
Remediation Method Statement

at: Phase 3, Horsham
Enterprise Park
(formerly Novartis)
Parsonage Road,
Horsham, West Sussex
RH12 4AN

for: Muse Places Ltd

Report Reference: 3750963/RMS/1

Report Date: 23 May 2025

LEAP ENVIRONMENTAL GENERAL NOTES

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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.

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EXECUTIVE SUMMARY

The wider site comprises a former pharmaceutical works, extending to approximately 7.5ha. The majority of the onsite structures have been demolished, with the exception of a single 1930s Art Deco building (ref: 3/36) retained in the centre. The wider site has been the subject of a number of historic investigations, as well as remediation and validation activities carried out by the previous owners. This remediation method statement covers the 5 ha area known as Phase 3 to the east of the retained building. The proposed land use for Phase 3, has recently changed from Commercial to Residential, and accordingly a revised Remediation Method Statement is required to support the planning application.

The wider site is bound by Parsonage Road to the north, Wimbleshurst Road to the west, and railway lines to the south (extending to the southwest) and to the east. The railway line on the eastern boundary is on an embankment raised by 2-3 m relative to the site. The railway line to the south is broadly level with the site.

Site-wide historical features (now demolished) associated with the former pharmaceutical works included: fuel / solvent storage; boiler houses; above ground heating oil tanks; below ground fuel storage; interceptors; tunnels; extensive below ground utility services; chillers; pharmaceutical research, development and manufacture; engineering works; and offices.

The wider site is mapped as being underlain by the Upper Tunbridge Wells Sand Formation - Sandstone and Mudstone in the northwest, which is classed as a Secondary A Aquifer and Upper Tunbridge Wells Sand Formation - Mudstone for the remainder of the site (including Phase 3), which is classed as unproductive strata. The site is not located in a potable water supply source protection zone. No surface water features are present on site or within 250 m of the site boundaries, but a small pond located in a local park (~800 m to the southwest) is reported to be connected to the site via surface water drains. The site is not mapped as being within a radon affected area and no special protective measures are required in respect of radon gas.

The Phase 3 site was noted to have a shallow perched groundwater at the base of the made ground and a deeper aquifer within the Upper Tunbridge Wells Sand Formation. Groundwater was marginally impacted with Xylene and Phenols but was not considered to pose a significant risk to offsite groundwater receptors, on the basis that the CSM did not identify plausible contaminant migration pathways from onsite groundwater to offsite groundwater receptors. Additionally, no existing soil source for the Xylene nor Phenols was identified. The CSM did not identify a pathway for groundwaters to onsite users. Groundwater remediation is not proposed at this site.

The site has been the subject of numerous previous investigation by LEAP and others. With some areas of gross contamination (vapour risk from TPH/BTEX) being previously remediated by removal of contaminated soils by KDC, these decisions being led by a Commercial end use. Reassessment for a Residential end use identified residual elevated concentrations of arsenic, lead and benzo(a)pyrene above residential GAC within the made ground fill material in the Phase 3 area of the site. Asbestos was identified to be present in one location in the entirety of the soil testing carried out by LEAP. Locations of contaminant exceedances of residential GAC are shown in Drawing ref: 3750963-LW-241-XX-D-G-24101-C01 and Drawing ref: 3750963-LW-222-XX-D-G-22209-C01 **Appendix B**.

In terms of risk from ground gas, the Phase 3 site is characterised as CS1 - very low risk. It is noted that one deep monitoring well c.100 m northwest of Phase 3 (BH106), encountered a trapped pocket of carbon dioxide within a sandstone layer beneath a layer of clay with low permeability. Continuous gas monitoring results suggest that the gas source in BH106 was indicative of microbial respiration. Provided that in residential areas the foundation, drainage or services designs do not create preferential permeable pathways from that area at depth, the proposed residential properties were considered unlikely to require gas protection measures.

Within Phase 3 (eastern area), where a piled foundation solution may be adopted (deep made ground) the method used must adequately seal into the surrounding bedrock, so as not to create new pathways to groundwater i.e. use of CFA piles.

The report recommended that the ground gas risk assessment is reviewed by a competent geo-environmental consultant once the foundation, drainage and service design details are finalised. Limited further assessment may be required at that time by way of validation.

Surface water samples were collected from onsite drains, up and down gradient from the site, including the Horsham Pond. In addition a CCTV drainage survey was included in the report. PAH and TPH was detected at marginal levels above limits of detection. Horsham Pond was found to have higher levels of contaminants. Based on the sampling and laboratory analysis undertaken to date the contaminants identified onsite do not appear to be migrating offsite, although a plausible potential pathway does exist.

The asbestos, arsenic, lead and benzo(a)pyrene contamination identified within the made ground poses a risk to human health, where present in critical areas such as gardens or areas of soft landscaping.

As with any redevelopment site, there is always the risk of hitherto undetected contamination.

Recommendations are made for remedial works with respect to the contamination identified on site and where made ground extends into soft landscaped areas:

In private gardens, the made ground is to be removed to 600mm, this strip formation must be inspected by a Verification Engineer / Environmental Consultant

- If the formation made ground does not appear likely to be impacted by asbestos, the formation should be topped with a geotextile membrane and a clean cover of a minimum of 150mm topsoil and 450mm subsoil.
- If made ground is suspected to be impacted by asbestos, a further removal of 150mm is required and in filled with a deter to dig layer of gravels. This is to be topped with a geotextile membrane and a clean cover of a minimum of 150mm topsoil and 450mm subsoil.

Areas of soft landscaping should be stripped to 300mm and inspected by a Verification Engineer / Environmental Consultant, a clean cover system of minimum 150mm topsoil and 150mm subsoil should be placed.

In areas of new planting, the cover system should be deepened to 450mm for shrubs and 900mm for trees.

Clean corridors for services should be considered, with clay breaks to limit their potential to act as preferential pathways for land gas migration.

