

Report on a

PHASE 1 GEOENVIRONMENTAL RISK ASSESSMENT

Ref: 24/38289 | Date: April 2024



For the site at:

**43 Belmont Avenue
London
N17 6AX**

Prepared for:

Paul Simon Homes

DOCUMENT CONTROL

<i>Project</i>	43 Belmont Avenue, London, N17 6AX
<i>Document Type</i>	Report on a Phase 1 Geo-Environmental Risk Assessment
<i>Document Reference</i>	SAS 24/38289
<i>Document Status</i>	Final
<i>Revision</i>	-
<i>Changes</i>	-
<i>Date</i>	April 2024

Author	Checked	Authorised
		
Elizabeth Warren Junior Environmental Engineer	Andrew Garnham BSc (Hons) MSc FGS Senior Geo-Environmental Engineer	Jim Warren MRSC Managing Director

Reg. Office: Units 14 +15, River Road Business Park,
33 River Road, Barking, Essex IG11 0EA
Business Reg. No. 2255616
☎ 020 8594 8134

 www.siteanalyticalgroup.co.uk



CONTENTS

EXECUTIVE SUMMARY

1.0 INTRODUCTION.....	6
1.1 PROJECT OBJECTIVES	6
1.2 SCOPE OF WORKS	7
1.3 DETAILS OF RESEARCH UNDERTAKEN	7
1.4 REPORT LIMITATIONS	8
1.5 CONFIDENTIALITY, COPYRIGHT AND REPRODUCTION	9
2.0 SITE DETAILS.....	10
2.1 SITE LOCATION	10
2.2 CURRENT USE OF THE SITE AND SURROUNDING LAND USES	11
2.3 SITE WALKOVER	12
2.4 DETAILS OF INTENDED FUTURE USES OF THE SITE	13
2.5 REFERENCES OF PLANNING APPLICATIONS	13
3.0 ENVIRONMENTAL SETTING.....	15
3.1 GEOLOGY	15
3.2 HYDROGEOLOGY	16
3.3 SENSITIVE LAND USE	17
3.4 SUMMARY OF POTENTIAL ENVIRONMENTAL RECEPTORS	17
4.0 INFORMATION ON SITE HISTORY AND LOCAL INDUSTRY	18
4.1 PRESENT USE AND ACTIVITIES	18
4.2 LANDFILL SITES AND WASTE	19
4.3 LAND RAISING OR LAND FILLING	19
4.4 POLLUTION INCIDENTS AND DISCHARGE CONSENTS	20
4.5 HISTORICAL MAPS	20
5.0 SITE DRAINAGE AND MAN-MADE POTENTIAL CONTAMINANT PATHWAYS	22
6.0 CONSULTATION WITH THE LOCAL AUTHORITY, THE ENVIRONMENT AGENCY, ETC.	22
7.0 REVIEW AND SUMMARY OF PREVIOUS REPORTS.....	22
8.0 CONCEPTUAL MODEL AND RISK ASSESSMENT	23
8.1 CONTAMINATION SOURCES	23
8.2 CONTAMINANTS OF CONCERN	24
8.3 RECEPTORS	25
8.4 CONTAMINANT LINKAGES	25
9.0 DIAGRAMMATIC CONCEPTUAL SITE MODEL.....	30
10.0 SUGGESTED NEXT STEPS.....	31
11.0 REFERENCES.....	32



APPENDIX A

SITE PHOTOGRAPHS

APPENDIX B

PROPOSED SITE PLANS

APPENDIX C

LOCAL BOREHOLE RECORD

APPENDIX D

ENVIROCHECK HISTORICAL MAPS

ENVIROCHECK GEOLOGICAL MAPS

ENVIROCHECK SITE SENSITIVITY MAPS

ENVIROCHECK ENVIRONMENTAL DATASHEET

EXECUTIVE SUMMARY

<i>Site Location</i>	43 Belmont Avenue, London, N17 6AX
<i>Proposed Development</i>	At the time of reporting (April 2024), the proposed works include the redevelopment of site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas.
<i>Historic and Current Activities</i>	- At the time of reporting (April 2024), the site comprises of two shipping containers, a large scaffolding frame, a dilapidated single-story WC together with a large shed building and a partially demolished storage building. - From historical map evidence, it would appear that the site comprised of undeveloped land prior 1863, with the surrounding areas of the site are predominantly undeveloped land in all directions, with slight residential use south-west of the site. Between 1913-1914, a large structure west of the site with an additional two structures, one small structure adjacent and one large structure immediately bounded south of the site was constructed in 1935. In 1991, an additional structure was immediately bounded south of the site, until all three structures were demolished and no longer visible on the historic maps currently. - A Railway Line and Electrical Sub-stations were evident within 250m of the site.
<i>Environmental Setting</i>	Bedrock Geology: London Clay (Unproductive). The closest surface water feature is a Pond in Lordship Recreation Ground located 590m to the north-east of the site. There are no recorded historical landfill sites located within 1 kilometre of the site. There are no sensitive sites within 250m of the site.
<i>Potential Contamination Sources</i>	On-site: Made Ground
<i>Potential Risks</i>	▪ Human Receptors: • Future users • Construction workers • Off-site neighbouring residents ▪ Environmental Receptors: • Site flora/ecosystems ▪ Structural Receptors: • Building materials and services • Off-site neighbouring properties
<i>Recommendation</i>	- Provide information for further characterisation of the site in relation to potential ground gases on-site. - Provide information for further characterisation of the site in relation to the potential risk associated with ground contamination. - Provide information for further characterisation of the site in relation to the potential risk associated with groundwater contamination.

1.0 INTRODUCTION

1.1 Project Objectives

At the request of Paul Simon Homes, a preliminary risk assessment was carried out to develop an outline conceptual model and to establish whether or not there are any potentially unacceptable risks arising from potential contamination at the above site in reference to the proposed development with a potential impact on sensitive receptors.

The outcome of this assessment would inform whether or not an intrusive investigation would be required to enable further assessment of the need for the protection of the end-user and other sensitive receptors, from the presence of contamination.

The project objectives include the following aims:

- To assess the presence, extent and nature of potential risk of pollution to end-users of the site, controlled waters and other potentially sensitive receptors.
- To identify further works, if any, needed to further assess, manage or mitigate any potential risks.
- To provide information relevant for planning approval.

The assessment is required by the London Borough of Haringey under planning regulations.

This report comprises a Phase 1 - Preliminary Risk Assessment to assess the potential for the presence of potential contamination on site and to identify potential receptors.

Planning permission granted by councils for development of Brownfield often have conditions attached which require the following site investigation to be undertaken and submitted to the local authority for approval:

1. Phase 1 - Preliminary Risk Assessment
2. Phase 2 - Intrusive Investigation
3. Phase 3 - Remediation Strategy
4. Phase 4 - Validation Report

This Phase 1 - Preliminary Risk Assessment is to be submitted to planning for approval.

1.2 Scope of Works

A preliminary risk assessment comprising a site reconnaissance and a desk-based analysis of study acquired site data has been undertaken and is summarised as follows:

1. A review of current activities and conditions at the site based on information from the Client, regulatory data and the results of a site walkover survey.
2. A review of the history of the site and surrounding area from historical maps and available anecdotal information.
3. An assessment of geological, hydrological and hydrogeological information pertaining to the site.
4. The development of a conceptual site model identifying potential sources, pathways, receptors and linkages, a preliminary qualitative risk assessment and identification of unacceptable risks.
5. Recommendations for further works, if necessary.

The site works were performed in accordance with the methods given in BS 5930+A2:2010 and BS EN ISO 22476-2&3:2005. The work was carried out in accordance with the methodologies detailed in the LCRM (Land Contamination: Risk Management).

The recommendations and comments given in this report are based on the information contained from the sources cited and may include information provided by the Client and other parties including anecdotal information. It must be noted that there may be special conditions prevailing at the site which have not been disclosed by the investigation and which have not been taken into account in the report. No liability can be accepted should such conditions alter the recommendations made in this report.

1.3 Details of Research Undertaken

A number of database searches have been undertaken, soliciting information of the current and historical uses of the site and surrounding area in order to complete a qualitative risk assessment associated with the development of the site. These include:

- Environmental Data Search 1:10000
- Environmental Data Search 1:2500
- Site Sensitivity Maps and Data Sheets
- Historical Maps
- Local Council consultation
- Consultation with the Client / Architect / Site representatives
- Google Search

1.4 Report Limitations

This report is prepared for Paul Simon Homes (herein called the 'Client'), for purposes agreed and in accordance with the terms and conditions set out in the Agreement between Site Analytical Services Limited and the client.

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

The comments given in this report, and the opinions expressed herein, are based upon the readily available information collated for the report and an assessment based upon the current UK guidance, primarily the LCRM (Land Contamination: Risk Management).

This report has been prepared for the sole use of the Client for the purposes described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed on-site, between and subsequent to the various map surveys appended.

Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes discussed or on the possible presence of features based on visual, verbal or published evidence, this is for guidance only and no liability can be accepted for its accuracy.

The conceptual model is based on the information available at the time of conducting this assessment and is an interpretative assessment of the conditions at the site. It should be noted that the redevelopment and/or further investigation of the site may reveal additional information and therefore alter the conceptual model and the conclusion of this report.

There may be other sources of information not included in those listed that hold data relevant to the Phase 1 Desk Study undertaken at the site that could materially affect the conclusions made in this report.

This report does not include specific investigation for the presence of Japanese Knotweed at the subject site however, if obvious evidence of this is observed during the site walkover, details will be provided in this report. Specialist contractors should be commissioned to make detailed assessments and recommendations if these materials are suspected.

This report is prepared and written for the use stated herein; it should not be used for any other purposes without reference to Site Analytical Services Limited. The report has been prepared in relation to the proposed end-use and should another end-use be intended a further re-assessment may be required.

1.5 Confidentiality, Copyright and Reproduction

This document has been prepared by Site Analytical Services Limited in connection with a contract to supply goods and/or services and is submitted only on the basis of strict confidentiality. The contents must not be disclosed to third parties other than in accordance with the terms of the contract.

Site Analytical Services Limited accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

2.0 SITE DETAILS

2.1 Site Location

The site is located to the rear of 43 Belmont Avenue at the junction of two terraces set at angles to each other on Belmont Avenue, at approximate postcode N17 6AX. The terraced properties consist of two-storey Victorian houses.

The site is located in an area of predominantly residential use, with Turnpike Underground Train Station located approximately 555m to the east of the site.

The site is an irregular shape and covers an approximate area of 0.04 Hectares with the general area being under the authority of the London Borough of Haringey.

