
PHASE I Desk Study, Site Reconnaissance

at: Barrington Road,
Goring-on-Sea, Worthing
BN12 4XH

for: Bellway Homes Ltd
(South London)

Report Reference: 3751077/06/01
Rev 02

Report Date: 24 October 2025

LEAP ENVIRONMENTAL GENERAL NOTES

Project No.: 3751077/06/01 Rev 02

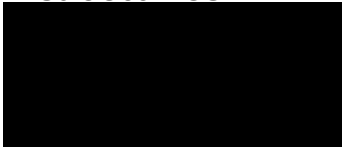
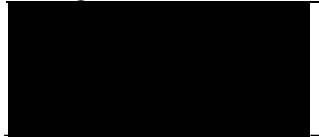
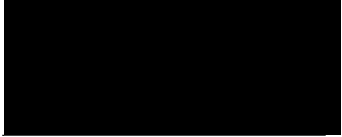
Title: Phase I Desk Study, Barrington Road, Goring-on-Sea, Worthing BN12 4XH

Client: Bellway Homes Ltd (South London)

Date: 26 February 2026

Office: Leap Environmental

Status: Rev 00

Author	Javier Zapata BEng, MICE	Technical reviewer	Phil Clare BSc CGeol FGS.
Signature		Signature	
Project manager	Javier Zapata BEng, MICE	Quality reviewer	Terri Hocken Administrator
Signature		Signature	

Revision control sheet				
Revision ref.	Date	Reason for revision	Amended by:	Approved by:
Rev 00	24/10/25	First issue	Javier Zapata	see above
Rev 01	26/02/26	Updated site layout	Javier Zapata	see above

RSK Environment Limited trading as Leap Environmental has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and Leap. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by Leap Environmental for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

This work has been undertaken in accordance with the quality management system of Leap Environmental. No part of this report may be copied or duplicated without the express permission of Leap Environmental and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

CONTENTS

1	EXECUTIVE SUMMARY	3
2	INTRODUCTION.....	4
2.1	Authority	4
2.2	Objective	4
2.3	Scope of works	4
2.3.1	Phase 1 scope	5
2.4	Sustainability considerations	5
2.4.1	Carbon reduction	5
2.5	Limitations	6
3	PHASE I – DESK STUDY	7
3.1	Site Description and Layout.....	7
3.1.1	Martlets Way Land	7
3.1.2	SGN Land	7
3.1.3	NIB Land	7
3.2	Topography	8
3.3	Neighbouring land use	8
3.4	Historical Site Usage.....	9
3.4.1	Historical map evidence.....	9
3.5	Geology.....	10
3.5.1	River Terrace Deposits (RTD)	10
3.5.2	Lewes Nodular Chalk Formation (LECH)	10
3.5.3	BGS boreholes.....	11
3.6	Hydrogeology.....	12
3.7	Hydrology	12
3.8	Flooding	13
3.9	Mining, extraction and natural cavities	13
3.9.1	Solution features	13
3.10	Surface Ground workings	14
3.11	Designated environmentally sensitive sites.....	14
3.12	Evidence of onsite contamination	15
3.12.1	Chemical storage/usage	16
3.12.2	Unexploded ordnance (UXO)	16
3.12.3	Waste planning and landfill records.....	17
3.12.4	Other regulatory records.....	17
3.12.5	Radon	17
3.13	Previous Investigations On-Site.....	17
3.13.1	Ground Investigation Report (Ref:R18-13236) – Ashdown Ground Investigation (December 2018)	18
3.13.2	Ground Investigation Report (Ref: STS5226) at HMRC Government Offices - Soiltechnics (April 2021)	18
3.13.3	Geo-environmental Report (Ref: CRM.1154.039.GE.R.001.A) at Barrington Road – Enzygo Ltd (June 2025).....	18
3.13.4	Geo-environmental Report (Ref: CRM.1154.026.GE.R.001.A) – Enzygo Ltd (December 2021)	19

3.13.5 Archaeological Desk-Based Assessment (Ref: – RPS Group (Tetra Tech) (October 2025).....	20
3.14 Previous Investigations in the Immediate Vicinity.....	20
3.14.1 Combined Geotechnical and Ground Contamination Risk Assessment Report at Inland Revenue (Ref: LW26215) – Ashdown Site Investigation (September 2015) ...	20
3.15 Decommissioning Reports.....	21
3.15.1 Gas Holder Demolition – Validation Report (Ref: 410/000690) – Montgomery Waston Harza (January 2002)	21
4 PRELIMINARY RISK ASSESSMENT	22
4.1 Preliminary geoenvironmental conceptual site model	22
4.1.1 Approach.....	22
4.1.2 Potential sources of contamination.....	22
4.1.3 Potential receptors.....	26
4.1.4 Potential contaminant linkages	26
4.1.5 Summary of geo-environmental preliminary risk assessment.....	27
4.2 Geotechnical risk assessment	27
4.2.1 Preliminary ground model.....	27
4.2.2 Geotechnical risk register	28
4.2.3 Summary of preliminary geotechnical risk register	28
4.3 Data gaps and uncertainties	29
4.4 Recommendations for intrusive ground investigation.....	29

Appendices

Appendix A – Service constraints

Appendix B – Figures and drawings

Appendix C – Site Walkover Survey

Appendix D –Groundsure report

Appendix E – Preliminary risk assessment and geotechnical risk register Tables

1 EXECUTIVE SUMMARY

The site, located off Barrington Road, Goring-by-Sea, Worthing (BN12 4XH), has an approximate National Grid Reference of TQ 11617 03077 and lies at an elevation of around 11mAOD. The land covers approximately 4.25 ha and comprises three parcels, known as Martlets Way Land, SGN Land and NIB Land. The site is currently vacant and generally level, with areas of hardstanding, compacted made ground, grass and scrub vegetation. Tree belts are present along parts of the boundaries, with residential and commercial properties to the south and east, a railway line and industrial land to the north, and open land to the west.

Historically, the wider site has been occupied by industrial and utility infrastructure since the early 20th century, including gasworks, sewage treatment facilities, and later Inland Revenue (HMRC) offices. Former gas-holder structures were located within the SGN Land, and sewage treatment tanks and filter beds occupied parts of Martlets Way Land. These facilities were progressively decommissioned between the late 1990s and early 2000s. Validation documentation confirms the below-ground gasholder was punctured for drainage and backfilled with compacted Class 1A fill to 2m below ground level in 2001, following the Montgomery Watson Harza (2000) design specification and VHE Construction (2001) completion report. No equivalent decommissioning report has been located for the former sewage-works area.

The site is mapped as being underlain by superficial River Terrace Deposits over the Lewes Nodular Chalk Formation. The superficial deposits are classed as a Secondary B aquifer, while the underlying chalk is designated a Principal Aquifer. No groundwater Source Protection Zones or licensed abstractions are recorded within 1 km of the site. Groundwater is anticipated at depths of around 5m to 7m below ground level.

The site is not located within an Environment Agency fluvial flood zone but is reported to be at moderate to high risk of groundwater flooding and at low risk of surface water flooding. No surface water features are present on or adjacent to the site.

Nineteen areas of historical ground workings are recorded on site, primarily associated with former industrial operations, unspecified heaps, pits, sewage works and cuttings. The site is within an area affected by non-coal mining, with one record of historical stone mining but no mapped natural or mining cavities within 1 km. The risk from ground dissolution and subsidence is classified as very low.

The site lies within an area where 1 to 3% of properties are affected by radon, and no protective measures are required. No statutory contaminated land designations or regulatory records of pollution incidents are present on or within 250 m of the site.

The desk study identifies moderate to high potential environmental and geotechnical risks primarily associated with historic gasworks, sewage-works operations, and skip-yard activity. Contamination is expected to be localised within Made Ground, with potential moderate risk to the underlying Principal Aquifer if residual hotspots persist. Deep Made Ground, buried obstructions, and possible UXO represent additional geotechnical hazards.

2 INTRODUCTION

2.1 Authority

RSK Environment Ltd trading as Leap Environmental (hereafter referred to as **LEAP**) were engaged by Bellway Homes Ltd (South London) herein referred to as the “Client” to carry out a Phase I desk study report and site reconnaissance at the land at Barrington Road, Goring-by-Sea, Worthing, BN12 4XH.

The works were undertaken by means of **LEAP's** fee proposal quote LPQ12519 dated 21st August 2025 including RSK Standard Terms and Conditions, which forms the appointment between **LEAP** and the Client.

References in this report to ‘we’, ‘us’ or ‘our’ shall mean Leap Environmental as a trading name of RSK Environment Limited (company no.SC115530) at registered address 65 Sussex Street Glasgow G41 1DX.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A – Service Constraints**.

The site is approximately 4.25Ha in size and is located at NGR TQ 11617 03077 with the nearest postcode being BN12 4XH (Drawing No. 11101, **Appendix B**).

2.2 Objective

LEAP understands that the site is currently owned by Bellway Homes Ltd (South London) and it is proposed to redevelop the site with 123 residential units and 1,400m² of commercial floorspace at Durrington Gasworks Site, Martlets Way, Worthing. The majority of units are two storey, apart from several 2.5 storey units, and apartments which are 3 storeys as per the attached layout in Drawing 11601, **Appendix B**.

The proposed development is currently at a pre-planning phase and has been assessed in accordance with BS EN 1997¹, as being a Geotechnical Category 2 structure.

The objectives of this report are to:

- provide information on the geotechnical and environmental quality of the ground present on the site with respect to the proposed development in
- assess the potential health and other environmental risks posed by the site to the proposed development and to other specifically identified receptors.
- assess the potential for offsite contamination to adversely affect the proposed development.

2.3 Scope of works

This report describes a two-stage process whereby the site is investigated and risks are assessed. The terms geotechnical and geoenvironmental are referred to throughout the report.

¹ BS EN 1997-1(2004)+A1:2013 Eurocode 7:Geotechnical Design: General Rules

Geoenvironmental refers principally to the chemical nature of the ground and the degree of soil, water and/or land gas contamination and the impact that contamination may have on current or future development and on the wider environment.

Geotechnical refers to all other aspects of the ground conditions and the impact they may have on the physical construction of existing or future development, principally foundations, slope stability, drainage, pavement and road design and groundwater control.

2.3.1 Phase 1 scope

The first part of this report presents the results of a desk study and site reconnaissance. It provides a review of previous site investigation and remediation validation reports, where they have been made available by the Client or where LEAP has been able to locate that information from third party sources. The previous reports referred to are detailed above. The following publicly accessible sources of information have also been reviewed:

- British Geological Survey (BGS) 1:50,000 Series Geological Map Sheet 333 'Worthing' Drift 1893 and 318 'Brighton' Drift ed. 1924
- BGS 'Geology of Britain' online viewer accessed on 20th October 2025.
- BGS Borehole log TQ10SW13, TQ10SW4/A-B, TQ10SW176, TQ10SW167. located within 5m of the site boundary.
- Groundsure database report (GS-RP8-BC6-RYT-LTW)
- Unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica.

A site reconnaissance was carried out on 15 October 2025.

The desk study and site reconnaissance have been used to develop an initial conceptual site model, which forms the basis for the site investigation strategy. The initial site conceptual model is used to identify geotechnical and geoenvironmental hazards and the qualitative degree of risk associated with them. In terms of the geoenvironmental assessment the conceptual site model is used to identify potential sources of contamination, potential receptors and pathways by which the two may be connected. These are known as possible contaminant linkages and it is these contaminant linkages that are key to contaminated land risk assessment.

The Phase I investigation is also referred to as a Preliminary Investigation³.

2.4 Sustainability considerations

2.4.1 Carbon reduction

There is an urgent need to optimise redevelopment to significantly reduce the carbon footprint of the process without compromising the requirement for delivering a safe and suitable use of the site. With that in mind, LEAP has worked in partnership with the University of Surrey to develop a series of carbon reduction design tools (CReDiT). These provide information on the embodied carbon cost

³ BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites – Code of Practice.

of its report recommendations and encourage the conversation about carbon at an early stage in the design process.

Consideration has been taken throughout the report to align the recommendations with climate protection, circular economy and sustainable materials.

LEAP recognises the unique position that it occupies at the very beginning of development projects and the value of informing clients on the carbon cost of design recommendations. As such, headline information from the CReDiT tools is provided in site investigation reports without additional cost to the client. This is being done to engage furthermore detailed consultation where the full range of LEAP's sustainability capabilities can be deployed.