Materials within the clean cover system should be tested at the following frequencies:

- Imported manufactured Topsoil: one in 100-150m³
- Imported manufactured Subsoil: one in 150-300m³
- Imported from Brownfield: one in 50m³
- Reuse of onsite natural materials considered unlikely but should be tested at one in 100m³

All sources should have a minimum testing of 3 samples per source.

All relevant information shall be collected during the remediation works and a verification report compiled on completion and comprise as a minimum:

- A summary of the background site information and the RMS;
- Parties involved in the works;
- Details of any hitherto undiscovered contamination along with its remediation and verification;
- Waste classification and management documents to include as a minimum:
- Volumes and source of any materials removed from site, along with transfer tickets and acceptance notes at the relevant facilities.
- Laboratory validation test results and transfer notes for any imported materials;
- Formation level inspection records including site notes and photographs;
- Records of earthworks including as built drawings, photographs and quantities of materials;
- Records of any specialist remediation contractors works as a technical appendix if relevant (i.e. Japanese Knotweed / gas protection); and,
- Records of any variation to the agreed RMS including details of correspondence with statutory authorities.

The verification report will be submitted to local planning authority to discharge conditions.

1 INTRODUCTION AND BACKGROUND

1.1 Authority

RSK Environment Ltd trading as Leap Environmental (hereafter referred to as **LEAP**) were engaged by Muse Places Ltd herein referred to as the “Client” to provide a Remediation Method Statement for the Phase 3 area at the former Novartis site located at Horsham Enterprise Park, Parsonage Road, Horsham, West Sussex RH12 4AN

The works were undertaken by means of **LEAP's** fee proposal letter dated 30th April 2025, reference LPQ12249 including RSK Standard Terms and Conditions [Issue No13 April 2025] 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 wider site is approximately 7.5 hectares (Ha) in size, with Phase 3 occupying 5 Ha on the eastern side of the wider site and is located at NGR TQ178317, with the nearest postcode being RH12 4AN (Drawing Ref: 3750963-LW-111-XX-D-G-11101-C01, **Appendix B**).

1.2 Objective

The wider site has been the subject of numerous previous investigations and remediation works. The original proposed end use of the eastern portion of the site, referred to as Phase 3 of the Horsham Enterprise Park Development, comprised commercial buildings and open space, with planning approved for this development. However, it is understood that a revised planning application has been submitted (ref: DC/25/0629) for a proposed residential scheme within the Phase 3 area, with the proposed residential development shown on Drawing 17100-HGP-XX-XX-D-A-0102 RevP03, **Appendix B**. It is understood that a Remediation Method Statement to reflect this change in end use, will be required to support the aforementioned planning application.

The objectives of this report are to:

- Summarise the site history, which inform the areas requiring remediation
- Detail the remediation required
- Detail the verification reporting requirements

1.3 Previous studies

The site has been the subject of previous investigations by others. The following site investigation reports have been supplied by the Client and the reader is referred to these earlier reports which should be read in conjunction with this report.

- Phase 3, Contaminated Land Assessment Report by **LEAP** ref. 3750851 dated 31 January 2025
- Addendum Site Investigation Report by **LEAP** ref. LP2575 dated 7 July 2021
- Phase III Site Investigation Report by **LEAP** re: LP2441 dated 6 May 2021
- Phase 1 Desk Study & Site Reconnaissance Report by **LEAP** ref. LP2441 dated 5 March 2021
- Asbestos Investigation Letter Report, Parsonage Road, Horsham, RH12 4AN by **LEAP** ref. OA/20/LP2309 dated 18 September 2020
- Phase I Geo-Environmental Site Assessment by REC Ltd dated June 2018
- Land Quality Interim Report by KDC Contractors Ltd dated November 2016
- Phase 2 Environmental Investigation by KDC Contractors Ltd dated June 2016
- Historical Land Quality Investigations Data Review and Preliminary Risk Assessment by KDC Contractors Ltd March 2016
- Asbestos Demolition Survey Reports by Riverside Environmental Services Ltd dated January 2015
- Further Land Quality Investigation by Jacobs dated 17 October 2014
- Phase 2 Land Quality Assessment by SKM Enviros dated 12 July 2013.

It is understood that the Muse Places Ltd has reliance on these previous reports.

1.4 The Site

The site has been subject to previous investigations by **LEAP** and others. The relevant information from these reports to support development of the preliminary risk assessment (PRA) is summarised in **Table 1** below. The previous reports considered the wider development, however, only the eastern area of the site known as Phase 3, is considered within this Remediation Method Statement (RMS). Phase 3 was considered in **LEAP** 3750851 Land Contamination Assessment and the pertinent points are presented in this Section 1.4, report ref: 3750851 provides a full account of the findings of previous investigations and the reader is referred to this report.

Several drawings have been included in **Appendix B**, to support the information provided within this report;

- Proposed redevelopment plan ref: 1 - 17100-HGP-XX-XX-D-A-0102-P03
- Site Location Plan ref: 3750963-LW-111-XX-D-G-11101-C01
- Phase 3 Site Boundary ref: 3750963-LW-112-XX-D-G-11201-C01

- Historic Site Layout ref: 3750963-LW-126-XX-D-G-12601-C01
- LP2441 Site Investigation Location Plan – Trial Pits ref: 3750963-LW-222-XX-D-G-22201-C01
- LP2441 Site Investigation Location Plan – Windowless ref: 3750963-LW-222-XX-D-G-22202-C01
- LP2441 Site Investigation Location Plan – Boreholes ref: 3750963-LW-222-XX-D-G-22203-C01
- LP2441 Site Investigation Location Plan – Bunds ref: 3750963-LW-222-XX-D-G-22204-C01
- LP2575 Site Investigation Location Plan ref: 3750963-LW-222-XX-D-G-22205-C01
- Non-LEAP Site Investigation Location Plan ref: 3750963-LW-222-XX-D-G-22206-C01
- KDC remediated areas and LEAP validation locations ref: 3750963-LW-222-XX-D-G-22207-C01
- Drain location plan ref: 3750963-LW-222-XX-D-G-22208-C01
- Exceedances of HGWP resi GACs ref: 3750963-LW-241-XX-D-G-24101-C01
- Non exceedances of HGWP resi GACs ref: 3750963-LW-222-XX-D-G-22209-C01