The site is at National Grid Reference: TQ321896.

The site location plan is presented below in Figure 1:



Figure 1 - Site Location Plan

2.2 Current Use of the Site and Surrounding Land Uses

At the time of reporting (April 2024), the site comprises of two shipping containers, a large scaffolding frame, a dilapidated single-story WC together with a large shed building and a partially demolished storage building.

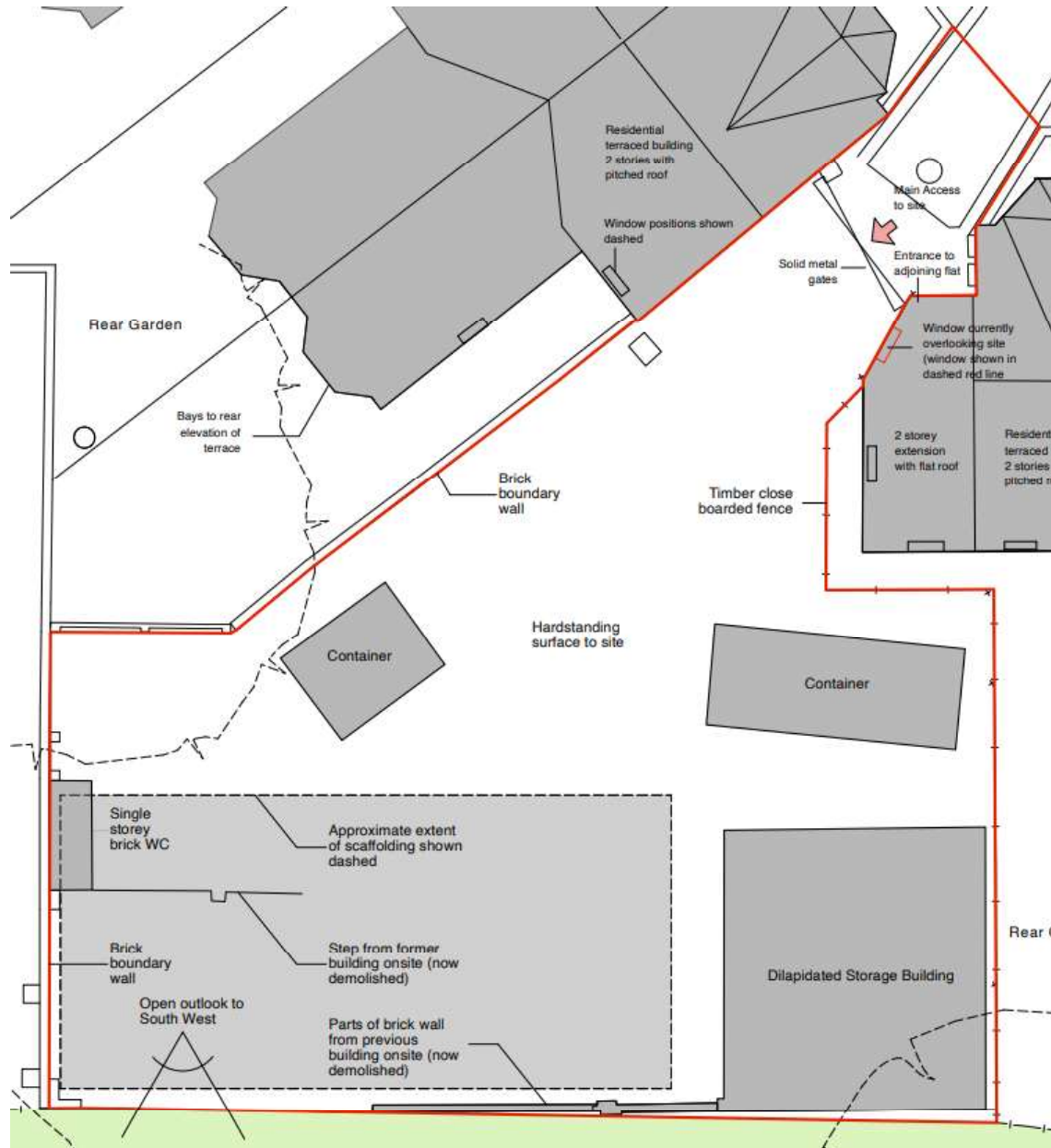


Figure 2 – Existing Site Plan

2.3 Site Walkover

The site was visited on 7th May 2024 for the purpose of undertaking a site walkover survey.

<i>Access to the site</i>	Site accessed via pedestrian entrance between the terraced houses on Belmont Avenue.
<i>Current Use of the Site</i>	The site is currently occupied by two shipping containers, a collapsed wooden shed, a metal scaffolding frame and a brick outdoor building which was previously a toilet.
<i>Structures or Past Structures</i>	There is a small brown shed, a metal scaffolding frame and a brick outdoor toilet.
<i>Ground cover (Estimated)</i>	100% Hard surface
<i>Made Ground</i>	There is visual evidence in areas of the property in the form of concrete.
<i>On-Site Vegetation</i>	On-site vegetation comprises medium-sized trees, bushes and brambles.
<i>Invasive Species</i>	None were observed during the site walkover.
<i>Topography</i>	The site appears to be essentially flat.
<i>Electrical Sub-stations/Electrical Services</i>	None were observed on-site or on the boundaries during the site walkover.
<i>Fuel and/or Chemical Storage (Tanks/Drums)</i>	Large metal rectangular container possibly a tank as unable to access it.
<i>Asbestos Containing Material (ACM)</i>	No suspected asbestos containing material were observed during the site visit, however this report does not form an asbestos survey, the inclusion of such a survey is outside of the scope of this project.
<i>Other Potential Contamination Sources</i>	None were observed during the site walkover.
<i>Visual or Olfactory Signs of Contamination</i>	None were observed during the site walkover.
<i>Off-Site Potential Contaminant Sources</i>	None were observed during the site walkover.
<i>Signs of Structural Instability</i>	There is visual evidence of structural instability in the form of the large shed, partially collapsed on-site.

<i>Drainage/Services or Past Services/Buried Services</i>	There are four manholes which are assumed to be drainage on-site. Two at the entrance leading into the site, one by the brick outdoor toilet and the second one in front of the shipping container on the right-hand side of the site.
<i>Standing Water</i>	None observed during the site walkover.
<i>Water Courses</i>	None observed during the site walkover.
<i>General Comments</i>	From the walkover, the site appears to comprise two shipping containers, a collapsed wooden shed, a metal scaffolding frame and a brick outdoor building, which was previously a toilet. Manhole covers were noticed on-site and an unknown large metal rectangular container possibly a tank but unable to access it.

2.4 Details of Intended Future Uses of the Site

At the time of reporting (April 2024), the proposed works include the redevelopment of the site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas.

The proposed site plans are presented in Appendix B.

2.5 References of Planning Applications

There are two relevant planning applications for the site registered on the London Borough of Haringey planning portal.

<i>Application No.</i>	HGY/2023/0926
<i>Status</i>	Decision Made
<i>Decision</i>	Approve with Conditions
<i>Decision Date</i>	30/08/2023
<i>Address</i>	43 Belmont Avenue, London N17 6AX
<i>Proposal</i>	Redevelopment of site to provide 5 apartments - consisting of 3 x 1 bed & 2 x 2 bed flats. (Revised Scheme)



<i>Application No.</i>	HGY/2022/2212
<i>Status</i>	Decision Made
<i>Decision</i>	Withdrawn
<i>Decision Notice Sent Date</i>	31/3/2023
<i>Address</i>	43 Belmont Avenue, London N17 6AX
<i>Proposal</i>	Redevelopment of site to provide 5 apartments - consisting of 3 x 1 bed & 2 x 2 bed flats. (Amended Scheme)

3.0 ENVIRONMENTAL SETTING

3.1 Geology

The Geological Survey of Great Britain (England and Wales) covering the area indicates the site to be directly underlain by bedrock formed by the London Clay Formation at depth.

3.1.1 London Clay Formation

The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels.

3.1.2 Historical Boreholes

The British Geological Survey maintains an archive of historical exploratory borehole logs throughout the UK. SAS Limited has searched the database and has found a borehole located approximately 23m south-west of the site, under the name 'BELMONT/BRAEMAN HOUSING SITE' and reference number 'TQ38NW259'. This borehole shows 1.00m of Made Ground over London Clay at depth.

A Local Borehole Record presented in Appendix C of this report.

3.1.3 Ground Stability Hazards

The records of the British Geological Survey indicate the following:

Ground Stability Hazard	Risk Assessment
Collapsible Ground	Very Low
Compressible Ground	No Hazard
Ground Dissolution	No Hazard
Landslide	Very Low
Running Sand	Very Low
Shrinking or Swelling Clay	Moderate
Coal Mining	Not Affected

3.1.4 Natural Ground Gases

Natural strata can present a source of ground gases, such as methane and carbon dioxide. The natural geological strata identified above are not considered to pose a ground gas risk.

The site is not in a Radon Affected Area (as defined by the Health Protection Agency), as less than 1% of properties are above the action level set by the Health Protection Agency. According to BR211 (by the Building Research Establishment), Radon Protection Measures are not required for new properties in these areas.

3.2 Hydrogeology

3.2.1 Groundwater

The Environment Agency Groundwater Protection Policy uses aquifer designations that are consistent with the Water Framework Directive. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) and also their role in supporting surface water flows and wetland ecosystems.

The Bedrock Geology underlying the site has been classified as Unproductive Strata; rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

An Unproductive Aquifer was noted on-site and therefore controlled waters (aquifers) are considered to be vulnerable to potential contaminants if present on-site.

Any works or development, which may have an impact on surface water, aquifer or groundwater quality, must be approved by the Environment Agency prior to implementation.

3.2.2 Water Abstractions

The site is not located within a Source Protection Zone however, a Zone II (Outer Protection Zone) and a Zone I (Inner Protection Zone) are located 558m west of the site.

There are no water abstraction licences within 1 kilometre of the site.

3.2.3 Hydrology and Drainage

The closest surface water feature is the Pond in Lordship Recreation Ground located 590m to the north-east of the site. Due to the distance of the surface water feature from the site, it is not considered to be a vulnerable receptor to any potential contaminants that may be present on-site.

The site is not located in an area at risk from extreme flooding from rivers or sea without defences (Zone 2) or areas at risk from rivers or sea without defences (Zone 3).

Modelling of surface water flooding has been undertaken by the Environment Agency and was published on its website in January 2014; an extract from their model is presented within the Envirocheck Site Sensitivity maps. Whilst this map identifies three levels of risk (high, medium and low) it is understood that it is based at least in part on depths of flooding. The modelling shows no risk of flooding across the site, with areas of low risk of flooding located along Ivatt Way.