2.5 Limitations

This report is subject to the RSK service constraints given in **Appendix A** and limitations that may be described below and throughout this document.

This report was prepared in accordance with good practice guidance at the time of issue. Consideration should be considered in the light of changes in legislation, statutory requirements, or industry practices subsequent to the date of issue.

The opinions expressed in this report, and the comments and recommendations given, are based on the information obtained from the desk assessment and the site reconnaissance survey. No intrusive investigations have been undertaken to confirm the actual ground conditions and hence the environmental status of the site.

The study aims to principally identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

The comments given in this report and the opinions expressed are primarily based on third party data and investigations, while RSK have undertaken a review of the information provided RSK cannot be held liable for the quality of the data provided. There may be conditions pertaining to the site that have not been disclosed by the investigations and therefore could not be considered.

3 PHASE I – DESK STUDY

3.1 Site Description and Layout

The site comprises three distinct parcels of land located off Barrington Road and Woods Way, Durrington-on-Sea, Worthing, West Sussex, centred approximately at NGR TQ 11617 03077. The combined area covers approximately 4.25 ha as shown in Drawing 1101, **APPENDIX B**.

The site is bounded to the north by a railway line and industrial premises, to the west by further industrial premises, to the south by residential housing along Motrose Close and Juno Close and to the east by the active Phase 1 development of the broader site complex.

A plan showing the current land ownership is included in Drawing 11201 in **Appendix B**. A brief description of each section of the site is presented below.

3.1.1 Martlets Way Land

This area occupies the central and west portion of the site and corresponds to the former Worthing Sewage Works. The land is currently used for skip storage with a small compound located along the western boundary of the land but largely open and unoccupied with remnants of the former sewage treatment tanks still visible in the form of localised mounds and depressions corresponding to former structures and backfilled areas.

The surface cover comprises a mix of made ground, compacted hardstanding and area of exposed soil and rough vegetation. A narrow access track enters from the west via Martlets Way and runs into the central part of the parcel.

3.1.2 SGN Land

The SGN Land comprises the easternmost and largest section of the site and remains largely undeveloped and overgrown. The land is characterised by dense grassland, brambles and mature trees, particularly along the northern section of the site. Topography is gently undulating, with localised raised ground in the southwestern section of the land and a large, raised mound following an “L” shaped along the centre and north section of the parcel.

Several concrete bases and short sections of tarmac are present within the vegetation, along with fencing remnants and an abandoned electric substation near the western edge. No buildings or structures are currently in use and the parcel appears to serve no active operational purpose. Boundary treatments include chain-link and palisade fencing in variable condition with informal access paths leading to Martlets Way Land.

3.1.3 NIB Land

The NIB Land, part of the former HMRC office, lies to the southeast of the site and it is currently being used as site compound offices for the Bellway Phase 1 development located directly to the east of the site. The ground surface is predominantly concrete and asphalt with marked parking areas, service yards and small patches of ornamental planting along the boundaries. Access is gained directly from Barrington Road via a gated entrance, with internal circulation provided by surfaced surface driveways.

A site walkover survey was completed on Wednesday 15 October 2025 and photographs are included in **APPENDIX C**.

3.2 Topography

The site lies at elevations ranging between approximately 8 m and 13 m Above Ordnance Datum (AOD). The land generally falls from the north and west towards the south and east, with notable local variations across each parcel.

- The Martlets Way Land sits on an overall elevation of around 12m to 13 mAOD with a noticeable depression in the western section of the land falling to a level of approximately 8mAOD.
- The NIB Land, located to the south-east, lies at similar elevations of 11m to 12mAOD, forming a relatively level surface.
- The SGN Land occupies the highest ground in the north-east, where localised raised areas reach up to 13mAOD, with shallow depressions and slopes trending south-west towards Martlets Way Land at around 11mAOD.

These variations in level are consistent with areas of historical ground raising and cut-and-fill activity, resulting in irregular microtopography with small embankments and shallow hollows particularly evident in the central and northern parts of the site. The site topography is illustrated in MKSurevys drawing 30510 Rev 1 Sheet 1-4 included in **APPENDIX B** of this report.

3.3 Neighbouring land use

The following neighbouring features were identified as potential sources of contamination or environmental concern:

- **Commercial and light industrial estate** – Business and industrial units are located immediately east along Martlets Way, including small workshops, offices, and warehouses such as GB Electronics UK Ltd, Kenads Printers and other local businesses.
- **Former utilities land** – To the west, land associated with the former sewage treatment works and gas holder station is now partly used for plant hire and storage. The Groundsure data records the historic British Gas Gasholder Station (Barrington Road) as a former Notification of Installation Handling Hazardous Substances (NIHHS) site.
- **Residential housing** – Established residential dwellings are located to the south along Barrington Road, with private gardens backing onto the site boundary.
- **Railway line** – An active railway line forms the northern boundary, acting as a physical barrier between the site and residential housing beyond.
- **Pumping Station** – The Groundsure report (GS-RP8-BC6-RYT-LTW) shows a water pumping station located 30m to the south of the site.

Groundsure data confirms no current or historical fuel stations or bulk fuel storage tanks within 500 m of the site boundary and no active COMAH or Part 2A Contaminated Land sites nearby.

3.4 Historical Site Usage

Historical Ordnance Survey maps indicate that the site comprised undeveloped fields until the mid-20th century.

By the early 1950s, earthworks and sewage tanks were present on the western portion of the site forming part of the West Worthing Sewage Treatment Works. The works expanded slightly during the 1960s–1970s, with the addition of sludge beds and further sewage tanks, occupying most of the area now corresponding to Martlets Way Land.

To the west of the site, an area shown as a Corporation Yard appeared on mapping from the post-war period, likely associated with Worthing or Durrington municipal construction and maintenance operations. These facilities may have supported storage of materials, vehicles and fuels, as well as general works depots typical of post-war urban expansion. Further research may be warranted to determine the specific activities undertaken and potential for contamination from municipal or maintenance operations.

A large gas holder and associated plants were located in the east of the site and remained active from the 1930s until the early 2000s. These features are associated with the SGN parcel and represents a potential source of contamination on site.

By the early 2000s, the sewage works were no longer shown on maps, and the area became derelict land. The former treatment tanks appear to correspond to the current excavation noted on site, approximately 3.5m deep (based on MKS Surveys Topographical Survey Drawings Ref:30510-1), within which skips are currently stored.

Surrounding land included a brick works approximately 170 m east. A business park and light industrial units were later developed to the west and north.

Overall, the site's historical uses, particularly the former sewage treatment works, Corporation Yard, and on-site gas works, represent the principal potential sources of contamination. These activities are likely to have resulted in localised impacts from sewage sludge, hydrocarbons, tars, and other anthropogenic materials within made ground.

Additional historical features include a brick pit to the south of the site, a pumping station associated with the sewage infrastructure, and areas of chalk and gravel extraction nearby, particularly along the railway corridor to the north. Collectively, these features indicate a long history of industrial and municipal land use within and adjacent to the site, contributing to an overall moderate to high potential for contamination in near-surface soils and groundwater.

3.4.1 Historical map evidence

The historical development and land use of the site have been reviewed with reference to the Groundsure historical Ordnance Survey maps (1875–2025) and supplemented by local records.

In the late 19th century (1870s–1900s), the site and its surroundings were undeveloped open fields located north of Barrington Road and south of the railway line. Only scattered farm tracks and field boundaries were recorded, and the area was agricultural land on the outskirts of Goring.

By the early 20th century, brickworks and small-scale extractive activity appeared in the vicinity, particularly to the west, while the land itself remained open. By the 1930s, the site was associated with gasworks and utility land, with early industrial activity appearing near what is now the SGN parcel.

Mid-century mapping (1950s–1970s) shows significant redevelopment, with the establishment of Inland Revenue offices (HMRC complex) to the east of the site. Surrounding areas became progressively more urbanised, with new housing estates to the south and east and the expansion of commercial and industrial premises along Martlets Way.

From the 1980s onwards, the gasholder and sewage work sites were gradually decommissioned. The most recent mapping (2010–2025) records the site as vacant and partly cleared, with areas of hardstanding, made ground and overgrown vegetation, and adjacent land undergoing redevelopment for residential use to the east.

Table 1: Summary of historical map evidence (Map Scale 1:1,250 to 1:10,560)

Year	On site	Surrounding area
1875 to 1909	Undeveloped open fields with field boundaries and tracks.	Rural farmland; scattered dwellings south of Barrington Road. Railway line present to the north.
1930	Early industrial use associated with utility land and possible gasworks expansion.	Railway established to the north; increasing residential development to the south and east.
1950 to 1970	Development of Inland Revenue offices; gasholder and utilities infrastructure to the west.	Urban expansion with new residential housing and commercial units along Martlets Way.
1980 to 2000	HMRC complex operational; gasholder and sewage works gradually decommissioned.	Surrounding area fully developed as suburban residential housing.
2010 to 2025	Site largely cleared and vacant; remaining hardstanding, scrub and tree belts.	Adjacent areas redeveloped for housing and light commercial use; overall suburban environment.

3.5 Geology

The geology of the site has been ascertained by reference to the 1:50,000 British Geological Survey sheet 333 and 318, solid and drift edition, the BGS website (www.bgs.ac.uk) and the Groundsure report. The site is mapped as being underlain by River Terrace Deposits (Previously noted as Brickearth deposits) over Lewes Nodular Chalk Formation.

3.5.1 River Terrace Deposits (RTD)

River Terrace Deposits consist of alluvium forming one of a series of level surfaces in a stream or river valley, produced as the dissected remnants of earlier abandoned floodplains. Sand and gravel, locally with lenses of silt, clay or peat.

3.5.2 Lewes Nodular Chalk Formation (LECH)

Composed of hard to very hard nodular chalks and hardgrounds (which resist scratching by fingernail) with interbedded soft to medium hard chalks (some grainy) and marls; some griotte

chalks. The softer chalks become more abundant towards the top. Nodular chalks are typically lumpy and iron-stained (usually marking sponges). Brash is rough and flaggy or rubbly and tends to be dirty. First regular seams of nodular flint, some large, commence near the base and continue throughout.

3.5.3 BGS boreholes

The online BGS Geoindex (<http://www.bgs.ac.uk/geoindex/>) has been reviewed for detailed local geological and hydrogeological information.

Table 2 below provides a summary of the ground and groundwater conditions encountered within the BGS borehole records mapped within a 250m radius from the site.

Table 2: Summary of BGS borehole records

Borehole Reference	Distance from Site	Details
TQ10SW13	On Site	Drift comprising yellow clay, gravel and sand to ~3.0mbgl. Reading Beds comprising clay and soft marl to ~4.26mbgl. Upper Chalk comprising soft to hard chalk with black flints to ~23.0mbgl. Groundwater resting depth measured at ~6.2mbgl
TQ10SW4/A-B		Topsoil and Made Ground encountered to ~ 0.46mbgl and 0.76mbgl respectively. Drift comprising firm to stiff brown sandy clay containing rare stones overlying sand and gravels encountered between 4.72mbgl and 5.33mbgl Firm to stiff clayey chalk to 7.6mbgl. No water recorded
TQ10SW176	5m south of Martlets Way	Drift comprising brickearth formation, sand and gravels to ~7.9mbgl. Upper Chalk comprising marl and chalk to ~30.5mbgl Groundwater resting depth measured at ~4.8mbgl
TQ10SW167		Made Ground comprising soft to firm dark silty clay with chalk fragments and organic remains to ~1.90mbgl. Brickearth comprising soft brown slightly fine sandy silty clay with occasional bands medium gravel to ~7.25mbgl Chalk gravel to ~11.30mbgl Chalk to 15.0mbgl – End of borehole Water strike at ~7.0mbgl.

3.6 Hydrogeology

The hydrogeology of the site has been ascertained from the Groundsure data report. The source of the data is reported to be the Environment Agency groundwater vulnerability mapping. A summary of the hydrogeology classification for the site is presented in Table 3 below:

Table 3: Hydrogeology

Superficial Deposit	Secondary B
Bedrock	Principal
Source Protection Zone	None on site
Licensed Abstractions	None on site

The superficial River Terrace Deposits soils which are mapped beneath the site are classified as a **Secondary B** aquifer whilst the underlying Lewes Nodular Chalk is classed as **Principal Aquifer**. A definition of the aquifer designations is provided below:

- **Principal Aquifer:** These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.
- **Secondary A:** Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
- **Secondary B:** Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
- **Secondary Undifferentiated:** Has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- **Unproductive Strata:** These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The site is not situated within a groundwater Source Protection Zone. The Groundsure report lists no active abstraction licences within 1km of the subject site. The nearest is located 1,227km to the northwest of the site and is licensed for Potable Water (*Borehole at Romany Road Worthing*).

