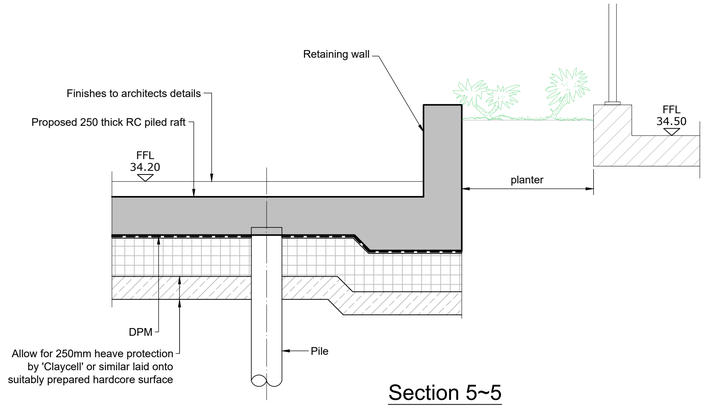

Section 5~5
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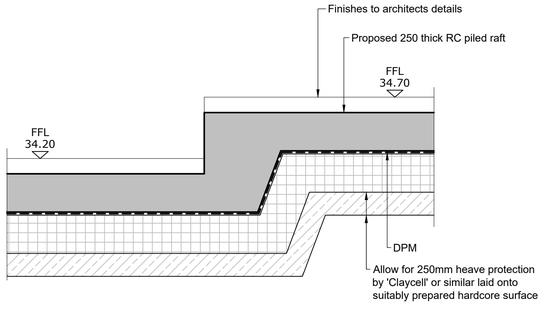

Section 6~6
(1:20)

Scale Bar 1:20

400mm 0 400mm 800mm 1200mm 1600mm 2000mm

GENERAL

1. Any dimensions taken from CAD files are to be verified against figured dimensions or by BGC.
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3. Any differences arising between these documents and/or variations between drawings and site conditions are to be referred to the Architect and Engineers.
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PLANNING AND APPROVAL

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2. All dimensions in millimeters
3. All levels in metres AOD.

CONCEPT

This scheme is concept only and is subject to design development

Tree protection measures to be agreed with arboriculturalist

FOR APPROVAL

Rev.	Revision Description.	Date
/	First Issue	23.01.24

bg consulting
Baxter Glaysher Consulting
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Client

Mitchells & Butlers

Project

The Edinboro Castle
Greater London, NW1 7RU

Drawing Title

Proposed External Graden Raft Foundation Details

Drawn	Checked	Approved	Contract / Drawing No.	Rev.
MD	LD	LD	223410 D02	/
Date 11.01.24	Scale @ A1 AS SHOWN			

Baxter Glaysher Consulting Ltd

BGC.stb

APPENDIX B

Quantitative Conceptual Model

The Edinboro Castle, 57 Mornington Terrace, London				Quantitative Conceptual Model		P16614	
Source	**Receptor**	**Contaminants**	**Pathway**	**Complete Linkage Present?**	**Probability**	**Consequence**	**Risk**
• Made ground soils found to contain asbestos fibres.	End Users	Asbestos	Dermal contact with soil and dust (indoor & outdoor)	Identified contaminant does not pose a risk via this pathway			N/A
			Ingestion of soil and indoor dust	Identified contaminant does not pose a risk via this pathway			N/A
			Consumption of home-grown produce and attached soil	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil dust (indoor and outdoor)	Yes	P1: Very Low	C4: Severe	Low/Moderate
			Inhalation of soil vapours	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Identified contaminant does not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)		Contamination of incoming services	Identified contaminant does not pose a risk via this pathway			N/A
	Groundwater		Migration to groundwater	No significant pathway to groundwater exists			N/A

APPENDIX C

Contamination Laboratory Test Results

Alex Bewick
Ashdown Site Investigations Ltd
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Ditchling Common Business Park
Ditchling Common
West Sussex
BN6 8SG

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-07236

Site Reference:	The Edinboro Castle, 57 Mornington Terrace, London
Project / Job Ref:	P16683_2290
Order No:	11719
Sample Receipt Date:	27/06/2024
Sample Scheduled Date:	27/06/2024
Report Issue Number:	1
Reporting Date:	03/07/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

UKAS TESTING
4480

Soil Analysis Certificate						
DETS Report No: 24-07236	**~Date Sampled**	24/06/24	24/06/24	24/06/24	24/06/24	24/06/24
Ashdown Site Investigations Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: The Edinboro Castle, 57 Mornington Terrace, London	**~TP / BH No**	TP101	TP102	TP103	TP104	TP105
~Project / Job Ref: P16683_2290	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11719	**~Depth (m)**	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15
Reporting Date: 03/07/2024	**DETS Sample No**	723487	723488	723489	723490	723491

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

UKAS TESTING
4480

Soil Analysis Certificate						
DETS Report No: 24-07236	**~Date Sampled**	24/06/24	24/06/24	24/06/24	24/06/24	24/06/24
Ashdown Site Investigations Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: The Edinboro Castle, 57 Mornington Terrace, London	**~TP / BH No**	TP106	TP107	TP108	TP109	TP110
~Project / Job Ref: P16683_2290	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11719	**~Depth (m)**	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15
Reporting Date: 03/07/2024	**DETS Sample No**	723492	723493	723494	723495	723496

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

Normec DETS Limited
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Maidstone
Kent ME17 2JN
Tel : 01622 850410

UKAS TESTING
4480

Soil Analysis Certificate						
DETS Report No: 24-07236	**~Date Sampled**	24/06/24	24/06/24	24/06/24	24/06/24	24/06/24
Ashdown Site Investigations Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: The Edinboro Castle, 57 Mornington Terrace, London	**~TP / BH No**	TP111	TP112	TP113	TP114	TP115
~Project / Job Ref: P16683_2290	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11719	**~Depth (m)**	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15	GL - 0.15
Reporting Date: 03/07/2024	**DETS Sample No**	723497	723498	723499	723500	723501

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 24-07236
Ashdown Site Investigations Ltd
~Site Reference: The Edinboro Castle, 57 Mornington Terrace, London
~Project / Job Ref: P16683_2290
~Order No: 11719
Reporting Date: 03/07/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

~Sample details provided by customer and can affect the validity of results

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List of HWOL Acronyms and Operators
DETS Report No: 24-07236
Ashdown Site Investigations Ltd
~Site Reference: The Edinboro Castle, 57 Mornington Terrace, London
~Project / Job Ref: P16683_2290
~Order No: 11719
Reporting Date: 03/07/2024

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Det - Acronym