Table 1 Summary of the site; description, history and environmental setting

Information ¹	Details
Name and site address	Horsham Enterprise Park, land off Parsonage Road, Horsham, West Sussex, RH12 4AN
National Grid Reference	TQ 178 317
Site area	Phase 3 comprises the eastern portion of the site and occupies 5 ha of the wider 7.5 ha development.
Topography and elevation	Central areas are broadly flat and level, with a gentle downward slope from west to east (~57.50 m to 56.50 m AOD). North eastern and eastern boundaries slope downwards into the site from ~60 m AOD at the crest of the slope to ~58-57 m AOD at the toe of the slope. Slope angles are estimated to be between 20-22° on the north-eastern and eastern boundaries. Regionally, the topography of the surrounding area slopes downwards to the southwest.
Site description and current use	At the time of the investigation in 2021, the wider site was unoccupied and cleared of most of the former structures, with the exception of the retained

¹ Source: LP2441 Phase I Desk Study and Site Reconnaissance by LEAP dated March 2021. The report includes publicly available data in the form of an Envirocheck Report.

Information ¹	Details
	central structure referred to as Building 3/36 to the west of the Phase 3 area. This report noted a soft strip including asbestos removal was being undertaken by others on the central building, and the installation of secure fencing around the site perimeter. The wider site is bound by Parsonage Road to the north, Wimbleshurst Road to the west, and railway lines to the south (extending to the southwest) and to the east. The railway line on the eastern boundary is on an embankment raised by 2-3 m relative to the site. The railway line to the south is broadly level with the site (although in a slight cutting in the far northeast of the site). The raised ground present along the north-eastern and eastern boundaries appears in part to be related to earthworks during the construction of the pharmaceutical works, where land was presumed to have been 'cut' into to create a level construction platform for buildings. A concrete crib wall is present along the eastern boundary embankment ~95 m south of Parsonage Road. It is ~15 m long and ~2 m high and formed of interlocking precast concrete sections.
Surrounding area	The wider site is located to the north of Horsham town centre in a predominantly residential setting, with residential housing to the north, southwest and west of the site. A commercial/light industrial development is located beyond the railway line to the east. To the south beyond the railway line are college playing fields and a mix of residential and light industrial land uses. Approximately 230 m to the northeast of the site is Parsonage Farm Industrial Estate.
Site history	From the earliest provided mapping (1875) the wider site is shown as open land with an 'old clay pit' in the far south-eastern corner. Three historical drainage ditches are mapped on the wider site, two in the eastern half of the site and one in the western half. Railway lines are shown to be present forming the southern and eastern boundaries. Mapping from the late 1930's show Building 3 present and labelled as 'laboratories'. Further expansion of the site with new structures, is shown on historical maps dating from the 1960's, 1980's and 1990's. Minor additions to the site layout are noted from the 2000's. The Phase 3 area of the site, following construction of the laboratory, comprised a production and storage building/area in the centre, a former boiler house in the west-centre, a waste store/incinerator and solvent storage in the south and a pumping station in the east, among other office, warehouse and ancillary buildings. A boiler house and pumping station were present directly west of the Phase 3 area. It is understood from previous reports that the former pharmaceutical buildings were demolished between April 2015 and June 2016, with demolition of most structures and removal of foundations and slabs to 1.0 m below existing ground level. It is then understood that some remedial and investigation works were undertaken (see KDC Contractors Ltd Land Quality interim report ref: 10), including excavations around a partly decommissioned fuel storage tank and removal of petroleum hydrocarbon impacted soils. However no details of the remedial works were provided for review. Land immediately surrounding the wider site broadly follows a similar trajectory in that it was largely open fields, but with minor areas of

Information ¹	Details
	residential development to the southwest and industrial usage (Horsham Iron Works) to the southeast from the late 19 th Century. From the 1930's and 1960's further residential expansion of Horsham town is noted to the west, south and east. By the 1980's extensive industrial / commercial land use is mapped on land to the east and southeast of the site, but with residential use shown beyond that. Playing fields are mapped to the north of the site in the 1980's but are mapped as residential land use from the 2010's.
Geology	The wider site is mapped as being underlain by the sandstone and mudstone of the Upper Tunbridge Wells Sand, with the majority of the wider site including Phase 3 mapped as underlain by mudstone of the Upper Tunbridge Wells Sand. Sandstone is mapped in the northwestern corner. Superficial deposits are not mapped for the site.
Regional hydrogeology	The Upper Tunbridge Wells Sand - Mudstone beneath Phase 3 is mapped as Unproductive Strata. The Upper Tunbridge Wells Sand - Sandstone in the northwest of the site is classified as a Secondary A Aquifer. The site is not located within a groundwater source protection zone (SPZ). It is noted that there are two historical groundwater abstraction licences for the site which are mapped to a single point southwest of Building 3 (to the west of Phase 3).
Surface water	There are no recorded surface water features on the wider site or immediately bounding the site (within 250 m). An unnamed surface water feature is mapped 326 m to the northeast of the site. It is understood that two surface water drains are present in Phase 3 and connect to the Horsham Pond ~800 m to the southwest of the site. One of the drains extends from the northeast corner along the northern boundary towards Building 3/36, where it turns to the south and extends southwards towards the southern boundary. It then turns to the southeast following the southern boundary past Building 11, before exiting the site beneath the railway line. A second surface water drain is present in the southern half of the site aligned east to west from the Foundry Lane industrial estate apparently connecting to the same outfall along the southern boundary. It has been reported to LEAP anecdotally that the site drainage did not connect into these features. A historical decommissioned drain is mapped from the north east crossing the centre of the eastern half of the site and connecting to the outfall along the southern boundary. We understand that this was decommissioned with the construction of Building 42. The approximate routes of the drains are shown on Drawing ref: 3750963-LW-222-XX-D-G-22208-C01, Appendix B. It is not known if historical drains / ditches (that were mapped pre-development of the site) are still active.
Flood risk	According to the Envirocheck data, the wider site is not located within a flood zone at risk from Rivers or Sea. The north-western part of the site, where the Upper Tunbridge Wells Sand - Sandstone is present is mapped in the Envirocheck Report as an area with 'limited potential for groundwater flooding to occur'. Phase 3 is not identified as being at risk of groundwater flooding. Phase 3 is also mapped as at risk of surface water flooding.