3.7 Hydrology

There are no surface water features within the site or adjoining the site boundary.

The Groundsure report lists the nearest surface water feature as Ferring Rife, located 852m to the northwest of the site.

Four historical discharge consents are recorded in the Groundsure database in relation to the site and its immediate surroundings. Two of these were located onsite and related to the former sewage treatment works, permitting the discharge of treated effluent into a coastal receiver. The remaining two were located approximately 171 m southwest of the site and associated with sewage storm overflow into controlled sea and saline estuary outfalls.

All four discharge consents have since been revoked, and no active consents or licensed discharges are currently registered for the site or within 250 m of its boundary. The revocation reflects the decommissioning of the former sewage infrastructure and the absence of any current discharge pathways or water treatment operations within the site.

3.8 Flooding

According to the Environment Agency, the site is not located within a designated fluvial or tidal flood zone.

The Groundsure report identifies the site to be at risk of surface water flooding during a 1 in 30-year event, with predicted flood depths in the range of 0.1–0.3 m. This risk corresponds primarily to localised low points within the site, particularly across areas of lower ground along the southern parts of the NIB Land and central depressions within Martlets Way Land, where surface gradients flatten towards approximately 10–11 m AOD.

The wider topography (ranging between 8 m and 13 m AOD) indicates that surface runoff is likely to accumulate within these depressions before draining southwards towards Barrington Road, where highway drainage is expected to intercept overland flow.

Groundsure also records the site to be generally at Moderate risk groundwater flooding, except in areas where historical tanks were located and ground level has been reduced which increases to High risk.

3.9 Mining, extraction and natural cavities

The Groundsure report indicates that the site lies within an area affected by non-coal mining. One entry is recorded onsite, previously attributed to stone mining; however, based on local geological context, this more likely relates to chalk or gravel extraction rather than hard rock workings.

Historical records and mapping evidence suggest the presence of a chalk pit located immediately south of the site, and a former gravel or sand extraction area possibly extending into the southern part of the wider site boundary. These activities are typical of shallow extraction from the River Terrace Deposits and underlying White Chalk Subgroup, which are locally worked for aggregate and fill material.

The Groundsure report confirms that no natural dissolution features or mining-related cavities are mapped within 500 m or 1,000 m of the site boundary. No evidence of ground instability or void-related subsidence was observed during the site reconnaissance, and no active or recent extraction activity is present within or adjacent to the site.

3.9.1 Solution features

The Groundsure report (Ref: GS-RP8-BC6-RYT-LTW) indicates that most of the site lies within an area of very low risk from ground dissolution of soluble rocks. This suggests that while the underlying White Chalk Subgroup is a soluble formation, the potential for natural dissolution features or ground subsidence is minimal in this location. The risk of localised instability associated with chalk solution features is therefore considered negligible to very low across the majority of the site.

However, the south-western corner of the site lies within an area mapped as negligible to low risk, where isolated minor dissolution features may occur. This aligns with the general geological setting of the wider Worthing area, where shallow chalk overlain by River Terrace Deposits can occasionally be susceptible to small-scale ground movement due to localised solution or collapse of infilled features.

Recent national press coverage (e.g. Wokingham Today, 2024) has highlighted isolated sinkhole occurrences in southern England, attributed to dissolution of underlying chalk. While such incidents demonstrate that these processes can occur regionally, no evidence of ground instability or surface depressions was observed within the site boundary during the walkover, and the overall risk at this location remains low.

3.10 Surface Ground workings

A total of thirteen entries are recorded within the site boundary relating to Surface Ground Workings. These comprise a mixture of heaps, pits, cuttings, and engineered features identified from historical mapping and topographic data.

The recorded entries are consistent with the current site layout and observed features during the walkover:

- Six entries described as unspecified heaps correspond to the mounded and uneven ground within Martlets Way Land and SGN Land, where made ground and raised areas are evident from recent topographic surveys (levels up to 13mAOD).
- One unspecified pit likely represents a backfilled excavation or void associated with former infrastructure near the centre of Martlets Way Land, visible as a shallow depression within rough ground.
- Four entries associated with sewage works relate to the former sewage treatment infrastructure that previously occupied the Martlets Way Land, the remnants of which are still partially visible as concrete slabs and disturbed ground.
- Two entries with cuttings are located along the northern boundary of SGN Land, adjacent to the railway line, and likely represent minor embankment or excavation works associated with rail construction and site access.

Overall, the recorded ground workings align with the current variability in site levels and localised areas of made ground, as observed in the topographic survey. These features are indicative of previous ground re-profiling and filling activities, with no evidence of active excavation or material stockpiling at the time of the walkover.

3.11 Designated environmentally sensitive sites

A review of designated environmentally sensitive sites presented within the Groundsure report has been carried out. The dataset refers to a number of sensitive sites including the following:

- Sites of Special Scientific Interest (SSSI)
- Records of National Nature Reserves (NNR)
- Areas of Special Conservation (SAC)

- Records of Special Protection Areas (SPA)
- Records of Ramsar Sites
- Records of Local Nature Reserves
- Ancient Woodland Records.

Six entries have been recorded within 2000m of the site, all relating to Ancient Woodlands. The nearest Ancient Woodlands is labelled as unknown and is located 1122m northwest of the site.

3.12 Evidence of onsite contamination

A walkover survey was carried out on the 15th of October 2025.

The following features were identified as possible sources of contamination:

- **Former Gas Storage Tanks**
 - Evidence of historical gas storage infrastructure, including a large gas holder base and associated concrete foundations within the eastern part of the site.
 - Indicative of former town gas operations, with potential for contamination from tars, oils, phenols, cyanides and PAHs.
 - Surrounding made ground may contain hydrocarbon-impacted soils, spent oxide material and asbestos debris from historical use and demolition.
- **On-site Substations**
 - Two electrical substations present within the site; one located near the western boundary (Martlets Way Land) and another within the eastern parcel (SGN Land).
 - Substations are potential localised sources of contamination from leakage of insulating oils (including historical PCBs) and metal residues associated with electrical equipment and foundations.
- **Skip yard activity (Martlets Way Land):**
 - Identified as a potential source of contamination due to historic and/or current waste-handling and storage operations, including the temporary storage and movement of skips, construction waste and materials.
 - The Groundsure database records a waste exemption for the site, indicating permitted waste-related activity without a full management licence.
 - Potential contaminants include hydrocarbons, metals, polycyclic aromatic hydrocarbons (PAHs), asbestos, and general mixed waste residues, reflecting the variable nature of materials typically stored and transferred in skips.
 - While no evidence of active waste treatment was observed during the walkover, historic residues may remain within made ground and underlying soils, particularly in areas of former skip storage or vehicle activity.
- **Former industrial land uses:**

- The site includes land previously used as a gasworks and sewage water treatment plant, both of which are typically associated with ground contamination (e.g. PAHs, PFAS, cyanides, heavy metals, hydrocarbons, Asbestos).
- **Uneven ground and raised mounds:**
 - Mounded areas and cut platforms across the site may indicate the presence of made ground or backfilled materials, potentially containing demolition debris, clinker, ash, or other waste consistent with historical industrial use.
- **Adjacent contamination sources:**
 - Potential for migration of contaminants from railway lines and industrial sites located north of the site (as identified in walkover notes).
- **Historical materials on site:**
 - During the site walkover visit, historical structures were noted in the centre of the site relating to potential remains of former industrial operations that may conceal residual contamination beneath slabs or foundations.
- **Visual condition of ground:**
 - Though no strong odours or staining were noted, the combination of historic gasworks and sewage plant uses, skip yard operation, and uneven made ground strongly suggests potential for underlying contamination even in absence of overt visible evidence.

3.12.1 Chemical storage/usage

No above or below-ground fuel storage tanks or chemical storage areas were identified during the site walkover survey. Historical mapping and previous investigation records indicate the former presence of both a sewage treatment works and gas storage infrastructure within the site boundary, each of which may have included chemical dosing and fuel storage facilities associated with pumping, treatment, or gas production processes.

Within the SGN Land, remnants of the former gas works and gas holder base are present, likely associated with town gas production and storage. These activities commonly involved the handling of tar, oils, phenols, ammonia, and cyanide compounds, which may remain as residual contaminants in made ground or shallow soils.

The potential for poly and perfluoroalkyl substances (PFAS) to be present within soils and groundwater beneath the site is also considered possible, particularly in connection with former sewage treatment operations and associated maintenance activities. There are no records of significant fires or industrial incidents that would indicate the historical use of firefighting foams (FFCs) on site.

3.12.2 Unexploded ordnance (UXO)

The risks from unexploded ordnance have been assessed in accordance with CIRIA guidance⁴. A non-UXO specialist preliminary screening assessment has been carried out. The risks have been

⁴ CIRIA C681 2009. Unexploded ordnance (UXO) - A guide for the construction industry

assessed by considering firstly the likelihood of military activities on, or in the vicinity of the site as determined from the desk study and historical review. Secondly the risk of UXO has been assessed by reference to the unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica.

The Zetica risk maps indicate a moderate risk. Hence the overall risk of UXO is rated as moderate.

3.12.3 Waste planning and landfill records

3.12.3.1 Recorded landfill sites

The Environment Agency website and Groundsure report contain details on areas of historic and active landfilling in the vicinity of the site.

There are no areas of historic or active landfill listed within 500m of the subject site except for fourteen waste exemption entries which have been recorded within this search areas. The closets entry falls under the category of Using Waste Exemption for use waste in construction reported 51m northwest of the site.

3.12.3.2 Waste Exemption Records

The recorded waste exemptions immediately surrounding the site generally relate to low-risk construction and maintenance activities, such as the reuse of inert materials (soils, rubble, and aggregates) for surfacing or levelling.

The closest entries are located approximately 50 m and 60 m west of the site, both falling under the category of “Use of waste in construction”. These are believed to relate to activities associated with the current or former use of the site, where the GIS referencing has marginally placed them off-site due to registered postal addresses rather than actual activity boundaries.

3.12.4 Other regulatory records

No registered radioactive substances are listed onsite within Groundsure.

3.12.5 Radon

The Groundsure report (GS-RP8-BC6-RYT-LTW) dated 13 October 2025 indicates the site to be located in an area where a maximum radon potential of between 3% and 5% are above the action level (200Bq m³). Basic radon protection measures are therefore considered to be required.

3.13 Previous Investigations On-Site

Several ground investigations and supporting studies have been undertaken across the wider Durrington Phase 2 site encompassing the Martlets Way, GSN Land and NIB (former HMRC) parcels. These investigations collectively provide an understanding of the site’s ground, groundwater and contamination conditions, as well as its archaeological context. Previous borehole locations undertaken at the site relating to the investigations mentioned below are included in Drawing 22201 included in **Appendix B**.

3.13.1 Ground Investigation Report (Ref:R18-13236) – Ashdown Ground Investigation (December 2018)

Not available to LEAP at the time of authoring this report.

3.13.2 Ground Investigation Report (Ref: STS5226) at HMRC Government Offices - Soiltechnics (April 2021)

Ground investigation aimed on providing a combined Phase I and II Geo-environmental Assessment to support the proposed redevelopment of the former HMRC office complex. The investigation primarily targeted the Phase 1 (former HMRC headquarters) and the southeastern parcel of the Phase 2 area (NIB Land), accessed from Barrington Road. The works undertaken as part of this investigation are summarised below:

Exploratory works:

- 4 No. Cable Percussion Boreholes to a maximum depth of 20.0mbgl.
- 3 No. Windowless Sample Boreholes to a depth of 6.0mbgl.
- 2 No. Machine Excavated Trial Pits to approximately 3.0mbgl.
- 6 No. Cone Penetration Tests (CPTs) for geotechnical profiling.
- Installation of combined gas and groundwater monitoring wells in selected locations.