3.3 Sensitive Land Use

There are no sensitive land uses within 1 kilometre of the site.

3.4 Summary of Potential Environmental Receptors

Receptor Type	Receptor(s)	Comments
Groundwater	Unproductive Strata	Although located within an outer source protection zone, due to the presence of an Unproductive Aquifer immediately beneath the site, the vulnerability is deemed Low .
Surface Water	590m NE (Pond)	Due to the distance from the site, the vulnerability is deemed Low .

4.0 INFORMATION ON SITE HISTORY AND LOCAL INDUSTRY

4.1 Present Use and Activities

There are no entries in the contemporary trade directories on-site, however, there are 3No. within 250m of the site, 46No. within 500m and a further 178No. within one kilometre of the site. Of the 227No. listed directories, only two is considered to pose a potential risk to the site and listed below.

4.1.1 Entries Within 250m

Trade	Distance (m)
Printers	185m NW
Garage Services	244m NW

4.1.2 Fuel Station Entries

There are three fuel stations recorded within 1 kilometre of the site, the closest is located 428m to the south-east of the site at '08-334, West Green Road, West Green, London, N15 3QR' and its status is currently described as 'Obsolete'. Due to the distance of this fuel station from the site it is not considered to be a risk to the site. The potential contaminants associated with 'Petrol Filling Stations' have been included in the Outline Conceptual Model (Section 9.1.2).

4.1.3 Hazardous Sites

There are no Control of Major Accident Hazards (COMAH) sites, Explosive Sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning Hazardous Substance Consents or Planning Hazardous Substance Enforcements within 1 kilometre of the site.

There are 11 local authority pollution prevention and controls found within 1 kilometre of the site, the closest is located 334m to the south-west of the site, under the name 'Euro Dry Cleaners', located at '458 West Green Road, London, N15 3PT' with the description 'PG6/46 Dry Cleaning' and the status is listed as 'Permitted'.

Due to the distance of the local authority pollution prevention and controls from the site, this is not considered to be a risk to the site.

4.2 Landfill Sites and Waste

There are no BGS recorded landfill sites located within 1 kilometre of the site.

There are no BGS recorded mineral sites located within 500m of the site.

There are no recorded historical landfill sites located within 1 kilometre of the site.

There are no registered radioactive substances within 1 kilometre of the site.

There is one licenced waste management facility (location) within 1 kilometre of the site, located 534m south-east of the site, under the operator's name '2 B's Motorcycles Ltd', located '1a Blackboy Lane, Tottenham, London, N15 3AP' under the site category 'Metal Recycling Sites (Vehicle Dismantlers)' with its licence status described as 'Revoked' dated '8th February 2014'. Due to the distance of the licenced waste management facility (location) from the site, it is not considered to be a risk to the site.

There are no licenced waste management facilities (landfill boundaries) located within 1 kilometre of the site.

There are no integrated pollution control registered waste sites within 1 kilometre of the site.

There are no registered waste transfer sites located within 1 kilometre of the site.

There are no Registered Waste Treatment or Disposal site within 1 kilometre of the site.

There are no registered landfill sites located within 1 kilometre of the site.

There is a Local Authority Landfill Coverage located on-site. However, there is no evidence to support the existence of a landfill on the site, hence it is not considered to be a risk to the site.

4.3 Land Raising or Land Filling

There is no potentially infilled land (Non-Water) within 1km of the site.

There is 8 potentially infilled land (Water) within 1km of the site. The closest located 432m north of the site with the use classified as 'Unknown Filled Ground'. This is likely to be associated with the map dated 1896. Due to the age, this is not considered to be a risk to the site.

4.4 Pollution Incidents and Discharge Consents

There have been 2No. pollution incidents to controlled waters within 1 kilometre of the site. The closest is located 628m to the north of the site, at 'Broadwater Farm' and the pollutant was listed as 'Other Sewage'. The incident was dated '1st June 1998'. Due to the distance from the site and the age of the incident, this is not considered to be a risk to the site.

There is 1No. discharge consents to controlled waters within 1 kilometre of the site, located 909m south of the site and the discharge type is 'Public Sewage: Storm Sewage Overflow'. The status of this discharge consent is described as 'New issued under EPR 2010', dated '15th June 2016'.

There are no integrated pollution controls within 1 kilometre of the site.

4.5 Historical Maps

The site history was compiled from information available from a Landmark Envirocheck Report consisting of a series of past Ordnance Survey maps (scale 1:1,250 and 1:2,500 which are presented in Appendix D). Information was also sourced from Envirocheck Analysis (online database) containing a series of more recent Ordnance Survey maps and satellite images (scale 1:10,000). All relevant findings which are listed in the table below are applicable within a 250m radius of the site.

Date	Description of Site Use	Surrounding Site Use
1863-1879	The site comprises of undeveloped land.	The surrounding areas of the site are predominantly undeveloped land in all directions, with slight residential use south-west of the site.
1896	The site remains essentially unchanged.	The surrounding area has increased in residential use south and south-west of the site. A Railway Line is evident approximately 14m west of the site.
1913-1914	The site consists of a large structure west of the site.	The surrounding areas have increased significantly in residential use in close proximity of the site and further afield in the north-east, south, west and north-west direction. Downhill Recreation ground is located east of the site.

Date	Description of Site Use	Surrounding Site Use
1935	The site comprises an additional two structures. One small structure adjacent and one large structure immediately bounded south of the site.	The surrounding area has increased in residential use north and north-east of the site, with Belmont Recreation ground further north.
1955-1956	The small structure adjacent to the large structure west of the site has been removed.	The site remains essentially unchanged.
1961-1981	The large structure immediately bounded south of the site has reduced in size.	The Railway Line has been removed and replaced with Ivatt Way road and residential properties. An Electrical Sub-station is evident 177m north-west of the site.
1991	There is an additional structure immediately bounded to the previous structure south of the site. There are three structures present on-site.	The site remains essentially unchanged.
Current	The comprises of undeveloped land, the structures have been removed.	An Electrical Sub-station is evident 214m south of the site.

4.5.1 Historical Summary of Site

From historical map evidence, it would appear that the site comprised of undeveloped land prior 1863, with the surrounding areas of the site are predominantly undeveloped land in all directions, with slight residential use south-west of the site. Between 1913-1914, a large structure west of the site, with an additional two structures, one small structure adjacent and one large structure, immediately bounded south of the site was constructed in 1935. In 1991, an additional structure was immediately bounded south of the site, until all three structures were demolished and no longer visible on the historic maps currently.

A Railway Line and Electrical Sub-Stations were evident within 250m of the site.

5.0 SITE DRAINAGE AND MAN-MADE POTENTIAL CONTAMINANT PATHWAYS

At the time of reporting (April 2024), the proposed works include the redevelopment of site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas, and as such drainage should be anticipated to be present under and surrounding the site, which may potentially lead to lateral or vertical migration of potential pollutants on-site.

6.0 CONSULTATION WITH THE LOCAL AUTHORITY, THE ENVIRONMENT AGENCY, ETC.

Information from Local Authority was acquired via online portals and archives.

Consultation with the Environment Agency has not been undertaken; however, the Environment Agency have been cited within the information of the Envirocheck report with reference to groundwater, surface water, authorised processes and licenced waste management issues.

The Canal & River Trust were not consulted regarding navigable rivers and canals and English Nature were not consulted regarding ecological systems; however, their databases have been cited within the information of the Envirocheck report.

There was no additional consultation with other bodies/sources undertaken.

7.0 REVIEW AND SUMMARY OF PREVIOUS REPORTS

There have not been any previous reports available to us for review at the time of writing of this report.

8.0 CONCEPTUAL MODEL AND RISK ASSESSMENT

In accordance with current UK guidance on land contamination risk assessment, the following conceptual site model has been generated for the subject site.

The purpose of the conceptual model is to identify:

- All potential source(s) of contamination at and / or within the immediate vicinity of the site.
- Any potentially sensitive receptor(s) which may be at risk from the above source(s).
- Any potential migration and / or exposure pathways which link the source(s) to the receptor(s).

Only if all three of the above elements are present i.e. a source-pathway-receptor, is a potential risk present. Such a relationship is termed a 'contaminant linkage'. The CSM describes in detail any potentially significant contaminant linkages present and justifies the exclusion of any potential contaminant linkages considered to be non-significant.

8.1 Contamination Sources

A review of the current and historical land uses indicated the potential significant contaminative land uses that may impact the site and have been compared to the industries highlighted in DoE industry profiles for potential contaminants of concern. Other potential contamination sources identified from the site walkover are also included.

8.1.1 On-Site Sources

Date	Feature
Present	Made Ground – Considering the site history and the unknown use of the scaffold framed building and storage building on-site, a potential risk is considered to exist.

8.1.2 Off-Site Sources

Date	Feature	Distance & Direction from Site	Industrial Profile / Comment
1896-1961	Railway Line	14m W	Railway Line – Although the Railway Line is close to the site, it was removed in 1961 and is also at a lower level than the site, therefore, there is no significant risk to the site.
1961-Current	Electrical Sub-station	177m NW	Sub-station – Due to the distance and size of the sub-stations this would not be a significant risk.
Current	Electrical Sub-station	214m S	Sub-station – Due to the distance and size of the sub-stations this would not be a significant risk.
Current	Printers	185m NW	Address given appears to be a residential property rather than a business premises. No risk considered present.
Current	Garage Services	244m NW	Address given appears to be a residential property rather than a business premises. No risk considered present.

8.2 Contaminants of Concern

Due to the unknown historic use of the site, it is considered that the existence of potential contamination sources cannot be ruled out at this time. It is recommended that a general suite of common contaminants is undertaken:

- Metals and metalloids: Cadmium, Chromium, Copper, Lead, Selenium, Nickel, Vanadium, Zinc, Arsenic, Mercury, Boron
- Inorganic Compounds: Nitrate, Sulphate, Sulphide, Complex and Free Cyanide
- Organic compounds: Oil/Fuel Hydrocarbons, Aromatic Hydrocarbons, PAH's
- Other: Asbestos, pH

8.3 Receptors

The receptors/resources considered to be affected by identified contamination during the assessment included the following:

- **Human Receptors:**
 - Future users
 - Construction workers
 - Off-site neighbouring residents

- **Environmental Receptors:**
 - Site flora/ecosystems

- **Structural Receptors:**
 - Building materials and services
 - Off-site neighbouring properties

8.4 Contaminant Linkages

The following tables illustrate the hypothesised Source - Pathway - Receptor linkages for exposure to possible contaminants associated with industrial activity in the area, the current site conditions and the proposed development. For a linkage to exist there must be a Source and a Pathway and a Receptor.