1.4.1 Soil contamination encountered

On the basis of the non-targeted ground investigation, made ground was found to generally extend up to 1-2 m in thickness, with deeper areas up to 4 m in the east (Phase 3), and is locally impacted with asbestos, arsenic, lead and benzo(a)pyrene (Drawing ref: 3750963-LW-241-XX-D-G-24101-C01). This is similar to the findings of the previous ground investigations that targeted potential sources of contamination.

1.4.1.1 Investigations by others

The site was subject to several investigations by others and drawing ref: 3750963-LW-222-XX-D-G-22206-C01 illustrates these site investigation locations. As a result of these investigations, some areas identified as a vapour risk from TPH/BTEX to commercial properties and were remediated by chasing out of impacted materials by KDC. Subsequent Site Investigations by LEAP that coincided with KDCs remediated areas, found no further exceedances, these locations are indicated on Drawing ref: 3750963-LW-222-XX-D-G-22207-C01.

1.4.1.2 Soil contamination encountered by LEAP

Table 2 Summary of soil contamination encountered

Determinand	Number of samples	Number >LOD	Maximum Conc. (mg/kg unless otherwise stated)	Generic Assessment Criteria resi HGP 2.5% SOM (mg/kg)	Number of Exceedances	Locations of Exceedances (m bgl)
METALS						
Arsenic	50	50	44.3	37	1	TP146 – 0.20 m
Cadmium	50	6	3.5	22	0	
Chromium	50	50	87.5	910	0	
Hexavalent Chromium	50	0	0.8	21	0	
Copper	50	50	139	2,400	0	
Lead	50	45	613	200	5	TP127 – 0.20 m TP128 – 0.10 m TP140 – 0.10 m TP141 – 0.10 m WS113 – 0.70 m
Mercury ¹	50	0	0.8	40	0	
Nickel	50	50	60.3	130	0	
Selenium	50	0	-	250	0	
Zinc	50	50	446	3,700	0	

Determinand	Number of samples	Number >LOD	Maximum Conc. (mg/kg unless otherwise stated)	Generic Assessment Criteria resi HGP 2.5% SOM (mg/kg)	Number of Exceedances	Locations of Exceedances (m bgl)
ASBESTOS						
Asbestos	52	1	n/t	n/a	1	TP113 – 0.10 m
HYDROCARBONS						
Benzo(a)pyrene	50	14	14	5.0	2	BH104 – 0.50 m TP141 – 0.10 m
Naphthalene	50	1	0.2	5.3	0	
Total PAHs	50	21	121	n.v.	n/a	n/a
Total petroleum hydrocarbons	21	14	833	n.v.	0	n/a
OTHERS						
Poly Chlorinated Biphenols (PCBs)	8	1	0.3	n.v.	0	(detected at LOD TP108 – 2 m)
VOC & SVOCs	2	no significant detections			0	TP115 TP126A
Phenols	2	No >LOD			0	

Notes to table

1. Assessment criterion based on methyl mercury
2. As n.v. – no appropriate value

The locations of these trial holes are included on the LP2441 series of drawings in **Appendix B**.

1.4.1.3 Visual and olfactory evidence

Previous investigations indicated that visual and olfactory indicators of potential contamination were noted in Made ground, reworked natural and natural soils, and comprised:

- Black staining
- Organic odours
- Oily sheen on groundwater seepage (at one location).

However, no strong hydrocarbon odours were noted nor elevated PID readings recorded in any samples screened.

1.4.2 Groundwaters in previous investigations

Two groundwaters were identified within the wider site comprising a shallow perched water towards the base of made ground and a deeper aquifer within the underlying Upper Tunbridge Wells Sand Formation. Differences in groundwater elevation between shallow and deep groundwater monitoring wells, imply there is limited connection between the two water bodies. Within Phase 3, the Upper Tunbridge Wells Formation-Mudstones are classified as unproductive, these become Sandstones and Mudstones to the west of Phase 3 and are a Secondary A Aquifer.

1.4.2.1 Groundwater contamination encountered

Nickel

The groundwater laboratory tests recorded nickel at concentrations above UK Drinking Water Standards in two locations in Phase 3 (BH104, BH101S). Nickel was reported at a concentration of 21 and 28 µg/l (BH104) and 46 µg/l (BH101S) compared with the screening value of 20 µg/l. Nickel was not detected above UK DWS in BH101D.

Total Petroleum Hydrocarbons

Total TPH was detected marginally above the withdrawn screening criteria of 10 µg/l in BH101 shallow and deep (ranging between 79.3 to 357 µg/l). The TPH fractions were at concentrations below published WHO TPH guidance values. NAPL was not noted to be present at the site.

Xylene

Xylene was detected at concentrations above the published UK Minimum Reporting Value (used for the protection of groundwater as a long term drinking water resource) of 3µg/l in BH101D and BH101S, higher concentrations were reported in the deeper monitoring well (BH101D) with concentrations ranging from 72.4 to 75.3 µg/l compared to 28 µg/l in BH101S.