From the site works described above, only two locations (WS201 and WS202) were undertaken within the site's NIB Land. Details on the findings of these two locations are given below:

Topsoil was encountered in both locations to a depth of 0.20mbgl comprising of grass overlying brown slightly sandy CLAY with occasional gravel of flint. Directly beneath the topsoil, the River Terrace Deposits comprising of firm brown slightly sandy CLAY over medium dense to dense fine to coarse SAND with occasional gravel of subangular flint. A band of stiff CLAY was although recorded in WS202 between 5.20mbgl and 5.90mbgl.

No groundwater was encountered during the investigation of the two positions.

Chemical testing of soil samples show concentrations of all contaminants to be below detectable limits.

3.13.3 Geo-environmental Report (Ref: CRM.1154.039.GE.R.001.A) at Barrington Road – Enzygo Ltd (June 2025)

Ground investigation undertaken to characterise ground and contamination conditions within the western parcel (Martlets Way Land) of the Phase 2 site, currently used as a skip storage yard and possible waste treatment or transfer facility containing an historic excavation associated with the tanks of the sewage treatment plant.

Exploratory works:

- 3 No. Cable Percussive Boreholes (BH1 to BH3) to between 20.00mbgl to 20.38mbgl.
- 6 No. Windowless Sample Boreholes (WS1 to WS6) to between 3.0m to 4.5mbgl.
- 8 No. Machine-dug Trial Pits (TP1 to TP8) to a maximum of 4.0mbgl.

- 6 No. Groundwater Monitoring Wells installed for short-term monitoring.
- 5 No. Ground Gas Monitoring Wells installed for short-term monitoring.

The ground profile comprised variable Made Ground of gravelly sandy clay and reworked fill materials in the excess of 3m thick, locally increasing within the central depression, overlying dense granular River Terrace Deposits. Chalk was proven in the deeper boreholes at between 6.0m and 8.0mbgl.

Groundwater monitoring readings were in the range between 6.79mbgl and 6.89mbgl recorded within BH2. All shallow installations remained dry for the duration of the monitoring period. No ground gas risks were identified based on the results of the monitoring rounds and it was proposed within the report basic Radon measures.

Visually, hydrocarbon staining and small fragments of asbestos-containing material were observed within some shallow Made Ground samples, particularly toward the central and northern parts of the parcel. Laboratory testing confirmed marginal elevations in Lead, total petroleum hydrocarbons (TPH), PAHs, and Asbestos in the central and northern parts of Martlets Way Land.

3.13.4 Geo-environmental Report (Ref: CRM.1154.026.GE.R.001.A) – Enzygo Ltd (December 2021)

Goe-environmental report prepared in order to assess residual contamination and ground gas conditions associated with the former gasworks and gasholder station, forming the central parcel of the wider site. The investigation targeted the central portion of the Phase 2 area previously occupied by the SGN infrastructure.

Exploratory works:

- 3 No. Cable Percussive Boreholes (BH1 to BH3) to depths between 10.45mbgl to 16.34mbgl.
- 10 No. Windowless Sample Boreholes to depths of up to 5.45mbgl.
- 8 No. Trial Pits to depths of up to 3.50mbgl
- Gas and groundwater monitoring wells installed in seven locations.
- In-situ SPT (Standard Penetration Test) carried out at regular depth intervals.

The stratigraphy comprised Made Ground containing ash, clinker, brick, and concrete fragments directly overlying natural sandy gravels. No free product, hydrocarbon odour, or visual evidence of active pollution was observed.

Groundwater readings were recorded in four readings during the month of December with levels ranging from 4.65mbgl to 6.83mbgl in BH1 to BH3 and WS6. Ground gas monitoring was undertaken the same visits in December and did not record elevated concentrations of Methane or Carbon dioxide and no flow. Based on the results presented in the report the site was classified as Characteristic Situation 1 (CS1).

Specifically, Benzo(b)fluoranthene, Benzo(a)pyrene, Dibenzo(a,h)anthracene, Chrysene and Asbestos were recorded at concentrations above their respective GAC values, indicating localised contamination associated with hydrocarbon residues and combustion-derived materials within the Made Ground. Asbestos was reported as detected Chrysotile Loose Fibrous Debris with no quantification testing undertaken.

3.13.5 Archaeological Desk-Based Assessment (Ref: – RPS Group (Tetra Tech) (October 2025))

The most recent non-intrusive study was an Archaeological Desk-Based Assessment prepared by RPS Group (Tetra Tech) in October 2025, covering the full Durrington Phase 2 area including all three parcels. The assessment reviewed historic mapping, previous archaeological work, and the West Sussex Historic Environment Record to establish the likelihood of archaeological remains.

The study concluded that the site had been subject to extensive truncation from brick-earth extraction, gas holder construction and sewage treatment works, resulting in a low archaeological potential for all periods.

No designated archaeological assets lie within or adjacent to the site boundary, and any residual archaeology is likely to have been removed or severely disturbed. The assessment advised that archaeological constraints do not pose a risk to development and that, if required, an archaeological watching brief would be sufficient mitigation.

3.14 Previous Investigations in the Immediate Vicinity

3.14.1 Combined Geotechnical and Ground Contamination Risk Assessment Report at Inland Revenue (Ref: LW26215) – Ashdown Site Investigation (September 2015)

Ashdown Site Investigation Ltd (2015) undertook a ground investigation to provide a combined geotechnical and geo-environmental assessment in support of the proposed redevelopment of the former HMRC office complex at Barrington Road, Worthing.

Exploratory works:

- 12 No. Dynamic Sampler Boreholes (WS1–WS13) to depths of 1.0 to 3.0mbgl.
- Dynamic probing and CBR testing for strength profiling.
- Installation of combined gas and groundwater monitoring wells.
- Laboratory testing for geotechnical classification and contamination.

Made Ground was encountered to depths between 0.5m and 1.5mbgl, comprising gravelly sand and sandy gravelly clay with brick, ash and clinker, overlying firm to dense River Terrace Deposits of sand and gravel. The White Chalk Subgroup was inferred below. No groundwater was recorded during drilling or subsequent monitoring.

Testing identified localised exceedances for arsenic, lead and PAHs within Made Ground and isolated asbestos fibres. No significant hydrocarbons or VOCs were detected. Ground-gas monitoring indicated low methane and carbon dioxide, classifying the site as CS1 (Green).

River Terrace Deposits showed low to medium shrink–swell potential with allowable bearing capacities of 100 to 150 kN/m². Soils were classed as DS-1 / AC-1s for concrete design. The site was considered suitable for redevelopment, subject to standard mitigation including clean cover in garden areas, suspended floors over Made Ground and barrier pipework where required.

3.15 Decommissioning Reports

3.15.1 Gas Holder Demolition – Validation Report (Ref: 410/000690) – Montgomery Waston Harza (January 2002)

The report details the works undertaken by MHW UK Ltd during the demolition of the below-ground gasholder located at the Former Gas Holder Station, off Barrington Road, Goring-by-Sea, West Sussex, BN12 4RS. The scope of works included the following:

- Production of the Gasholder Infilling Design Specification.
- Completion of environmental site audits.
- Recording of the infilling of the gasholder base.
- Preparation of the associated validation report.

Included within the appendices, outlining the works undertaken in relation to the infilling of the gasholder, is the following document:

Completion Report (Ref: 294RJK/CF4.2/jk1502a) by VHE Construction plc (dated June 2001).

In summary, the completion report outlines the following information relating to the infilling activities carried out. The former gasholder measured approximately 37.3 m in diameter and extended 7.6 m deep (approximately 5.8 m below ground level). During the infilling works (as per the Montgomery Watson, 2000 specification), the base was punctured in eleven 1 m-diameter locations to allow for water drainage once filled. The above-ground section was supported by a collar of bulk fill material, which was excavated and stockpiled on site.

The holder was subsequently backfilled to approximately 2 m below existing ground level, with the excavated material processed and compacted as Class 1A fill to form the final capping layer. The fill was placed and levelled in 150 mm thick layers using a 360° tracked excavator, with compaction undertaken using a Cat 213 vibratory roller. The works were carried out in accordance with Method Compaction for Earthworks Materials (Table 3, Method 6) to a depth of 150 mm, as specified in the Montgomery Watson Gasholder Infilling Design Specification Report.

The completion report refers to and relies upon the following documents, which were not available to LEAP at the time of preparing this summary:

- Specifications for the Infill of Below-Ground Gasholder Tanks (Reference not available), by Komex Clarke Bond (dated September 1999).
- Gasholder Infilling Design Specification Report (Ref. 410/00690), by Montgomery Watson Harza (dated November 2000).

4 PRELIMINARY RISK ASSESSMENT

4.1 Preliminary geoenvironmental conceptual site model

4.1.1 Approach

A risk-based approach is used in the UK to assess contaminated or potentially contaminated land. For a potential risk to exist, there must be a contaminant linkage in place, i.e. there must be a source of contamination, a potential receptor, and a pathway linking the two. The purpose of this preliminary conceptual site model (CSM) was to systematically identify all the potential contaminant linkages using the information provided in Section 3 of this report. The preliminary CSM was then used to enable uncertainties and further assessment requirements to be identified to allow a suitable intrusive investigation to be scoped.

4.1.2 Potential sources of contamination

Based on a review of the available information discussed in Section 3 of this report and Annex 3 of R&D66⁵, **Table 5** to **Table 7** provides a summary of the potential current and historical on- and off-site sources of contamination with the anticipated nature and distribution of the sources for each of the lands discussed within this report:

Table 4: Potential plausible sources of contamination (Martlets Way Land)

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
On-Site		
Made Ground	Wide range of contaminants possible including asbestos, metals, polycyclic aromatic hydrocarbons (PAH), petroleum hydrocarbons, ground gases	Reworked ground associated with decommissioning, removal of water treatment tanks and current skips stored on site.
Former sewage treatment plant (west of the land)	Ammonia, nitrates, phosphates, PFAS, Heavy Metals, sulphides, pathogens, and organic matter	Contamination anticipated within shallow soils and fill around former filter beds or sludge lagoons. Possible localised impacts to shallow groundwater.
Skip yard / small compound / Waste Treatment	Hydrocarbons (fuel/oil residues), metals, asbestos fragments, and debris from waste handling	Likely confined to surface soils where skips are stored or refuelled. Potential hotspots near storage and hardstanding areas.

⁵ NHBC and Environment Agency 'Guidance for the Safe Development of Housing on Land Affected by Contamination' R&D Publication 66: 2008.

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
Minor historical structures / hardstanding remains	Localised, PAH, Petroleum hydrocarbons (PHC), metals, and asbestos	Possible beneath slab remnants or buried concrete bases in the central area of the site.
UXO	Unexploded ordnance	Site wide
Radon	Radon Levels	Site within classification of estimated properties affected between 3% and 5%

Table 5: Potential plausible sources of contamination (SGN Land)

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
On-Site		
Made Ground	Wide range of contaminants possible including asbestos, metals, polycyclic aromatic hydrocarbons (PAH), petroleum hydrocarbons, ground gases	Reworked ground associated with the decommissioning and removal of the gas holders in the east corner of the land. Beneath the substation and current access roads. Soil mound in the southeast of the site.
Gas holder tan	Petroleum hydrocarbons	Potential for leaks and spills of heating oil from the tank, below ground pipework and during tank filling operations.
Former gasworks	Polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), cyanides, phenols, ammoniacal compounds, heavy metals, and asbestos from demolition rubble.	Likely localised within made ground associated with the former gasholder base and surrounding backfill. Concentrations expected to decrease with depth and distance from the former structures.
Minor historical structures / hardstanding remains	Localised, PAH, Petroleum hydrocarbons (PHC), metals, and asbestos	Possible beneath slab remnants or buried concrete bases in the central area of the site.
UXO	Unexploded ordnance	Site wide

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
Radon	Radon Levels	Site within classification of estimated properties affected between 3% and 5%

Table 6: Potential plausible sources of contamination (NIB Land)

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
On-Site		
Made Ground	Wide range of contaminants possible including asbestos, metals, polycyclic aromatic hydrocarbons (PAH), petroleum hydrocarbons, ground gases	Reworked ground associated with current site usage as construction site compound area.
UXO	Unexploded ordnance	Site wide
Radon	Radon Levels	Site within classification of estimated properties affected between 3% and 5%

Table 7: Potential plausible sources of contamination (Off-Site)

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
Off-Site		
Made Ground	Wide range of contaminants possible including asbestos, metals, polycyclic aromatic hydrocarbons (PAH), petroleum hydrocarbons, ground gases	Associated with active construction site directly east of the SGN land and current NIB land. Substation directly northwest of the Martlets Way Land.
Former Corporation Yard directly west of Martlets Way Land	Hydrocarbons (diesel residues), heavy metals and asbestos.	Possible minor contamination within the footprint of former corporation yard with potential for migration via surface runoff or dust deposition. Overall risk is low.
Railway line and associated sidings directly north of the site.	Hydrocarbons (diesel residues), PAHs, metals, herbicides, asbestos from ballast or historic maintenance	Potential for minor migration of contaminants via surface runoff or dust deposition. Given separation distance and elevation, overall risk to the site is low.