The Conceptual Site Model summarises all the potential sources/pathways/receptors at this site.

Potential Consequence of Hazard-Receptor Linkage

Severe	Irreparable damage to buildings, structures, or the environment (explosion). A short-term risk to a particular ecosystem, or organism forming part of such ecosystem. Short term (acute) risk to human health likely to result in 'significant harm', as defined in EPA1990, Part IIA. Short term risk of pollution of sensitive water resources (major spillage of contaminants into controlled water).
Medium	A significant change to a particular ecosystem, or organism forming part of such ecosystem (death of species within a nature reserve). Chronic damage to human health (exceedances of GAC values). Pollution of sensitive water resources (Leaching of contaminants into major or minor aquifer).
Mild	Easily repairable effects of damage to buildings or structures (foundation damage). Significant damage to crops. Pollution of non-sensitive water resources.
Minor	Very slight non-structural damage or cosmetic harm to buildings or structures (discolouration of concrete). Non-permanent health effects to human health.

Likelihood of Hazard-Receptor Linkage

High likelihood	There is a pollution linkage and an event that appears very likely in the short term or inevitable in the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period, such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the long term.

8.4.1 Risk Classification Definitions

Risk	Definition
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate/Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Contaminated Land Risk Assessment Table

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	<i>Very High Risk</i>	<i>High Risk</i>	<i>Moderate Risk</i>	<i>Moderate/Low Risk</i>
	Likely	<i>High Risk</i>	<i>Moderate Risk</i>	<i>Moderate/Low Risk</i>	<i>Low Risk</i>
	Low Likelihood	<i>Moderate Risk</i>	<i>Moderate/Low Risk</i>	<i>Low Risk</i>	<i>Very Low Risk</i>
	Unlikely	<i>Moderate/Low Risk</i>	<i>Low Risk</i>	<i>Very Low Risk</i>	<i>Very Low Risk</i>

Feature/Source	Pathway	Receptor	Hazard (Potential Consequence)	Likelihood of Contaminant Linkage	Risk Assessment	Justification /Further Action
On-Site: Made Ground	Direct soil and dust ingestion Dermal contact Inhalation of dust, vapours, and ground gases	Construction workers	Medium Acute and chronic toxicity, carcinogenic impact Fire and explosion	<i>Likely</i>	<i>Moderate Risk</i>	Significant redevelopment is planned. As such, groundwork would be involved in the construction process. Considering the site history and the unknown usage of the past structures on-site, it is likely that significant contamination will be present. A good standard of site health and safety will be required during construction should be sufficient to protect workers. Further investigation is required.
	Dermal contact Inhalation of dust, vapours, and ground gases	Future users – open landscaped areas & gardens.	Medium Acute and chronic toxicity, carcinogenic impact	<i>Likely</i>	<i>Moderate Risk</i>	The proposed development will include the redevelopment of site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas. Considering the site history and the unknown usage of the past structures on-site, it is likely that significant contamination will be present. Further investigation is required.
	Inhalation of vapours Inhalation of ground gases	Future residential users – within the building footprint	Medium Acute and chronic toxicity, carcinogenic impact Fire and explosion	<i>Likely</i>	<i>Moderate Risk</i>	Historically the site has comprised undeveloped land, then storage on-site. Due to the unknown use of the storage, it is likely that significant contamination will be present. Further investigation is required.
	Inhalation of dust, vapours	Off-site receptors / neighbouring residents and property	Mild Acute and chronic toxicity, carcinogenic impact	<i>Likely</i>	<i>Moderate/ Low Risk</i>	The site is set in an area of residential use. Due to the site history, there are significant risks considered present. Further investigation is required.
	Surface water run-off	Surface water	Mild Water pollution	<i>Low Likelihood</i>	<i>Low Risk</i>	The site and the immediate area are residential use. Due to the surface flood map, there is no risk across the site and low risk in close proximity, therefore surface run off would not be expected. No additional consideration is needed.

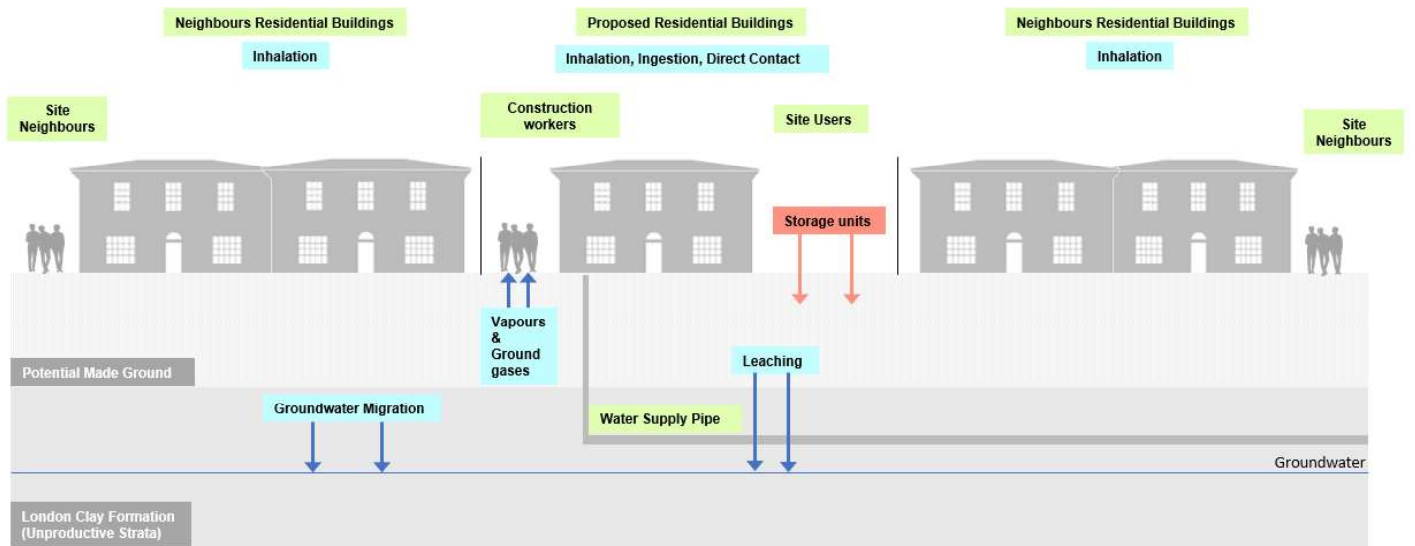
Feature/Source	Pathway	Receptor	Hazard (Potential Consequence)	Likelihood of Contaminant Linkage	Risk Assessment	Justification /Further Action
	Direct Contact	Built materials and services	Medium Degradation	<i>Likely</i>	<i>Moderate Risk</i>	Due to the history of the site significant contamination on-site site is expected. Further investigation is required.
	Migration through Groundwater	Unproductive Aquifer	Medium	<i>Likely</i>	<i>Moderate Risk</i>	The site is situated in an area of a Unproductive Aquifer. Due to the history of the site, contamination through groundwater flows is expected. Further investigation is required.

Off Site:

No significant off – site sources that may pose a potential risk to the site have been identified.

9.0 DIAGRAMMATIC CONCEPTUAL SITE MODEL

On-Site: Potential Risks



Legend

Source	Pathway	Receptor
--------	---------	----------

10.0 SUGGESTED NEXT STEPS

The information from the preliminary risk assessment and site conceptual model has identified a number of potential unacceptable risks relating to sensitive receptors on-site.

Dependent on the scope of the proposed works on-site, it may be necessary to fully assess the potentially unacceptable risks, for which additional information would be required. We would suggest that the most viable method of assessment would be via a Quantitative Risk Assessment (Site Investigation) and the investigation would have the following objectives:

- Provide information for further characterisation of the site in relation to the potential risk associated with ground contamination.
- Provide information for further characterisation of the site in relation to the potential risk associated with groundwater contamination.

An intrusive investigation may reveal on-site sources of contamination that were not established by the Phase I Desk Study and Site Walkover and thus require modification of the conceptual model.

The Phase II intrusive site investigation will be carried out in order to investigate and assess contaminant linkages identified in the preliminary Conceptual Site Model presented in Section 9. The works to be undertaken on the site would comprise (a) soil sampling that is appropriate to the potential sources and (b) testing for the potential contaminants given in the CSM or other sources identified during the intrusive investigation.

It may be prudent to combine geotechnical investigation with the proposed environmental investigation. The purpose of the geotechnical investigation will be to obtain data regarding engineering properties of the soils to enable the design of foundations, concrete, pavements and drainage. The works to be undertaken on the site would comprise (a) soil sampling, trial pits, boreholes, gas and groundwater monitoring (b) drilling boreholes at selected locations within the site and to establish foundation design parameters.

The scope of any such investigation should be agreed with the Local Authority, Environment Agency and any other Interested Parties prior to commencement.

11.0 REFERENCES

1. Beckett M.J. and Sims D.L. (1984). "The Development of Contaminated Land", Symposium on Hazardous Waste Disposal and the Re-use of Contaminated Land. Society of Chemical Industry.
2. British Standards Institution, 2011. Investigation of Potentially Contaminated Sites - Code of Practice, BS 10175:2011+A2:2017, BSI, London.
3. British Standards Institution, 2015. Code of Practice for Site Investigations, 5930:2015, BSI, London
4. DEFRA, 2012. Environmental Protection Act 1990: Part 2A. Contaminated Land. Defra Circular 01/2006. London: Department for Environment, Food and Rural Affairs.
5. DEFRA, 2012. Improvements to contaminated land guidance. Outcome of the "Way Forward" exercise on soil guideline values. Defra: Department for Environment, Food and Rural Affairs.
6. DEFRA, 2012. Guidance on the legal definition of contaminated land. London: Department for Environment, Food and Rural Affairs.
7. DEFRA, 2015. Development of Category 4 Screening Levels for assessment of land affected by contamination - SP1010
8. Environment Agency, 2000. Secondary model procedure for the development of appropriate soil sampling strategies for land contamination. R&D Technical Report P5-066/TR. Bristol: Environment Agency.
9. Environment Agency, 2000. Technical aspects of site investigation, Volumes 1 and 2. R&D Technical Report P5-065/TR. Bristol: Environment Agency.
10. Environment Agency, 2002, CLR 8, 'Potential contaminants for the assessment of contaminated land'. DEFRA/EA.
11. Environment Agency (2019). Land Contamination: Risk Management.
12. Environment Agency, 2020. 'Disposal of Waste to Landfill', Environment Agency.
13. Environment Agency, 2009a. Updated technical background to the CLEA model. Science Report SC050021/SR3. Bristol: Environment Agency.
14. Environment Agency, 2009b. Human health toxicological assessment of contaminants in soil. Science Report Final SC050021/SR2. Bristol: Environment.
15. Environment Agency, 2009c. CLEA software version 1.06. Bristol: Environment Agency.