BH101 is located beneath a former firewater runoff storage reservoir and to the north of a diesel storage area that has been remediated by others. The exploratory holes excavated by LEAP at BH101 and to the north, west and south of the location (TP145-TP146) did not describe the presence of NAPL, malodours or significantly discoloured soils that may be a continuing source of the xylene present in groundwater at BH101D/S.

Polycyclic Hydrocarbons (PAHs)

Benzo(a)pyrene was detected at the analytical detection limit (0.01 µg/l) in BH101D/S. The low concentration of this polycyclic aromatic hydrocarbon is not considered to pose a risk to groundwater receptors.

Phenol

We note that there are no published UKDWS for phenol, however phenol was reported at concentrations above the detection limit in BH101D in all three monitoring rounds. It was not detected in shallow groundwater at BH101S.

1.4.2.2 Groundwater Risk Assessment

A continuing soil source of nickel, petroleum hydrocarbons, xylene, phenol or benzo(a)pyrene was not identified in the locations where these contaminants were identified within groundwaters.

On the basis of the soil remediation already carried out by others, the marginal exceedances described above, the low sensitivity of the aquifer (mapped as an unproductive aquifer) and absence of potable water abstractions proximal to the site, the site is not considered to pose a significant risk to onsite users nor offsite groundwater receptors.

1.4.3 Surface waters in previous investigations

The CSM identified a plausible preferential pathway via the surface water drains that extend through the eastern half of the site and connect to the Horsham Pond ~800m to the southwest of the site. However, this did not appear to be active. The locations of the drains and sampling points are illustrated on Drawing ref: 3750963-LW-126-XX-D-G-12601-C01 and 3750963-LW-222-XX-D-G-22208-C01.

The 2018 and 2021 CCTV surveys identified blockages, damaged sections and unmarked connections into the two surface water drains that extend through the site. The decommissioned drain mapped as being aligned northeast to southwest was not located. This may well have been 'grubbed' out as part of the demolition works, although this was not recorded on the KDC surveys made available to LEAP.

Elevated contaminants of concern in the onsite surface water sampling locations were predominantly hydrocarbons, both aliphatic and aromatic PHC and PAHs. The surface water drain to the east of building 36 is locally contaminated at LWS2, but down gradient of this at LWS3 the PAH and TPH loading is much lower, suggesting that either the blockage is preventing the hydrocarbons impacted water moving downstream or it is leaking onto site.

LWS4 appears to be part of a redundant drainage system and is also locally contaminated. It was initially thought to be part of the decommissioned surface water drain. However, overlaying the Southern Water plans onto the 2020 GPR utility survey implies that it is not related to the old network. Notwithstanding this the 2021 CCTV survey shows that it discharges into the Southern Water surface water drains.

In the down gradient off-site monitoring locations most locations recorded TPH aliphatic / aromatic fractions and PAHs at less than analytical limits of detection. Where detected they were at considerably lower concentrations than the onsite sampling locations. This shows that the hydrocarbons detected in onsite sampling locations are not significantly impacting the offsite sampling points.

The Horsham Pond records high concentrations of PAHs and TPH, but based on the sampling upgradient of the pond it does not appear to have been contaminated from the Horsham Enterprise Park. We note there have been pollution incidents from Horsham Hospital that have previously impacted the pond.

1.4.4 Gas monitoring in previous investigations

The ground gas screening values, based on a borehole per monitoring event value characterises the Phase 3 site as GSV1 very low risk with respect to carbon dioxide and methane. It is noted that BH106 (located outside the Phase 3 area), is assigned a gas screening value of 3.68 l/hr - moderate to high risk - with respect to carbon dioxide.

BH106 (located outside of the Phase 3 area) is reported in LP2575, with high flows and CO₂ concentrations, this was considered to be the result of the well penetrating a natural gas pocket within the underlying geology. The reader is referred to 3750851² for a more detailed account of the gas regime across the wider site, including BH106.

However, it is evaluated at this preliminary design stage that the 'coal' in the sandstone layers at depth does not pose an unacceptable land gas risk to the proposed development. This is validated by the shallow monitoring wells installed in both made ground and the top of the Tunbridge Wells Sand Formation which have not resulted in high carbon dioxide or flow rates (in non-flooded wells) either on the Phase 3 site or nearer to BH106.

In the subject Phase 3 area it is understood the development will use a piled foundation solution due to deep made ground, provided these comprise properly constructed CFA piles would not be expected to create active pathways and will also include reinforced cast *insitu* suspended floor slab with minimal penetrations as further mitigation. A check of the foundations, services and drainage design details is recommended to ensure that no preferential pathways are created for ground gas migration.

1.4.5 Relevant contaminant linkages to be remediated

1.4.5.1 Soil contamination

Made ground was found to be locally impacted with asbestos, arsenic, lead and benzo(a)pyrene, at levels exceeding the HGWP resi GAC. Made ground soils pose a potential risk to future land users from direct contact and ingestion pathways i.e. in soft landscaped areas and private gardens.

Made ground soils have the potential to impact underlying natural soils, although the site investigations did not identify any significantly impacted natural materials at the site.

1.4.5.2 Existing drains

The site is underlain by an existing system of drains, that are in various states of repair.

The composition of the drains across the site included in the CCTV survey were cast iron, clay and concrete, with occasional plastic liners. Given the age of the drains, the concrete pipes may contain asbestos. The site has been impacted by contaminants of concern, and any debris/silt within the drainage system may be impacted.

These drains have a direct link to Horsham Pond, however, the existing water quality of this pond is impacted with TPH and PAHs, these are not thought to have come from the

² Phase 3, Contaminated Land Assessment Report by LEAP ref. 3750851 dated 31 January 2025

site. However, it should be noted that a direct pathway to this pond exists and onsite activities have the potential to impact this surface water receptor.

1.4.5.3 Ground gas

The ground gas risk within Phase 3 of the site is considered low (GSV1), however, as described in Section 1.4.5.3 it is recommended that further assessment is undertaken when detailed design plans are known.