Potential Source	Potential Contaminants of Concern	Anticipated Distribution
Commercial and industrial units west and north of Martlets Way Land (Building Contractors, Plumbing Supplies, Commercial and Storage facilities)	Hydrocarbons, solvents, lubricants, metals, cleaning chemicals	Possible minor localised contamination from vehicle storage, fuelling or maintenance. Risk to site limited by hardstanding and surface-water drainage systems; low.

The site has and the surrounding area undergone multiple phases of industrial and utility use, resulting in variable Made Ground across its extent. This material is likely to comprise a mix of reworked soils, ash, clinker, brick, and demolition rubble from historic gasworks, sewage treatment and redevelopment activities. Two substations, one located in the western portion of the SGN Land and the other located directly northwest of Martlets Way Land, are considered also to be possible sources of contamination.

Contaminants typically associated with such made ground include polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), heavy metals, and asbestos. While the potential for putrescible content and significant ground gas generation is limited, low-level gas production cannot be excluded.

The former gasworks to the east historically accommodated gasholders and associated infrastructure, which are known to produce tars, cyanides, phenols, and heavy metal residues. Although subsequent investigations confirm the gasholder base has been removed, backfill material and nearby soils may still contain residual contamination. Elevated PAH concentrations have been recorded in shallow made ground consistent with gasworks-derived ash and clinker. Contamination is expected to be localised and readily manageable through targeted remediation during redevelopment.

To the west, the site previously contained a sewage treatment plant, now redeveloped as a skip yard and storage compound. Such facilities can leave residual contamination from historic sludge and filter-bed materials, including ammonia, nitrates, phosphates, and sulphides. While much of the infrastructure has been removed, limited localised contamination in shallow soils remains possible, particularly in areas of former treatment processes. The current skip yard use could also contribute small quantities of hydrocarbons and metals through waste handling and vehicle movement, though impacts are expected to be superficial and spatially restricted.

Overall, potential contamination across the site is expected to be localised and historic in nature, associated mainly with made ground from the former gasworks, sewage treatment operations, skip yard use, and long-term

activities. Off-site sources are not considered likely to significantly affect the site. The general contamination risk is assessed as moderate, warranting further intrusive investigation to confirm the extent and character of impacted soils prior to redevelopment.

4.1.3 Potential receptors

In the context of the on-going/proposed future land use, the following potential receptors of ground contamination were identified:

4.1.3.1 Human health

- future residents/site users/commercial workers
- neighbours from adjacent residential and commercial properties
- construction workers.

4.1.3.2 Controlled waters

- Bedrock Principal Aquifer (Chalk)
- Ferring Rife 852m to the northwest of the site.

4.1.3.3 Other

- material construction of buildings and infrastructure
- neighbouring properties

4.1.4 Potential contaminant linkages

The potential plausible contaminant linkages are summarised in the table appended in **Appendix E** and were assigned a qualitative risk classification in line with the guidance presented in Annex 4 of R&D66. The preliminary risk levels were determined following a review of the available desk-based information with the significance of particular contaminant linkages being dependant both upon the likelihood of exposure occurring and the severity of that exposure.

4.1.4.1 Human health

The proposed development comprises residential housing with private gardens and/or public open space, etc. Therefore, all the generic Contaminated Land Exposure Assessment (CLEA)⁶ exposure linkages between humans and potential contaminants in the ground are plausible i.e. direct ingestion of soil, ingestion of homegrown produce, and inhalation of indoor and outdoor vapours and dusts. Groundworkers could be potentially exposed via all these pathways, except for those involving edible plants. However, from the testing completed to date as part of historical ground investigations at the site, soils appear to be free of contamination.

The assessment of future on-site users is considered to be protective of the surrounding off-site residents and off-site commercial workers.

⁶ Environment Agency 'Updated technical background to the CLEA model' Science Report: SC050021/SR3. January 2009.

4.1.4.2 Ground gases (excluding mine gas)

Considering the historical site activities in Martlets Way and the SGN Land, it is possible that a number of ground gas sources could be present within the site footprint. However, based on the ground gas monitoring activities undertaken by others, this seems to indicate the opposite.

4.1.4.3 Controlled waters

The site is underlain by a Principal Aquifer from the Lewes Nodular Chalk Formation. The water table is anticipated to be encountered at approximately 6mbgl.

Potential contamination within the underlain soils are considered likely to pose a significant risk to the underlying groundwater table.

4.1.4.4 Below ground infrastructure

The site has been subject to industrial development, storage of chemicals, which may contain aggressive chemicals in residual surface materials or in ground penetrated by leachates. As such the site is determined as “brownfield” with respect to the BRE Special Digest 1.

4.1.5 Summary of geo-environmental preliminary risk assessment

The assessment identifies a moderate to high overall geo-environmental risk, mainly from historical gasworks, sewage treatment and skip yard activities. Contamination is expected to be localised within the made ground, with potential for high risk to groundwater within the Principal Aquifer and off-site receptors if contamination is present. With targeted investigation, localised remediation, and clean cover systems, the site is considered suitable for residential development.

4.2 Geotechnical risk assessment

4.2.1 Preliminary ground model

Based on the findings of the desk study, the preliminary ground model for the site is summarised in Table 8 below.

Table 8: Preliminary ground model

Ground Model	Characteristics	Notes
Ground Conditions	Superficial: River Terrace Deposits	Alluvium forming one of a series of level surfaces in a stream or river valley, produced as the dissected remnants of earlier abandoned floodplains. Sand and gravel, locally with lenses of silt, clay or peat. Proven to 7.0mbgl ^a .
	Bedrock : Lewes Nodular Chalk	Composed of hard to very hard nodular chalk and hardground with interbedded soft to medium hard chinks. Proven to 20mbgl ^a .

Ground Model	Characteristics	Notes
Groundwater	Deep groundwater table within the chalk	Expected at depths between 5.2mbgl and 8.5mbgl ^a .
Surface Water features	None	
Topography	Generally flat, with noticeable depressions and mounds in the west and east of the site	Potential made ground within the mounds located in the SGN Land.
Existing structures	Artificial mounds in the SGN land associated with former gas works. Substations located in the western portion of the SGN land.	Concrete structures and possible obstructions in this area.
History	Former gasworks, sewage treatment plants and tanks.	Evidence of cut activities associated with tanks area.
Deep excavations	Large depression found in the western area of Martlets Way Land	Evidence of gravel excavation associated with former location of sewage work tanks
a. Based on Soiltechnics STS5226 report.		

4.2.2 Geotechnical risk register

In order to establish the minimum requirements for geotechnical investigations, designs and post construction monitoring, it is necessary to establish the complexity of the geotechnical design and the associated risks.

The preliminary geotechnical risk register for the proposed development is summarised in the table in **Appendix E**. Details of the risk assessment methodology are presented in **Appendix E**.

4.2.3 Summary of preliminary geotechnical risk register

The following geotechnical hazards have been identified as substantial to intolerable risks:

Table 9 Geotechnical risk register summary

Geotechnical Hazard	Overall Risk	Comments
Deep Made Ground	Significant	Deep made ground anticipated site wide
Buried Obstructions	Significant	Potential for buried obstructions related to previous site uses
Non-Coal Mining	Significant	On-site non-coal mining identified. However, evidence of gravel extraction within Martlets Way Land.
Contaminated Land	Significant	Site has a significant amount of potential sources of contamination within the Martlets

		Way and SGN land. If exceedances are encountered remediation may be required due to the nature of the development (residential with private gardens).
UXO	Significant	UXO risk is Moderate

On the basis of the initial review and preliminary risk assessment, the site is given a Geotechnical Classification of **Geotechnical Category 2** in accordance with EN1997-1 §2.1(14)-(21).

4.3 Data gaps and uncertainties

The preliminary risk assessment has been completed using the information available to **LEAP** at the time of preparation. It is highlighted that the following data gaps and uncertainties may limit the level of certainty of the risk assessment and therefore will need to be confirmed by intrusive investigation works information.

The key data gaps and uncertainties include:

- Reliability and validation of the previous intrusive investigations data and results conducted at the site.
- Detailed validation on decommissioning activities and reports of the ground gas and water treatment works should be undertaken to further verify ground obstructions and risks.
- Detailed UXO risk assessment report for the site considering the risk highlighted in this report to be moderate.
- Detailed radon risk assessment report based on the findings of this report.
- Some previous reports have not been made available to **LEAP** at the site of writing this report more specifically the report below:
 - o Ground Investigation Report (Ref:R18-13236) – Ashdown Ground Investigation (December 2018)
 - o Specifications for the Infill of Below-Ground Gasholder Tanks (Reference not available), by Komex Clarke Bond (dated September 1999).
 - o Gasholder Infilling Design Specification Report (Ref. 410/00690), by Montgomery Watson Harza (dated November 2000).
 - o Any water treatment works decommissioning report for Martlets Way Land.

4.4 Recommendations for intrusive ground investigation

Based on the findings of this Phase I Desk Study, the site is considered suitable for the proposed mixed-use redevelopment from a preliminary geo-environmental perspective. However, further validation of ground conditions and environmental quality is recommended to support the planning application.

Therefore, it is recommended to either:

- a) Review and assess the scope, quality and relevance of the previous site investigations undertaken across the three land parcels (Martlets Way Land, SGN Land and NIB Land) to determine whether the available information is sufficient to support the proposed development; or
- b) Commission a new, targeted intrusive ground investigation designed specifically to address the requirements of the current development layout and possible contamination on site
- c) A groundwater monitoring strategy is recommended in order to assess groundwater levels over a minimum of six months, preferable during the winter months.

The intrusive investigation should aim to confirm the ground conditions, assess the presence and extent of any residual contamination, and provide appropriate geotechnical design parameters to inform foundation and infrastructure design.

APPENDIX A – SERVICE CONSTRAINTS

APPENDIX A

SERVICE CONSTRAINTS

1. Service Constraints for all Reports

1.1. This Report (the "Report") and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the "Appointment") between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.
- d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together

with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not

been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibility for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD) Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided

by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

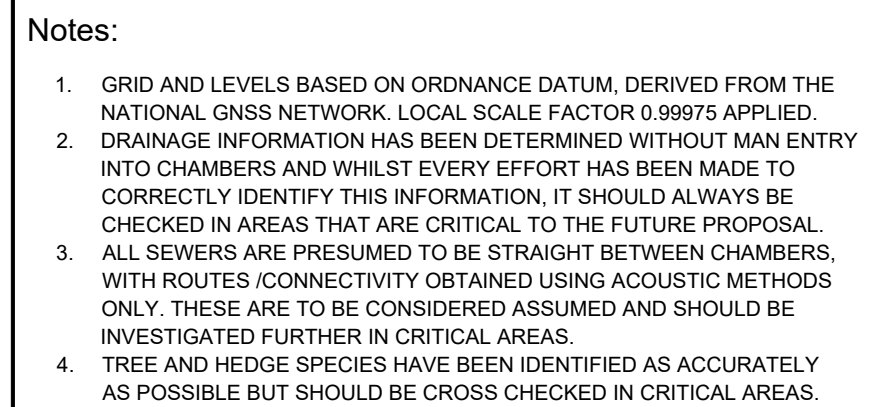
8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