16. Environment Agency, 2009d. CLEA software (version 1.06) handbook. Science Report SC050021/SR4. Bristol: Environment Agency.
17. Environment Agency 2015. Waste Classification: Guidance on the classification and assessment of waste (1st edition 2015)
18. Environment Agency, 2009e. CLR 4, 'Sampling strategies for contaminated land'. Report by The Centre for Research into the Built Environment, the Nottingham Trent University, DoE, 1994.
19. NHBC Standards, Chapter 4.1, "Land Quality - managing ground conditions", January 2023.
20. Water Supply (Water Quality) Regulations 2000, Statutory Instrument 2000 No. 3184, Crown Copyright 2000.
21. UK Water Industry Research Limited, 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites', report reference Number 10/WM/03/21, 2010.
22. Water Regulations Advisory Scheme, Information and Guidance Note, October 2002, 'The Selection of Materials for Water Supply Pipes to be Laid in Contaminated Land'.



A P P E N D I X A

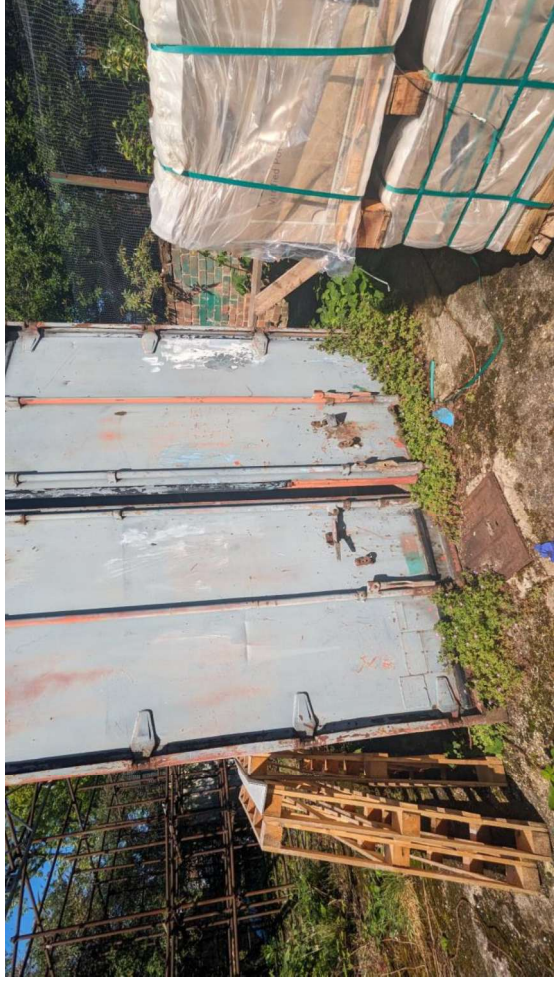
Site Photographs



Photograph 1 – Entrance of the site.



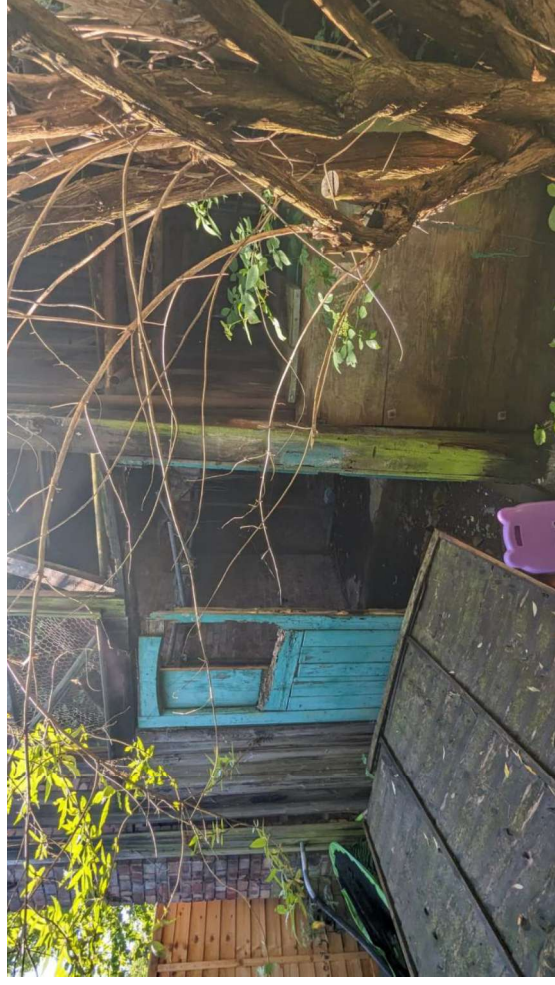
Photograph 2 – View looking at the site from the entrance.



Photograph 3 – Views of the shipping container on the right-hand side of the site.



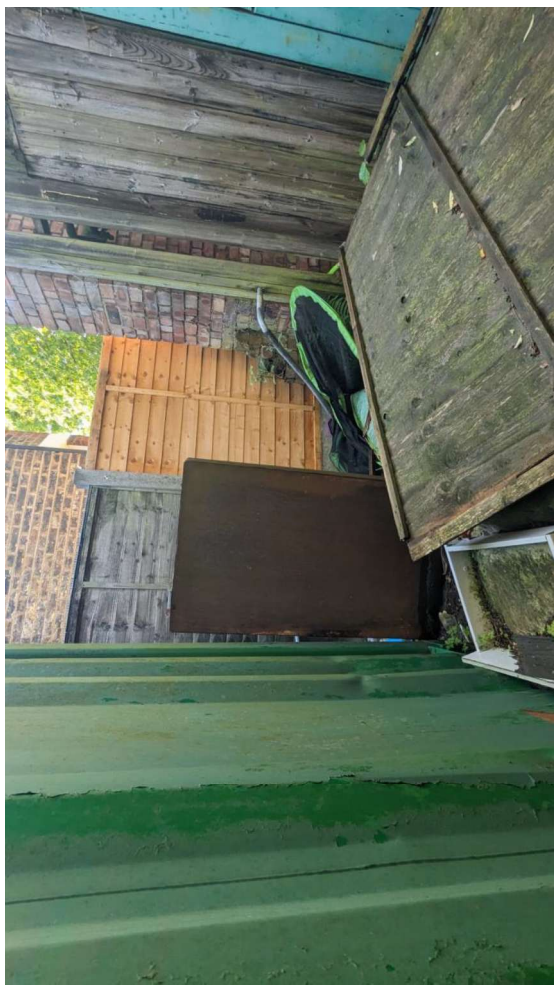
Photograph 4 – View of the shipping container on the left-hand side of the site.



Photograph 5 – View of the large shed.



Photograph 6 – View of inside the large shed.



Photograph 7 – View of the unknown large container.



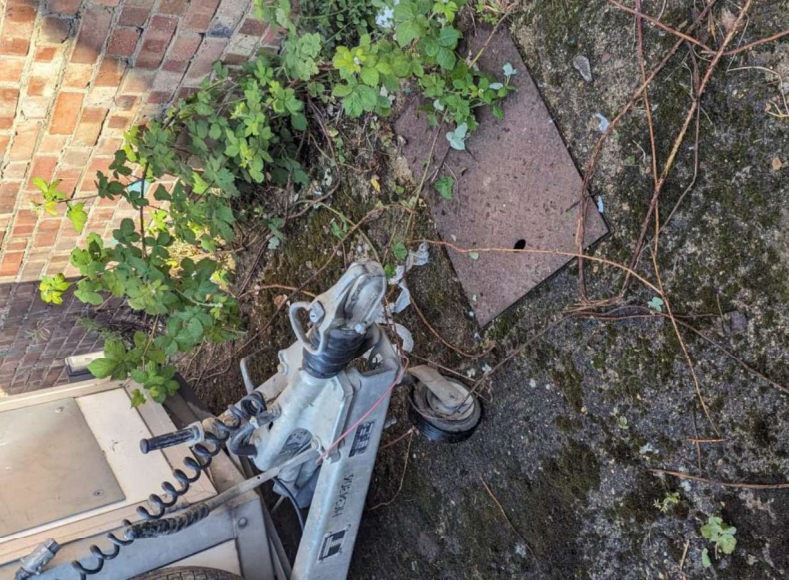
Photograph 8 – View of the metal frame and brick outbuilding.



Photograph 9 – View of the brick outbuilding (Toilet).



Photograph 10 – Views of the metal frame, shipping container and large wooden shed.



Photograph 11 – View of the manhole in front of the shipping container.



Photograph 12 – View of the south-east of the site.



Photograph 13 – View looking east of the site at the site entrance.