1.4.5.4 Data Gaps

Access along the southern boundary from the centre towards the south east corner was restricted due to present limited space, proximity to the railway lines, hardstanding and services. Concrete hardstanding was encountered at or near surface within TP116, TP132, TP149 and TP151. It is recommended that once hardstanding has been removed and it is safe to dig without risk of damage to services, formation inspections by a Verification Engineer / Environmental Consultant with possible further intrusive investigations are undertaken within these locations.

It is also noted that access to areas to the north and south of the retained building (outside of the subject Phase 3 area) were limited due to below ground services. The desk study highlighted the potential for a groundwater interceptor to be present to the immediate south of Building 3/36 and fuel tanks to the southwest (anecdotally reported to have been decommissioned).

2 REMEDIATION STRATEGY

2.1 Summary of Approach

The risk driver for remediation is the potential for exposure of future site users to heavy metals and benzo(a)pyrene as well as the remaining (albeit apparently limited) potential for asbestos to be encountered within the made ground. The pathway for impact to future users is direct exposure to the outlined contaminants.

Where soft landscaping is proposed in areas of made ground then remedial works will be required to prevent potential risks to future land users. Where hardstanding is proposed this will break contaminant linkages and remedial measures will not be required.

In private garden areas, where made ground is present a capping solution comprising 600 mm of verified clean cover material, including a minimum of 150 mm topsoil, and clean corridors for service runs would act to break the pathway of exposure and render the material suitable to be reused on the site. Depending on the final development levels, this may require material to be removed and disposed off-site. Given the potential presence of asbestos, albeit apparently limited, it is recommended that the formation level is inspected to confirm ground conditions prior to placement of the capping layer. A visible marker layer (geotextile membrane) could be considered where made ground remains at formation level. Where asbestos containing materials are suspected at formation level further excavation may be required and/or the placement of a 150 mm hard to dig barrier in addition to the geotextile membrane. In public open space / soft landscaped areas the thickness of capping material may be reduced to 300 mm. Clean cover thicknesses should be extended to 900 mm depths if new trees are proposed or to 450 mm where shrub planting is proposed. Clean cover systems should be made with reference to CIRIA Special Publication 124:1996 Barriers, liners and cover systems for containment and control of land contamination.

Remedial measures for proposed soft landscaping use are not required where uncontaminated natural soils are present at formation.

Surveying and sampling of the surface water drains along the north-eastern boundary (where they enter the site) and along the southern boundary (where they exit the site) should be undertaken to confirm the integrity of the drainage system and the quality of water discharging through the site drains and to ensure that construction works do not result in downstream pollution.

The presence of asbestos within the made ground has been detected in previous investigations. Groundworks should be carried out following suitable health and safety protocols, for example, dust suppression measures and reassurance monitoring, as required.

The works should be planned with reference to the Joint Industry Working Group Asbestos in Soil and Construction & Demolition (C&D) Materials guidance titled "Control of Asbestos Regulations 2012: Interpretation for Managing and Working with Asbestos in Soil and Construction & Demolition materials: Industry Guidance (CAR-SOILtm).

In addition to the above this report recommends that:

- the land gas risk assessment is reviewed once detailed design plans are known for the Phase 3 area. Limited further assessment may be required at that time by way of verification.
- the existing Southern Water drains that extend through the eastern half of the site are damaged and where blockages, cracks, seepages are recorded then suitable remedial action should be undertaken. Including blocking of redundant inlets and full decommissioning of chamber S21 to prevent water discharging into chamber S8. Any repair works that affects the surface water drains shall only be undertaken after consultation with Southern Water Ltd

2.2 Verification and Inspection

2.2.1 Private Gardens

Table 3 below outlines the strip and remediation requirements within private gardens. Details have been provided for a both a strip formation of natural soils and made ground, however given the depths of made ground encountered onsite, it is considered unlikely that natural soils will be exposed within Phase 3.

Table 3 Private Gardens remediation and verification requirements

	Stripped to natural soils	Stripped to 600mm made ground formation
Strip Formation	Stripped formation can cease shallower than 600mm if natural soils exposed.	Stripped to 600mm where formation is made ground.
Verification Required	The formation level is to be assessed by a Verification Engineer / Environmental Consultant, as part of the verification works.	The formation level is to be assessed by a Verification Engineer / Environmental Consultant, who will advise which option is required: Option 1: Low asbestos risk Consider placement of Geotextile membrane as a deter to dig layer. Option 2: Indicators of asbestos risk at depth Removal of 150mm and placement of a deter to dig layer of gravels. Capped by placement of Geotextile membrane.
Clean Cover	Minimum of 150mm topsoil over 450mm of subsoil, unless natural was exposed shallower resulting in a reduction of subsoils required.	Minimum of 150mm topsoil over 450mm of subsoil. (total 600mm)
Verification Required	The private gardens should be verified by a Verification Engineer / Environmental Consultant: • Verification pits through clean cover exposing the base of cover- including membrane where fitted. A ratio of 1 in every 2 plots is typically adopted. • Verification Sampling if the topsoil and subsoil has been tested while stockpiled and confirms to the volumetric requirements as outlined in section 2.2.3, than in situ testing is not required. If further testing of topsoil and/or subsoil is required, this is typically undertaken	

	Stripped to natural soils	Stripped to 600mm made ground formation
	at 1 in every 4 plots, this must be cross referenced to the volumetric requirements in section 2.2.3.	

2.2.2 Soft Landscaped Areas

Table 4 below presents the depths of clean cover required within soft landscaped areas. Given the depths of made ground encountered onsite it is considered unlikely that natural soils will be encountered.