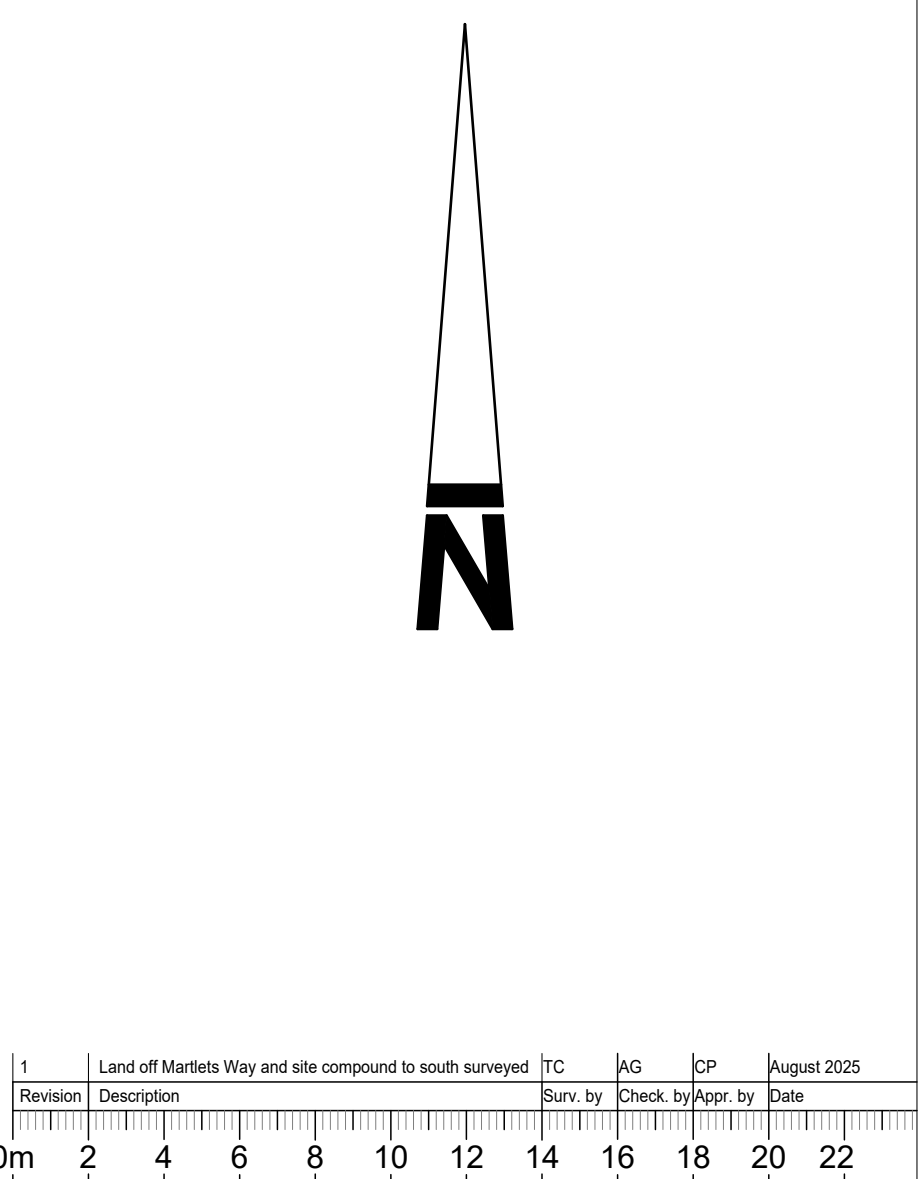
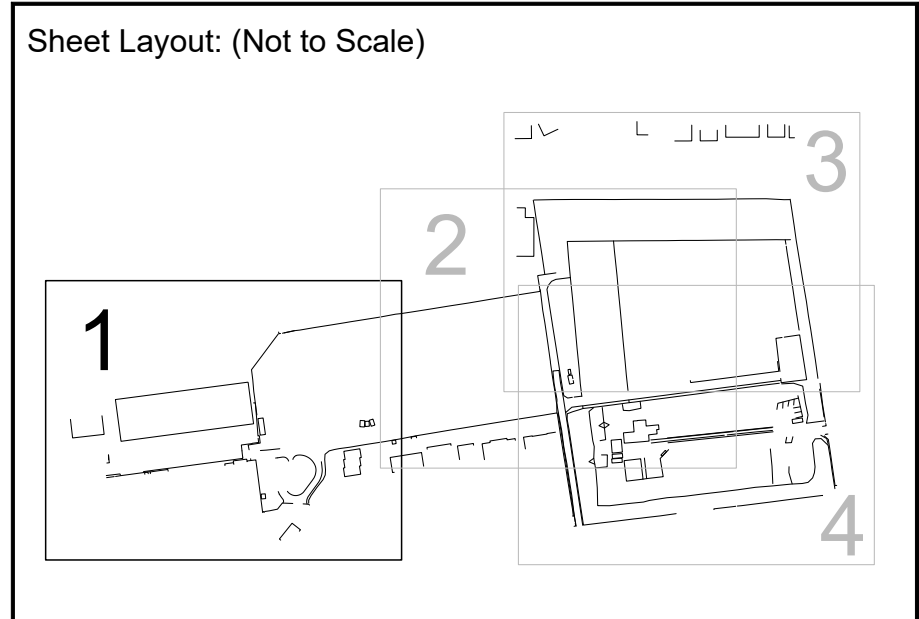
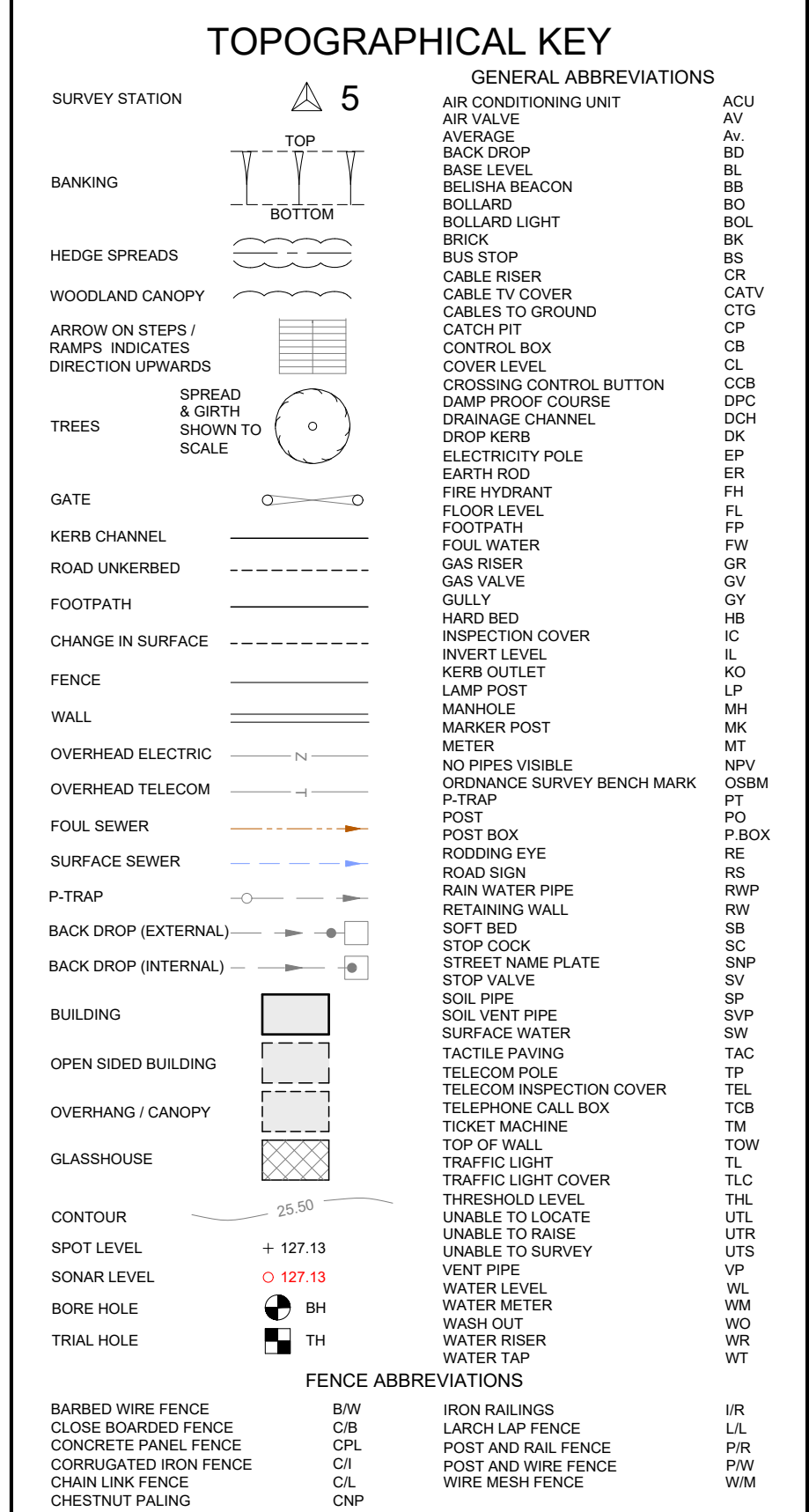
9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

APPENDIX B – FIGURES AND DRAWINGS



Coordinate Table				
Station	Description	Easting	Northing	Level
S1	Road Nail	115612.366	103058.034	10.572
S2	Road Nail	11641.783	103076.676	11.858
S3	Peg	116036.836	103172.319	10.752
S4	Peg	115733.874	103172.319	10.752
S10	Road Nail	115333.300	103056.128	10.515
TC1	Road Nail	113111.088	103031.455	9.753
TC2	Road Nail	113689.002	103225.712	10.046
TC3	Road Nail	113689.002	103240.420	10.548
TC7	Road Nail	116544.449	103042.627	10.984
TC8	Peg	116521.813	103004.608	11.213
TC9	Peg	116521.813	103004.608	11.213
TC10	Peg	115544.973	102984.272	11.650
TC11	Road Nail	115727.331	103205.704	11.283



Topographical Survey

Client: _____



Barrington Road
Durrington
West Sussex

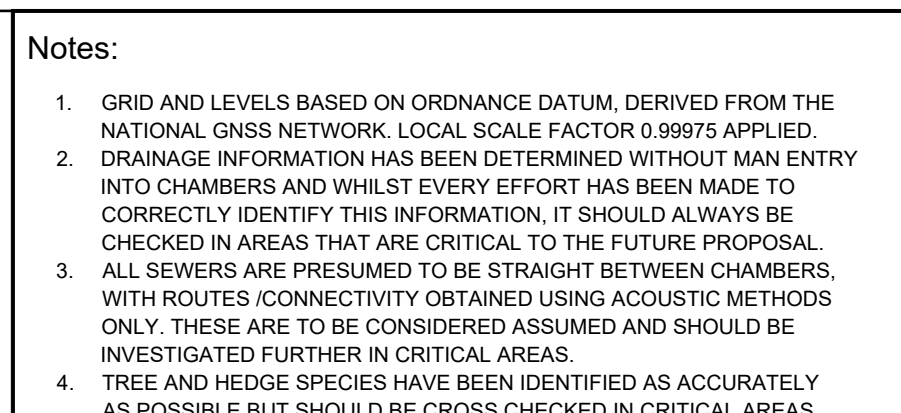
Scale: 1:200	Sheet Size: A0	Sheet Number: 1	Date: December 2021		
Project Number: 30510		Rev: 1	Surveyed by: RG	Checked by: AJ	Approved by: CP