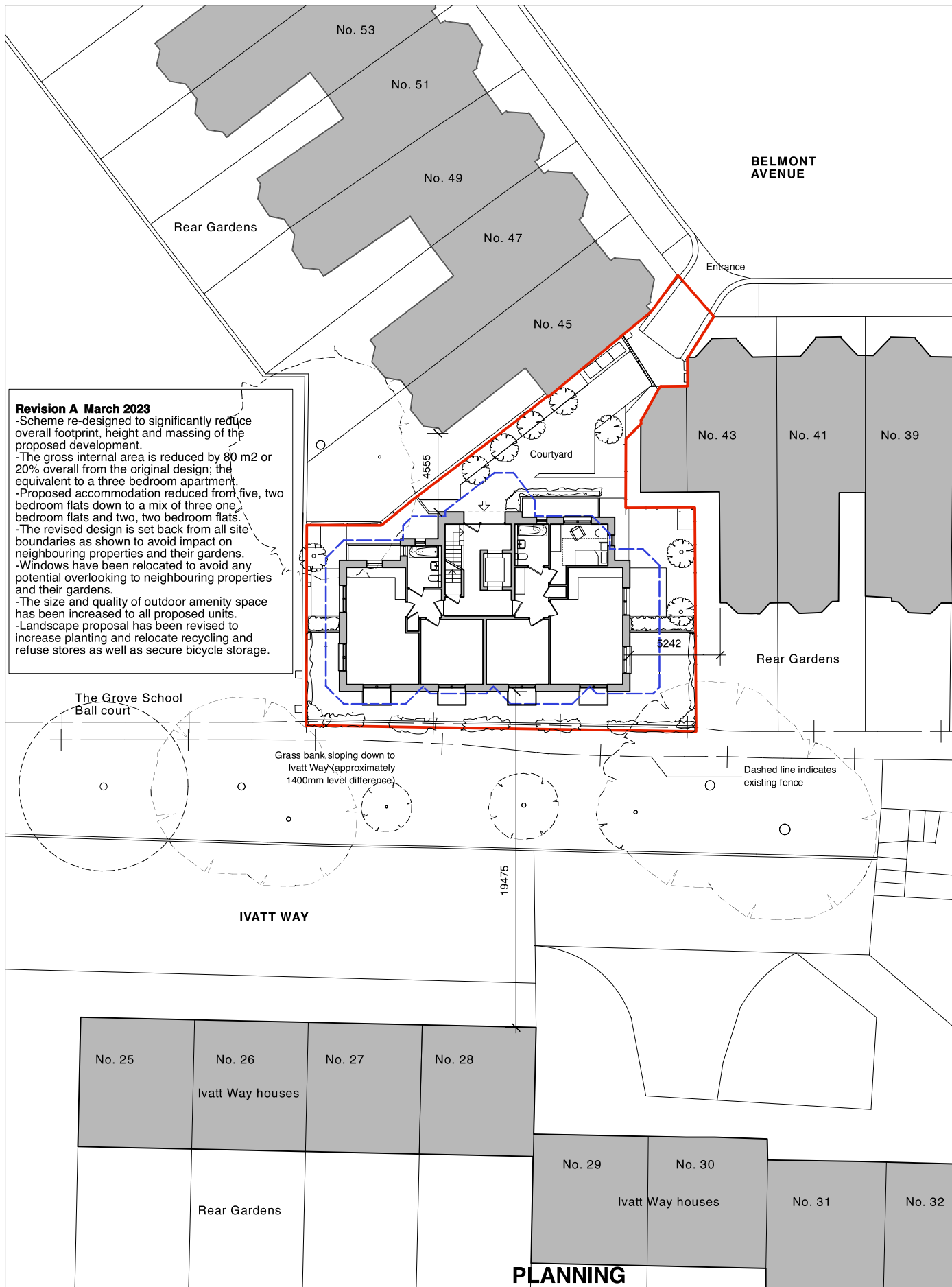


Photograph 14 – View of the two manholes at the entrance to the site.



A P P E N D I X B

Proposed Site Plans

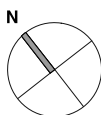


Revision A March 2023

- Scheme re-designed to significantly reduce overall footprint, height and massing of the proposed development.
- The gross internal area is reduced by 80 m² or 20% overall from the original design; the equivalent to a three bedroom apartment.
- Proposed accommodation reduced from five, two bedroom flats down to a mix of three one bedroom flats and two, two bedroom flats.
- The revised design is set back from all site boundaries as shown to avoid impact on neighbouring properties and their gardens.
- Windows have been relocated to avoid any potential overlooking to neighbouring properties and their gardens.
- The size and quality of outdoor amenity space has been increased to all proposed units.
- Landscape proposal has been revised to increase planting and relocate recycling and refuse stores as well as secure bicycle storage.

Notes:

Apartments designed to London Plan Guidance Housing Design Standards and to Part M4 (2): Category 2 Accessible and adaptable dwellings, including provision of Part M compliant lift. Drawings and design prepared for planning purposes only. Drawings based on measured survey undertaken by Survey London.



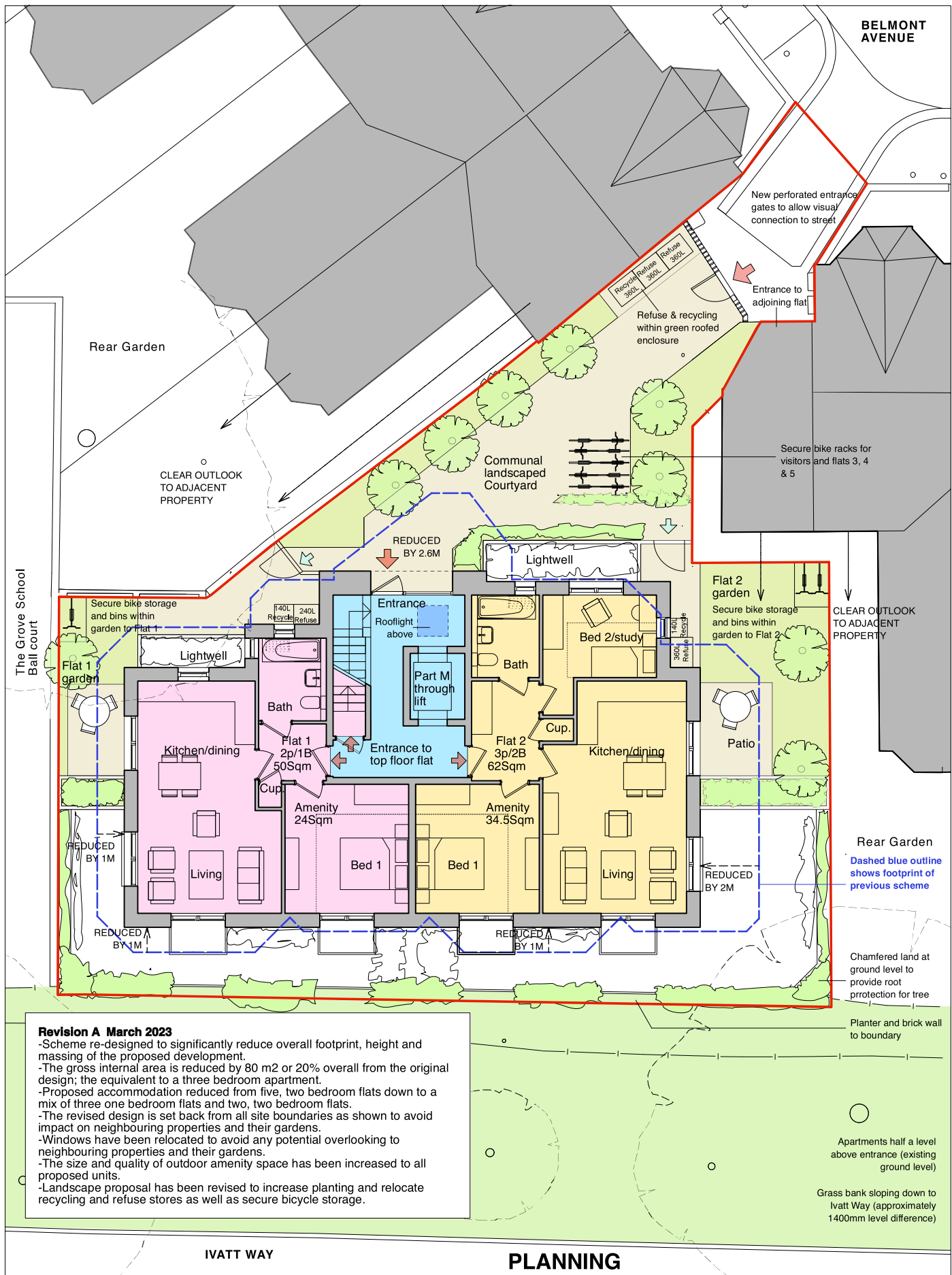
Site boundary ————



Julian Cowie Architects
70 Cowcross Street
London EC1M 6EJ
Telephone 020 7253 6333
Web www.jc-architects.co.uk
Email mail@jc-architects.co.uk

Revised Scheme
43 Belmont Avenue N17 6AX
Proposed Block plan (showing lower ground floor)

Scale: 1:200@A3 May 2022 PP_09 revA

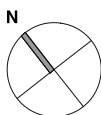


Notes:

Apartments designed to London Plan Guidance Housing Design Standards and to Part M4 (2): Category 2 Accessible and adaptable dwellings, including provision of Part M compliant lift

Drawings and design prepared for planning purposes only

Drawings based on measured survey undertaken by Survey London



Site boundary

0m 5m

PLANNING

Julian Cowie Architects
70 Cowcross Street
London EC1M 6EJ
Telephone 020 7253 6333
Web www.jc-architects.co.uk
Email mail@jc-architects.co.uk

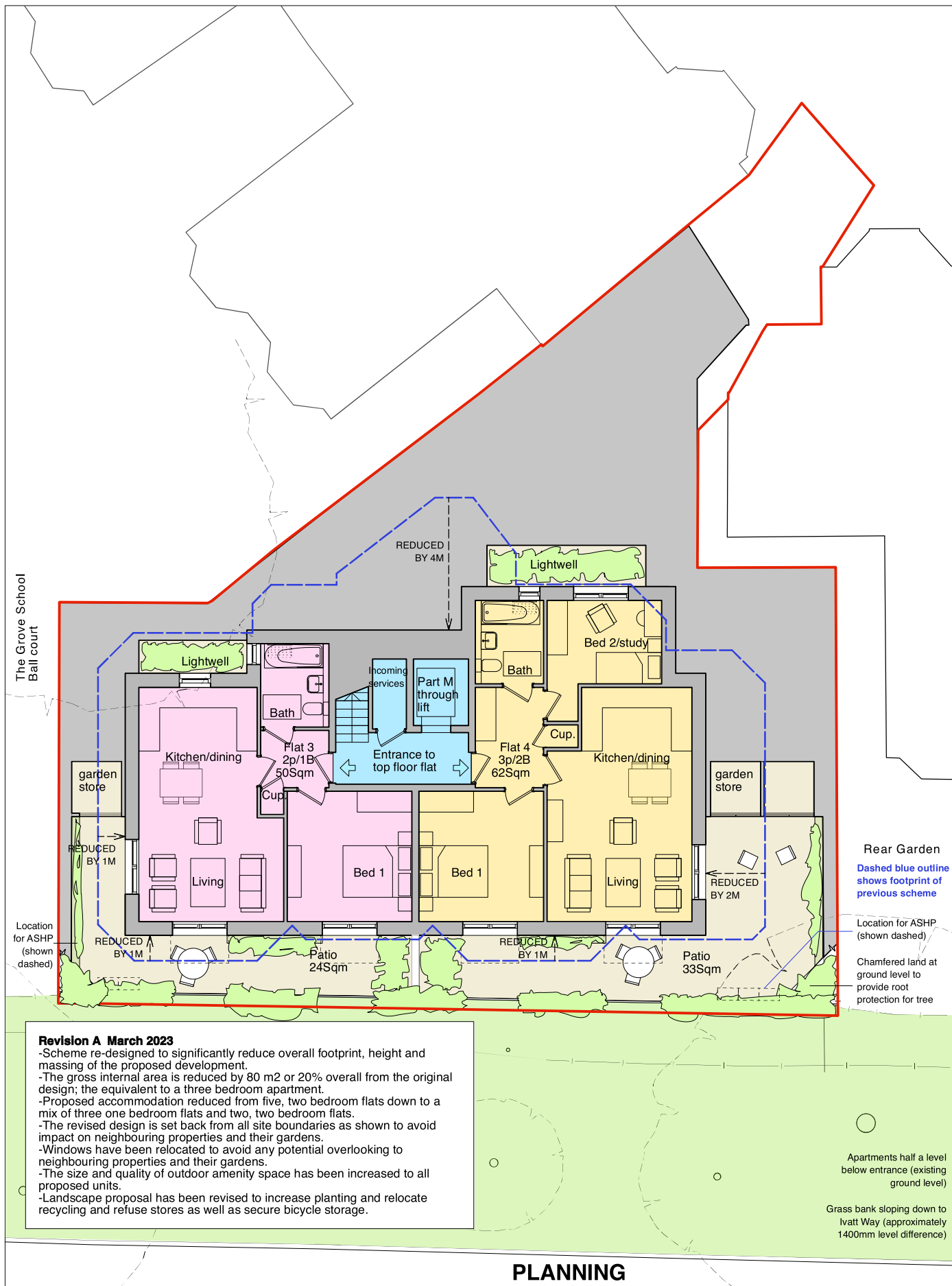
Revised Scheme
43 Belmont Avenue N17 6AX