Table 4 Soft Landscaping remediation and verification requirements

Strip formation	• Soft landscaping = 300mm strip • New Shrub planting = 450mm strip • New Tree planting = 900mm strip
Verification Required	The formation level is to be assessed by a Verification Engineer / Environmental Consultant, who will advise which option is required, which should include an assessment of asbestos risk of the formation level. If appropriate, this will be need including in the site management plan and further removal of visually impacted materials maybe required.
Clean Cover	Minimum of 150mm topsoil in each cover system: • Soft landscaping clean cover of 300mm • New Shrub planting clean cover of 450mm • New Tree planting clean cover of 900mm Ratios of topsoil and subsoil should be guided by a competent landscaper.
Verification Required	These areas should be verified by a Verification Engineer / Environmental Consultant: • Verification Pits through clean cover exposing the base of cover in soft landscaped areas • Verification Sampling. Topsoil and subsoil sampling of stockpiles, then in situ sampling is not required. Alternatively, this verification sampling can be done after the materials have been placed, as part of the verification pit process. Regardless of whether materials are stockpiled or insitu when sampled, all testing must conform to the volumetric requirements in section 2.2.3.

2.2.3 Soil Testing Requirements

It is envisaged that topsoil and subsoil will be required to be imported to the proposed garden and soft landscaped areas.

In general terms, all imported soils will be approved by a Verification Engineer / Environmental Consultant prior to importation. The proposed sources will be assessed on the basis of either a detailed site investigation or laboratory test results in the case of a manufactured topsoil. In the absence of this data then a Verification Engineer / Environmental Consultant will advise what further testing, if any, is required prior to importation.

The test frequency will be as follows (to be advised by a Verification Engineer / Environmental Consultant on a source by source basis depending on the quality of data provided prior to importation).

- Subsoil – 1 No. sample per 150-300m³
- Topsoil – 1 No. sample per 100-150m³
- Brownfield site – 1 No. sample per 50m³

All imported soils will be subject to the test parameters attached in Appendix C irrespective of the depth at which they are to be placed and whether they are considered subsoil or topsoil.

The made ground onsite has been found to be unsuitable to remain near surface in private gardens and soft landscaped areas. It is considered unlikely that significant quantities of natural soils will be excavated and become available for reuse. However, should this be the case, a more conservative testing frequency of 1 No. sample per 100m³ is suggested.

All sources should have a minimum testing of 3 samples per source.

2.2.4 Verification

All remediation works will be verified by a Verification Engineer / Environmental Consultant by a process of regular site inspections and as appropriate soil sampling and laboratory analysis. This should also include inspection visits to confirm the depth of placed capping layer. The details of these are outlined in Section 2.2. The Verification Engineer / Environmental Consultant will thereby maintain a watching brief, although the ultimate responsibility for delivery of the remediation strategy remains with the developer.

On completion a verification report will be provided, documenting the results of the site inspections and laboratory testing, details are provided in Section 3.4.

2.3 Protection of Incoming Services

Given the concentrations of contaminants recorded by works completed thus far, the use of protective barrier pipes for incoming water may be required, subject to the specific requirements of the providing authority. Clean corridors for service runs would act to break the pathway of exposure. Where these have the potential to act as preferential pathways for ground gas, the provision of clay breaks in the surround should be considered.

Ultimately the local water supply company will have their own specification and they should be consulted to confirm whether they will require protection measures to be adopted. It is our understanding that protective barrier piping is to be utilised on site.

Reference should be given to previous sections on the existing drainage at the site (Sections 1.4.3, 1.4.5.2 and 2.1).

2.4 Discovery Strategy

It is considered possible that as yet unidentified contamination may be encountered during construction/earthworks works. Where additional contamination is identified during works this will be subject to further assessment and documented accordingly. It may be

necessary to recommend the removal of additional soils or to propose alternative remedial solutions.

Groundworkers should be vigilant for the following visual or olfactory evidence of contamination during the groundworks including:

- Dark coloured staining within soils and/or oily pockets;
- Soils exhibiting hydrocarbon odours, possibly associated with staining;

Other material to be on the lookout for across the site is:

- Fibrous materials (which may contain asbestos);
- Brightly coloured soils.

It is understood that there are limited areas on site that were previously inaccessible (Section 1.4.5.4). It is recommended that Verification Engineer / Environmental Consultant inspect the underlying made ground once access becomes available.

Verification Engineer / Environmental Consultant are to be if any material suspected to be contaminated is encountered during the course of the development, so that appropriate revisions to remedial strategy can be implemented as required.

2.5 Waste Disposal

It is anticipated that the proposed development will generate waste soils and materials will need to be removed from site as part of the construction process.

In line with current European Commission Regulations including the Waste Framework Directive 2014 and The Waste (England and Wales) (Amendment) Regulations 2012, and Environment Agency Guidance (WM3 2015), waste holders and their advisors (producer, carrier or disposal facility) are required to make an assessment of waste materials and classify them as hazardous, non-hazardous waste or inert.

Once the waste has been classified as either hazardous or non-hazardous and prior to disposal, further analysis may be needed to confirm whether soils to be exported meet the proposed receiver landfill site's Waste Acceptance Criteria. Where a waste is classified as non-hazardous a Waste Acceptance Classification test (WAC) is required to determine whether the material can be accepted at either an inert or non-hazardous landfill. Where the WAC test results exceed hazardous waste WAC limits that waste cannot be accepted at a hazardous landfill site without prior treatment.

In accordance with WM3, wastes containing visible asbestos contamination or asbestos concentrations greater than 0.1% by volume are classified as Hazardous.

Where soils are to be disposed off-site, it is the duty of the waste producer, to ensure that all waste is disposed of appropriately and that any that is sent to landfill is sent to an appropriately licensed one.

Where made ground soil is to be re-used on site or natural clean soils may be suitable for re-use onsite and/or transferred to another site, then it is recommended that this is carried out under the CL:AIRE Code of Practice for re-use of soils (see Section 9 below). It should be noted that if made ground is to be re-used the MMP outlining the proposed re-use must

be in place prior to the material's excavation. Made ground soils excavated without an MMP outlining this proposed re-use would be classified as a waste and must be disposed of offsite.