mk surveys

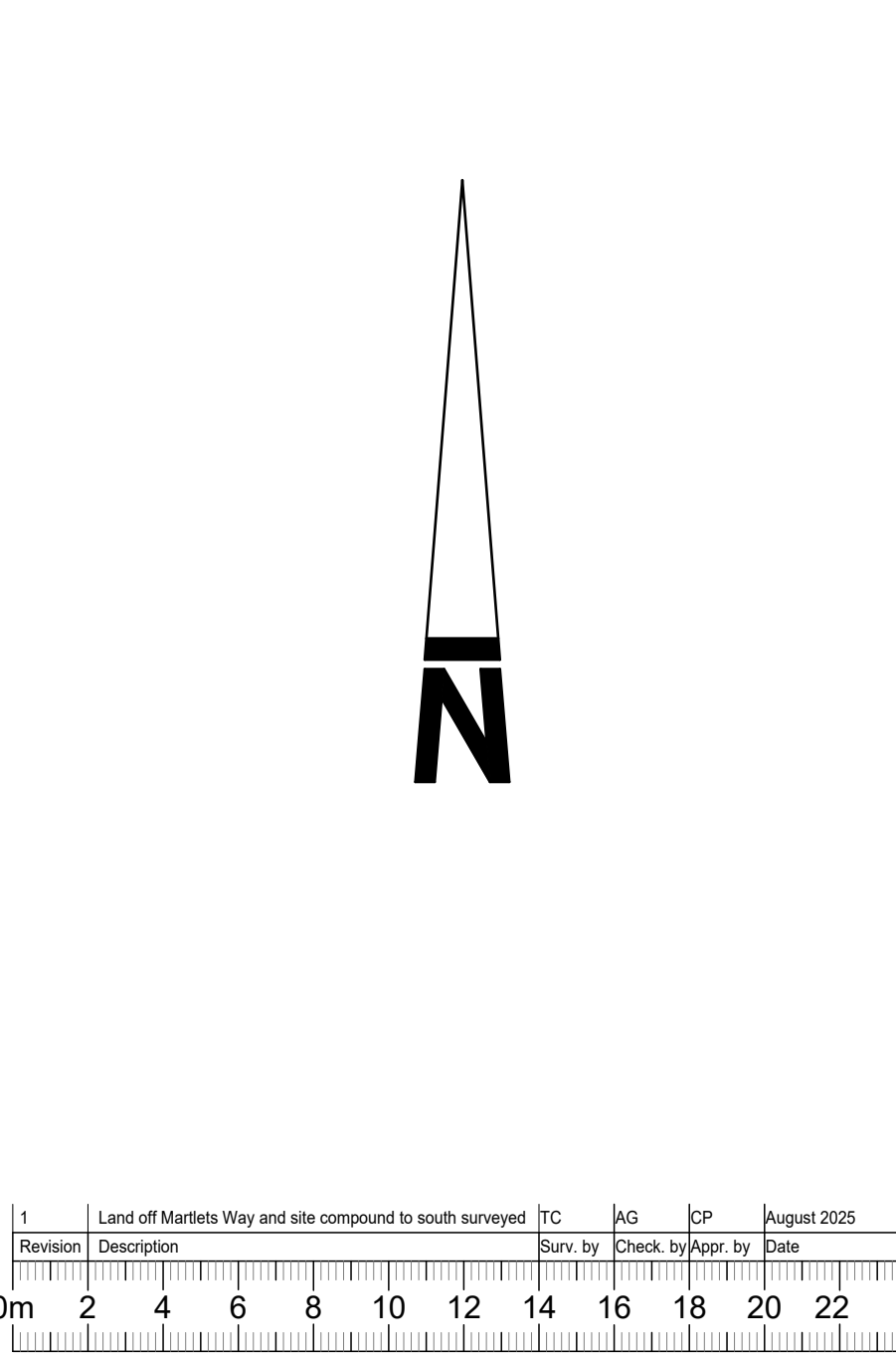
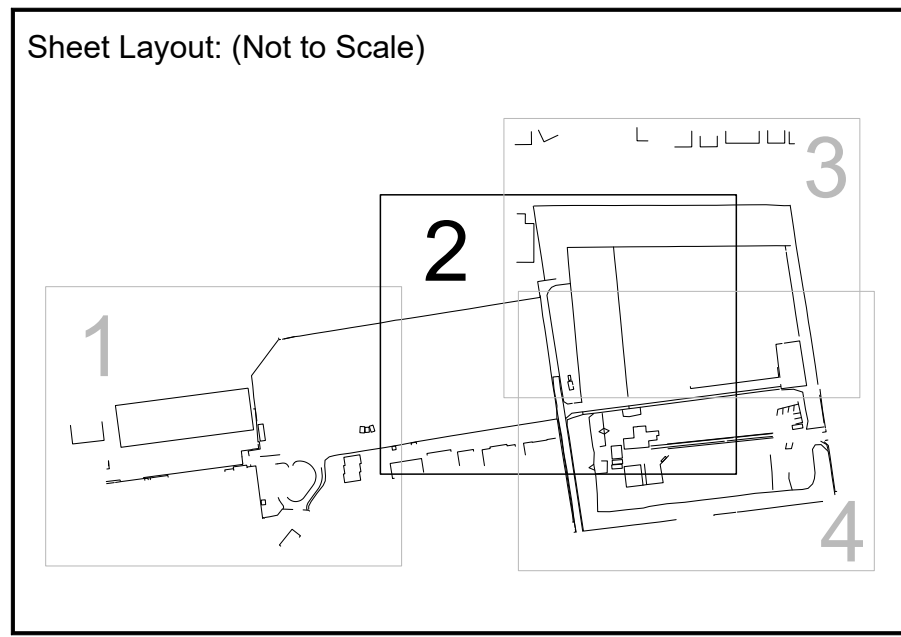
    

www.mk surveys.com www.surveys4m.co.uk

Head Office: Milton Keynes t: 01908 565561 e: mail@mk surveys.co.uk



Station	Description	Easting	Northing	Level
S1	Road Nail	511662.36	103058.034	10.578
S2	Road Nail	511664.783	103076.076	11.852
S3	Peg	511666.836	103172.319	10.752
S4	Peg	511645.874	103167.186	10.202
S10	Peg	511533.30	103056.128	10.515
TC1	Road Nail	511311.088	103155.493	9.763
TC2	Road Nail	511302.503	103205.712	10.160
TC3	Road Nail	511593.141	103034.420	0.846
TC7	Road Nail	511654.449	103227.027	0.848
TC8	Peg	511652.813	103004.608	11.213
TC9	Peg	511603.503	103005.003	11.213
TC10	Peg	511554.973	102994.272	11.650
TC11	Road Nail	511572.331	103025.704	11.283

[illegible]

Topographical Survey

Client: **Bellway**

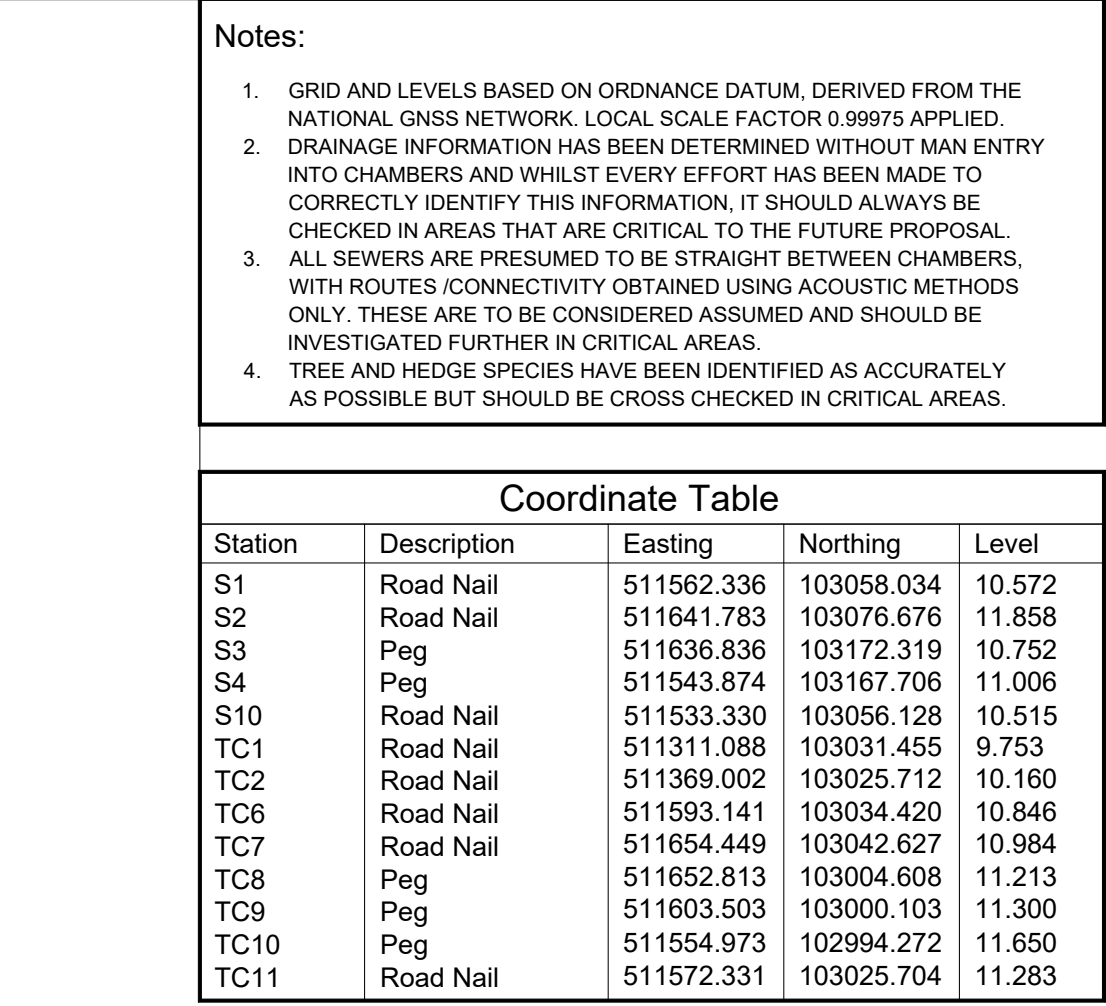
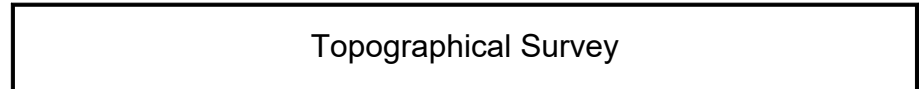
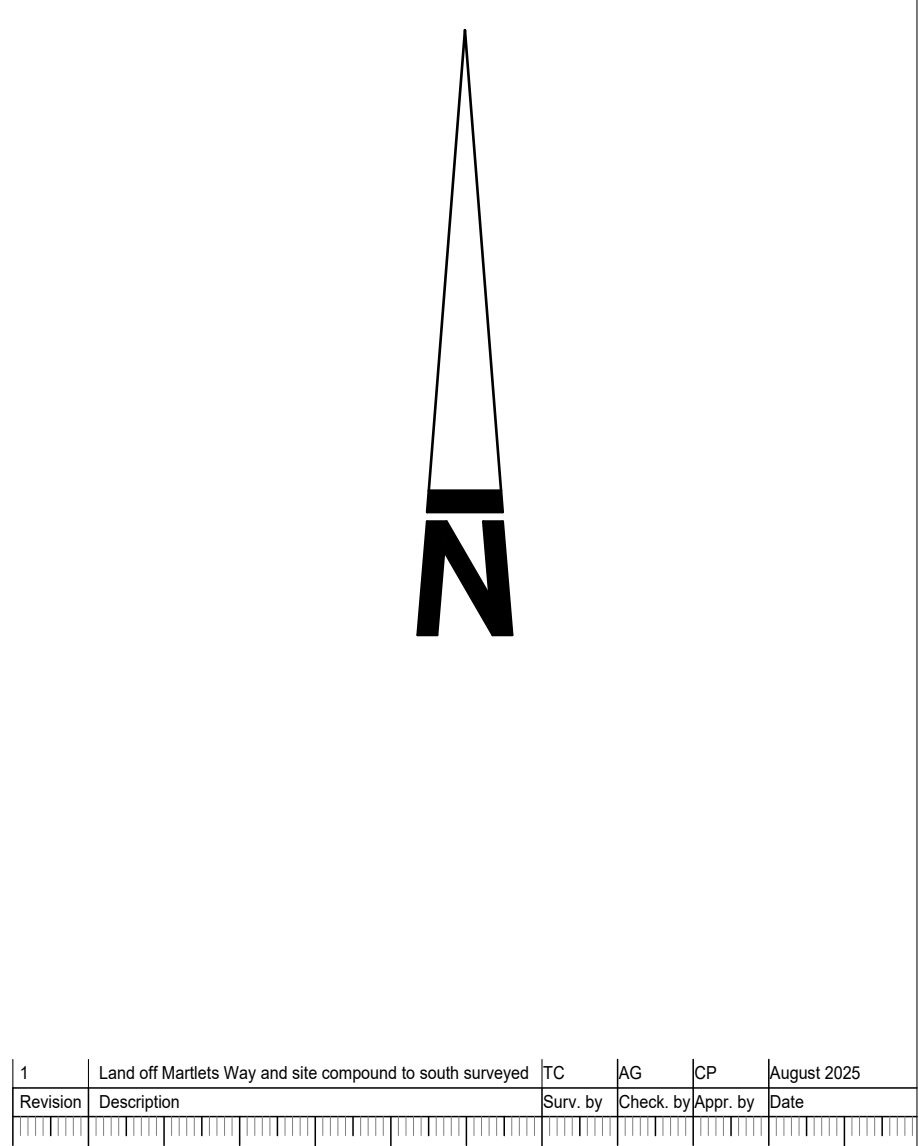
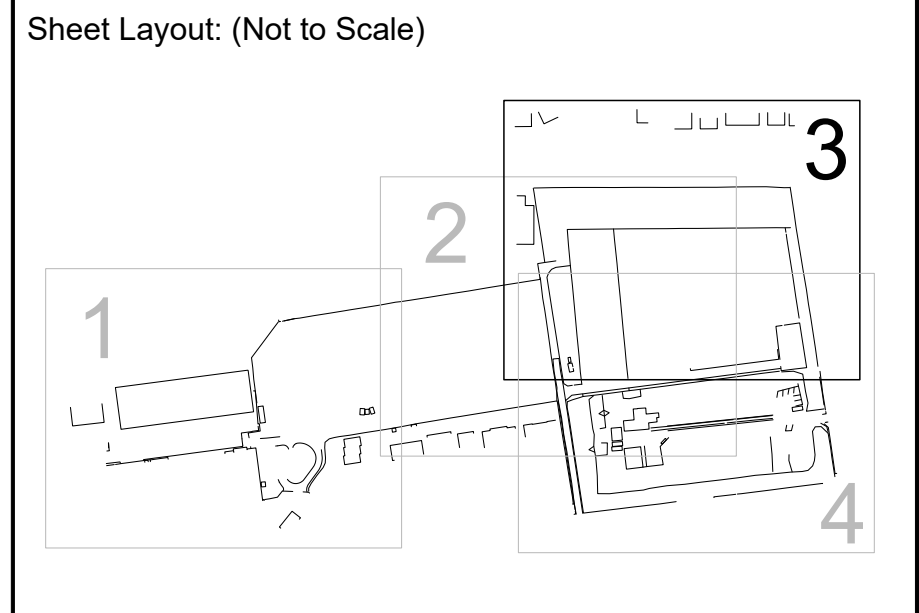
Barrington Road
Durrington
West Sussex