Proposed Upper Ground Floor Plan / entrance level

Scale: 1:100@A3

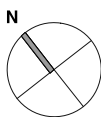
May 2022

PP_10 revA



Notes:

Apartments designed to London Plan Guidance
Housing Design Standards and to Part M4 (2):
Category 2 Accessible and adaptable dwellings,
including provision of Part M compliant lift
Drawings and design prepared for planning purposes
only
Drawings based on measured survey undertaken by
Survey London



Site boundary

0m 5m



Julian Cowie Architects
70 Cowcross Street
London EC1M 6EJ
Telephone 020 7253 6333
Web www.jc-architects.co.uk
Email mail@jc-architects.co.uk

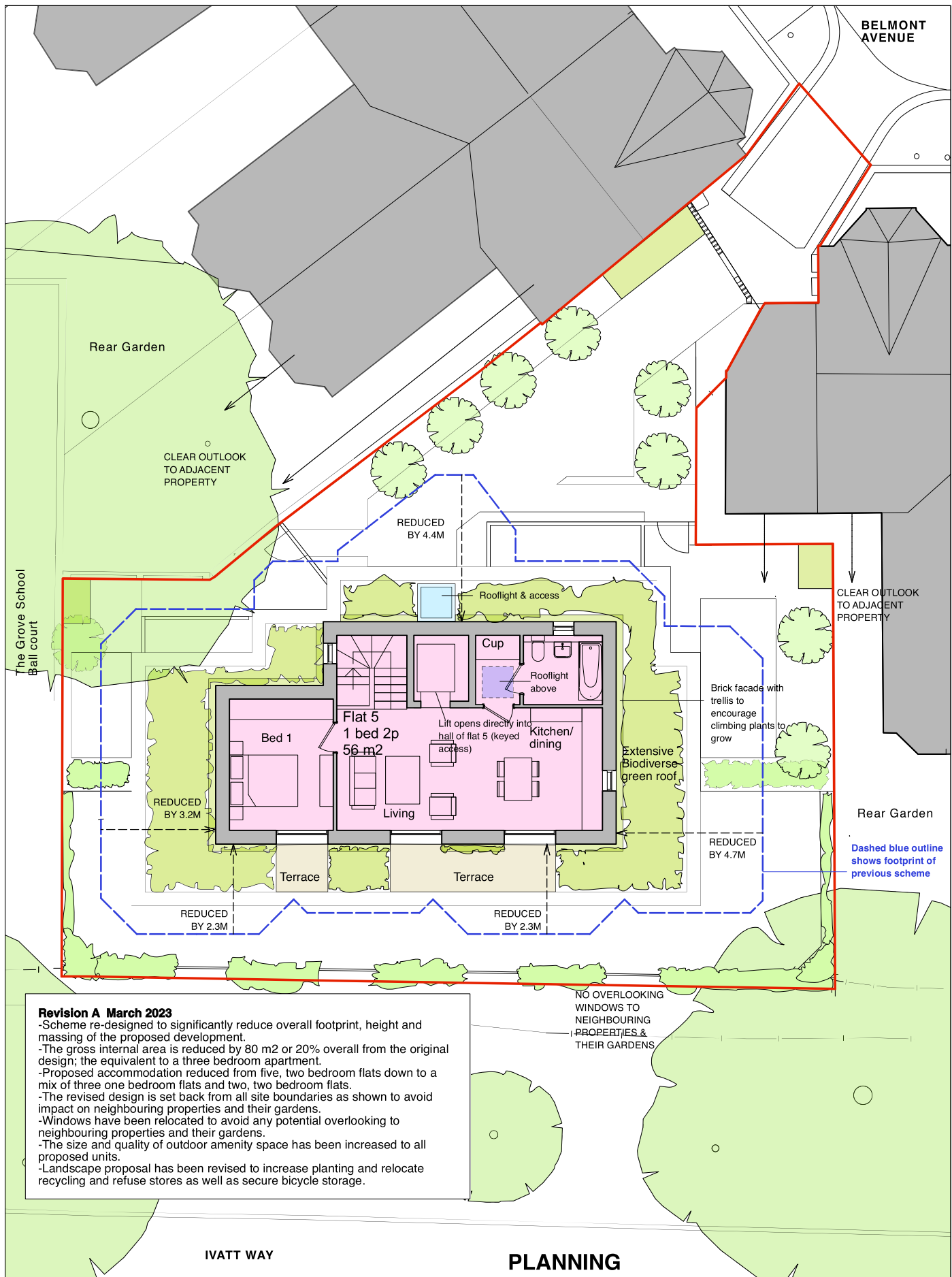
Revised Scheme
43 Belmont Avenue N17 6AX

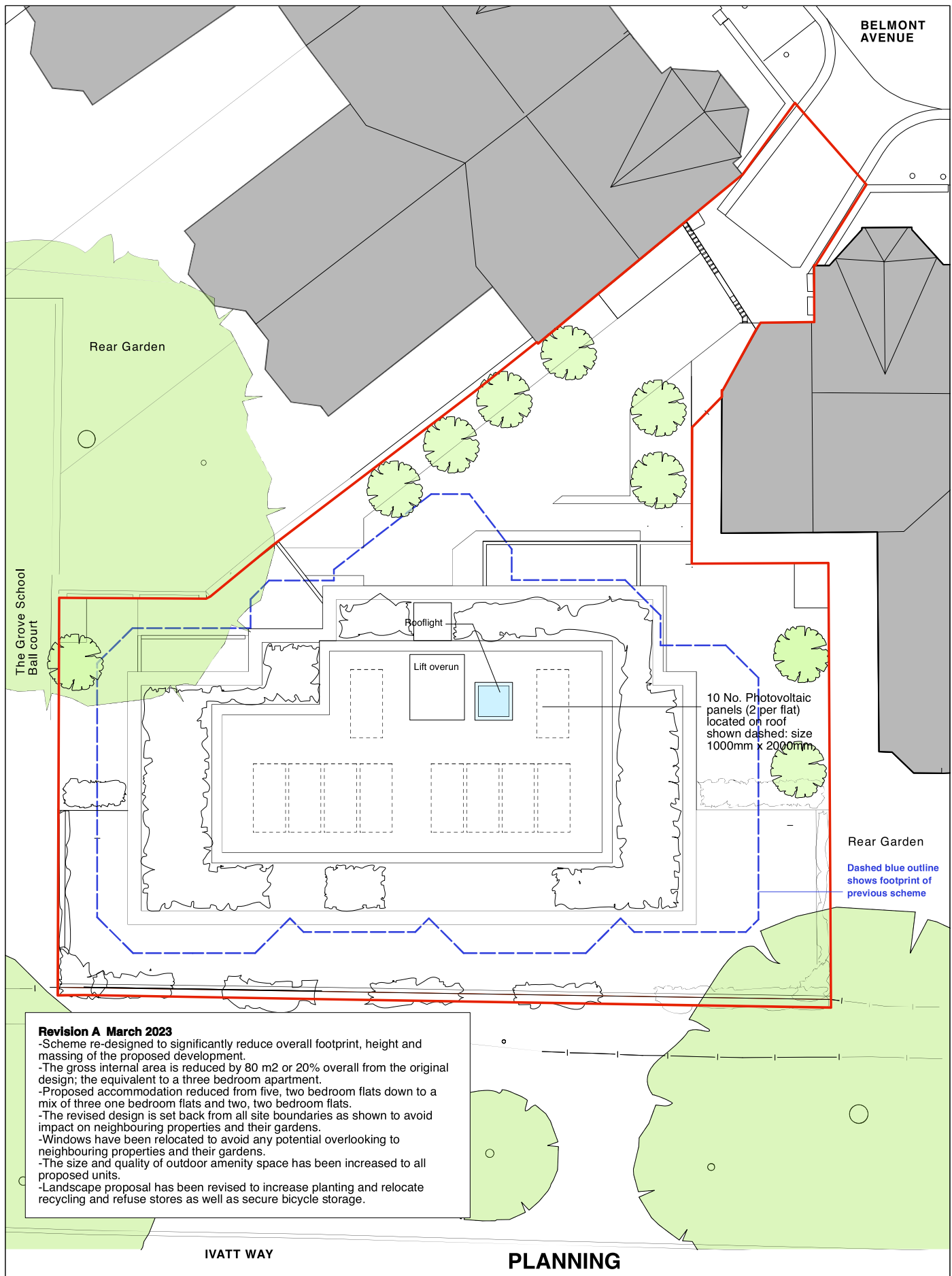
Proposed Lower Ground Floor Plan

Scale: 1:100@A3

May 2022

PP_11 revA



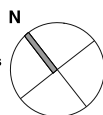


Notes:

Apartment designed to London Plan Guidance Housing Design Standards and to Part M4 (2): Category 2 Accessible and adaptable dwellings, including provision of Part M compliant lift