Scale: 1:200	Sheet Size: A0	Sheet Number: 2	Date: December 2021		
Project Number: 30510	Rev: 1	Surveyed by: RG	Checked by: AJ	Approved by: CP	

mksurveys

www.mk-surveys.com www.surveys4bim.co.uk
Head Office: Milton Keynes t: 01908 565551 e: mail@mk-surveys.co.uk

[illegible]

Client: 

Barrington Road
Durrington
West Sussex

Scale: 1:200	Sheet Size: A0	Sheet Number: 3	Date: December 2021		
Project Number: 30510		Rev: 1	Surveyed by: RG	Checked by: AJ	Approved by: CP

mksurveys






www.mksurveys.com
www.surveys4bim.co.uk

Head Office: Milton Keynes t: 01908 565551 e: mail@mksurveys.co.uk

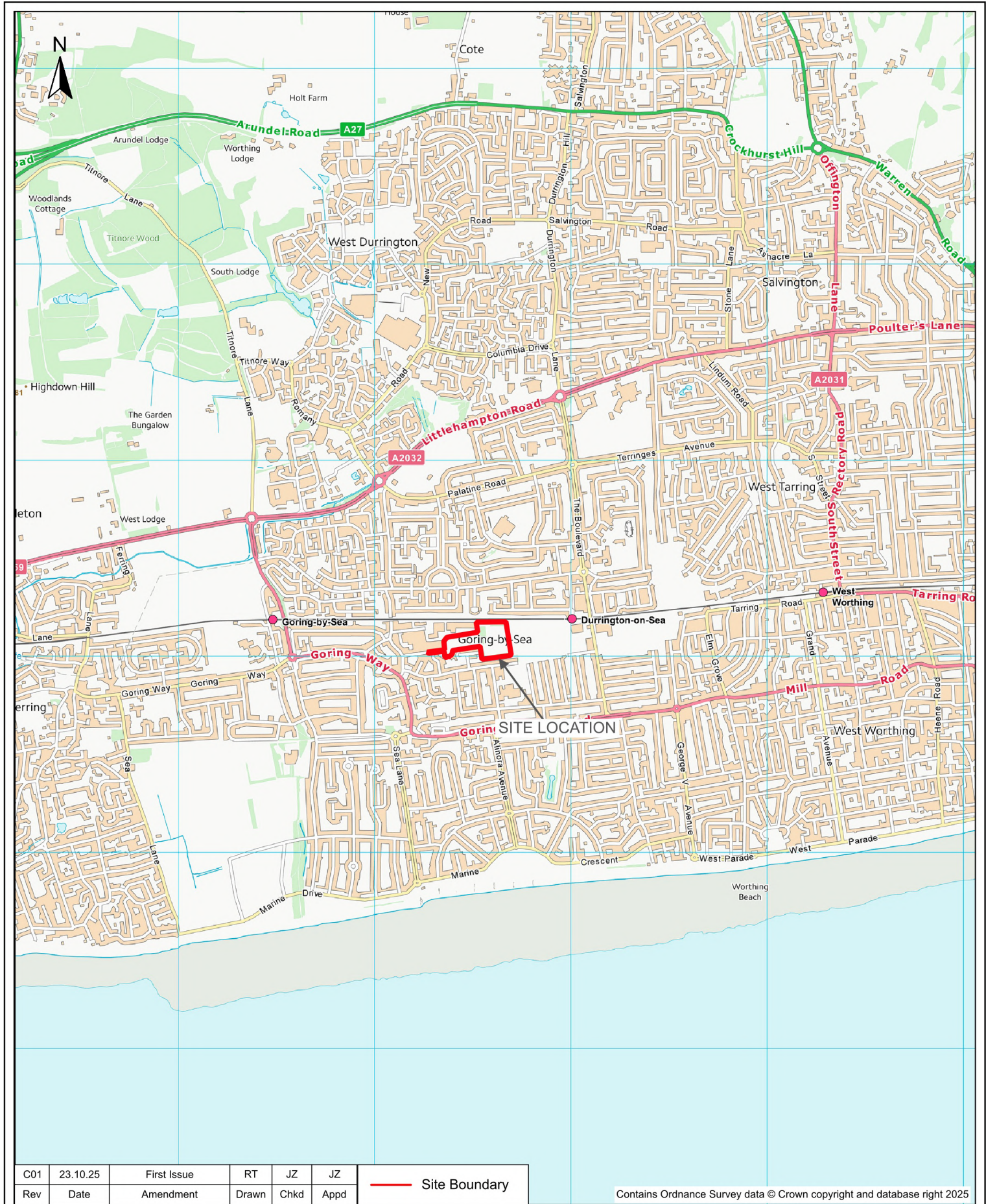


mksurveys

www.mksurveys.com www.surveys4bim.co.uk

Head Office: Milton Keynes t: 01908 665651 e: mail@mksurveys.co.uk



1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

Client

Bellway Homes Ltd (South London)

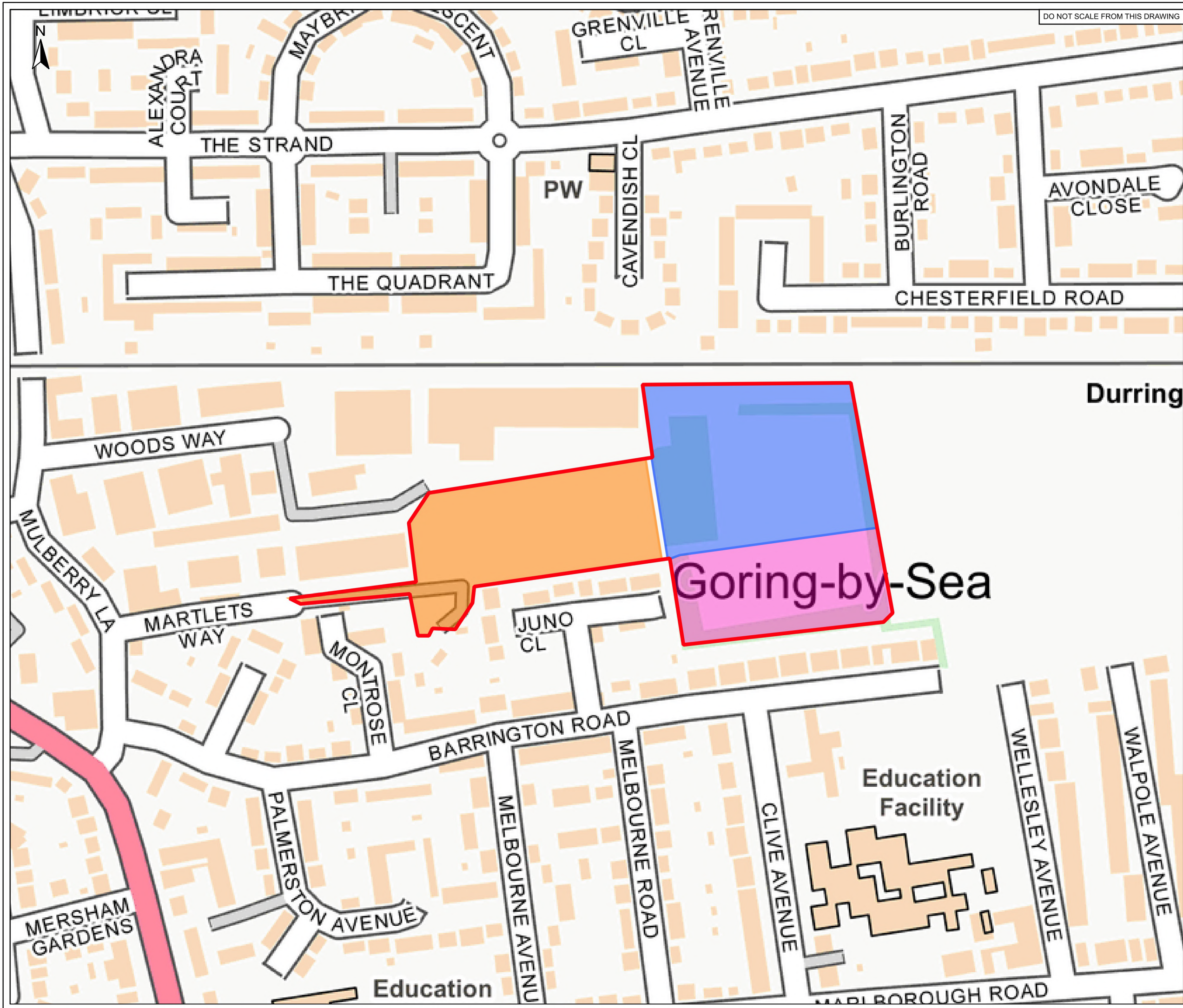
Project Name

Barrington Road, Durrington-on-Sea

Description

Site Location Plan

Dimension	Size	Scale	Geolocation	Project ID	Drawing no	Rev	File name
m	A4	1:25,000	511554, 103087	3751077	11101	C01	3751077-LW-111-XX-D-G-11101-C01



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site Boundary
- Martlets Way Land
- SGN Land
- NIB Land

Notes:
Contains Ordnance Survey data © Crown copyright and database right 2025

C01	04.11.25	First Issue	RT	JZ	JZ
Rev	Date	Amendment	Drawn	Chkd	Appd



part of **RSK** Geosciences
1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

Client		
Bellway Homes Ltd (South London)		
Project Name		
Barrington Road, Durrington-on-Sea		
Description		
Site Layout Plan		
Project ID	Drawing no.	Revision
3751077	11201	C01
File name		
3751077-LW-112-XX-D-G-11201-C01		
Dimensions	Scale	Size
m	1:2,500	A3
0 20 40 60 80 100 m		
		



DO NOT SCALE FROM THIS DRAWING

LEGEND

Site Boundary

Notes:
Base map provided by the client.
Drawing Ref: BSL-010 SKL-201 "Site Layout"

C01	25.02.26	First Issue	RT	JZ	JZ
Rev	Date	Amendment	Drawn	Chkd	Appd



part of RSK Geosciences
1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

Client
Bellway Homes Ltd (South London)

Project Name
Barrington Road, Durrington-on-Sea

Description
Proposed Development Plan

Project ID 3751077	Drawing no. 11601	Revision C01
-----------------------	----------------------	-----------------

File name
3751077-LW-116-XX-D-G-11601-C01

Dimensions m	Scale 1:1,100	Size A3
-----------------	------------------	------------