Drawings and design prepared for planning purposes only

Drawings based on measured survey undertaken by Survey London



Site boundary ———

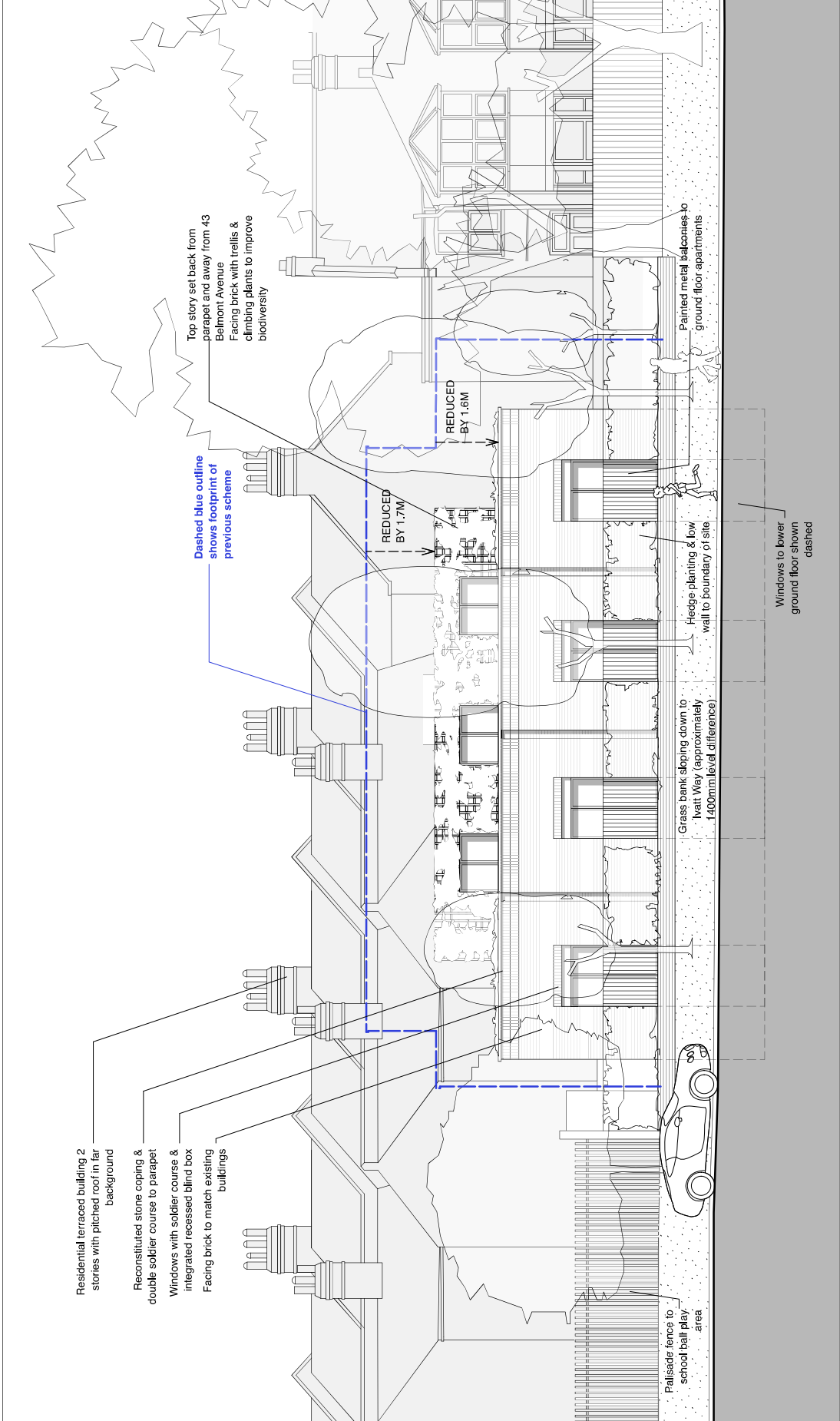
0m ——— 5m

Julian Cowie Architects
70 Cowcross Street
London EC1M 6EJ
Telephone 020 7253 6333
Web www.jc-architects.co.uk
Email mail@jc-architects.co.uk

Revised Scheme
43 Belmont Avenue N17 6AX
Proposed Roof floor plan

Scale: 1:100@A3 May 2022

PP_13 revA



Grove School

Site: Belmont Works

43 Belmont Avenue

Notes:
Apartments designed to London Plan Guidance Housing Design Standards and to Part M4 (2): Category 2 Accessible and adaptable dwellings, including provision of Part M compliant lift
Drawings and design prepared for planning purposes only
Drawings based on measured survey undertaken by Survey London

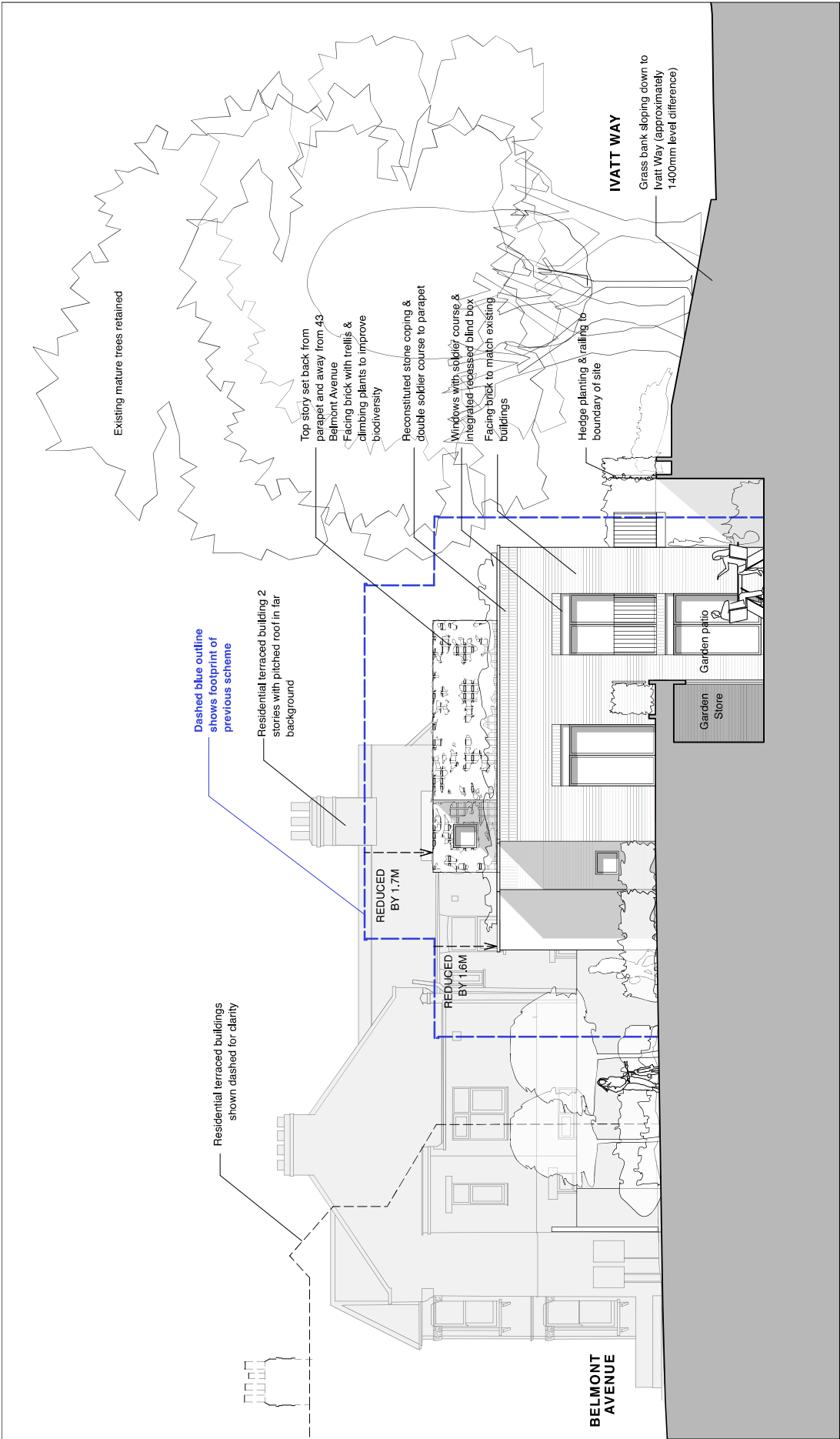


Revision A March 2023
-Scheme re-designed to significantly reduce overall footprint, height and massing of the proposed development.
-The gross internal area is reduced by 80 m2 or 20% overall from the original design; the equivalent to a three bedroom apartment.
-Proposed accommodation reduced from five, two bedroom flats down to a mix of three one bedroom flats and two, two bedroom flats.
-The revised design is set back from all site boundaries as shown to avoid impact on neighbouring properties and their gardens.
-Windows have been relocated to avoid any potential overlooking to neighbouring properties and their gardens.
-The size and quality of outdoor amenity space has been increased to all proposed units.
-Landscape proposal has been revised to increase planting and relocate recycling and refuse stores as well as secure bicycle storage.

PLANNING



Revised Scheme
43 Belmont Avenue N17 6AX
Proposed Ivatt Way/South West Elevation
Scale: 1:100@A3 May 2022 **PP_14 revA**



Belmont Avenue

Site: Belmont Works

Ivatt Way

Notes:
Apartments designed to London Plan Guidance Housing Design Standards and to Part M4 (2): Category 2 Accessible and adaptable dwellings, including provision of Part M compliant lift
Drawings and design prepared for planning purposes only
Drawings based on measured survey undertaken by Survey London



Revision A March 2023

- Scheme re-designed to significantly reduce overall footprint, height and massing of the proposed development.
- The gross internal area is reduced by 80 m² or 20% overall from the original design; the equivalent to a three bedroom apartment.
- Proposed accommodation reduced from five, two bedroom flats down to a mix of three one bedroom flats and two, two bedroom flats.
- The revised design is set back from all site boundaries as shown to avoid impact on neighbouring properties and their gardens.
- Windows have been relocated to avoid any potential overlooking to neighbouring properties and their gardens.
- The size and quality of outdoor amenity space has been increased to all proposed units.
- Landscape proposal has been revised to increase planting and relocate recycling and refuse stores as well as secure bicycle storage.

PLANNING

Julian Cowie Architects
70 Cowcross Street
London EC1M 6EU
Telephone 020 7253 6933
Web www.jc-architects.co.uk
Email mail@jc-architects.co.uk

Revised Scheme
43 Belmont Avenue N17 6AX
Proposed Flank 1/North West Elevation

Scale: 1:100@A3

May 2022

PP_15 revA