An engineered clean cover system is required to cover any reused made ground in areas of public open space/ soft landscaping or in private gardens, and is detailed in section 2.2.

Waste soils awaiting testing, classification and disposal will be placed on plastic sheeting, segregated by fencing and labelled appropriately. Any potentially hazardous or inert soils will require waste acceptance criteria (WAC) testing.

Naturally occurring soils are anticipated to be classified as non-hazardous and potentially inert although confirmatory testing would be required to confirm this if they are deemed a waste and require disposal.

It is strongly advised that detailed discussions be held with remediation/groundworks contractors and that receiving landfill sites are identified in advance of commencing any waste removal

2.6 CL:AiRE Development Industry Waste Code of Practice

It is anticipated that clean natural soils generated from foundation and/or drainage excavations may be suitable for re-use on site within the cover layer system or as part of the ground releveling. However, given the depth of made ground onsite and the proposal for piled foundations, the amount of clean natural materials excavated may be limited.

Excavated made ground may be suitable for ground releveling in hard landscaped areas of the development, subject to it meeting the geotechnical requirements of that re-use and provided that it is free of asbestos.

If made ground soils were to be reused on-site then this should be undertaken in accordance with the DoWCoP. The Guidance presents key principals for demonstrating compliance with DoWCoP to reuse of soils as non-waste, this needs to be lines of evidence based to demonstrate that soils are not waste. Line of evidence must be set out in the Material Management Plan. Key principals to be met when reusing soils as non-waste are as follows:

- Reuse of material will not create unacceptable risk to human health or other identified receptors – i.e. risk assessment confirming suitability for reuse
- Suitability for reuse without further treatment – suitable chemically and geotechnically – must meet relevant specification – e.g. use as backfill beneath cover systems buildings or hardstanding or for site regrading
- Certainty of Use – must demonstrate that material will actually be used and is not just a probability – i.e. there is planning for the scheme and that backfill is required to make up levels or clean soils required for cover systems
- Quantities – materials used should only be in the quantities required – i.e. use of excessive material will = landfill on site as disposing waste soils that aren't required

A Material Management Plan should be submitted to a 'Qualified Person' (QP) for review and if appropriate the QP will sign a declaration that proposals within the MMP are in accordance with CoP. The QP must be independent from and have had no prior involvement with the project.

On completion a verification report must be produced documenting whether proposals set out in MMP were implemented on site – confirming volumes of material reused, reuse locations, and compliance with specifications.

3 VERIFICATION WORKS

3.1 Site Works

During the re-development works, the Verification Engineer / Environmental Consultant will observe and verify the following:

- Visual inspection of the formation level soils prior to infilling and confirmation of depth;
- Verification of the chemical nature and thickness of the applied clean cover soils; and
- Verification of excavations where contaminated soils are deemed present
- Watching brief on areas identified as a data gap in Section 1.4.5.4.

The engineer will also be available to visit site and provide guidance should any previously undiscovered contamination be encountered.

3.2 Verification Testing of Imported soils/Site-won soils

As stated in the remediation strategy above (section 2.2), the Verification Engineer / Environmental Consultant will approve imported soil sources prior to use based on site investigation and/or test results as well as the reuse of site-won soils.

Once a source has been approved for importation the Verification Engineer / Environmental Consultant will complete onsite inspection and verification testing. Where imported from a manufacturer or greenfield site, topsoil will be tested at a minimum frequency of one sample per 150m³ imported and subsoil at a minimum frequency of one sample per 300m³ of imported soil with a minimum of three samples per source of material in both cases. Soils imported from brownfield sites would be tested at the high frequency of one per 50m³. Testing will be undertaken at a UKAS and MCERTS accredited laboratory.

All imported soils will be required to meet the specification as given in **Appendix C** irrespective of the depth at which they are to be placed. Any unsuitable material will be removed from site.

The testing regime was detailed in section 2.2

Site-won soils which are proposed for reuse will require verification testing following their excavation once exact quantities are known to confirm their chemical suitability. The testing regime for site won natural soils is one sample per 100m³.

The reuse of any imported topsoil or subsoil 'site-won' from another site will require a Materials Management Plan (MMP) with a declaration signed by a Qualified Person (QP) in accordance with the CL:AIRE Definition of Waste Code of Practice (DoW CoP). Manufactured topsoil with appropriate end of waste certification is exempt from the CoP. The CoP cannot be used to import Made Ground

3.3 Clean Cover System Details

The depth of the placed topsoil and subsoil layers in soft landscaped areas (where made ground was removed) will be verified by the Verification Engineer / Environmental Consultant by the excavation of hand dug holes through completed areas. This depth will be specified to meet the requirements of this RMS as well as the landscaper.

These verification holes will be located in the private gardens in accordance with NHBC guidance for a development of over 40 plots, such that a verification hole will be completed in the garden of 1 in every 4 plots with the topsoil and subsoil sampled for chemical analysis.

In the soft landscaped areas verification pits will be randomly distributed across any significant area of soft landscaping. The frequency of inspection will be at the discretion of the engineer, but as a broad guide an inspection location per every 150m³ of topsoil placed is recommended.

The reader is referred to the detailed clean cover system description in Section 2.2

3.4 Verification Report

All verification works will be presented in a final verification report upon completion. This report will comprise source certificates, delivery notes and test results of imported soils and photographic records showing any stockpiling areas and demonstrating the location and thickness of the applied clean cover soils. On receipt, the verification report should be submitted to the Local Planning Authority (LPA) to enable the discharge of planning conditions related to contaminated land.

All relevant information shall be collected during the remediation works and a validation report compiled on completion and comprise as a minimum:

- A summary of the background site information and the RMS;
- Parties involved in the works;
- Details of any hitherto undiscovered contamination along with its remediation and verification;
- Waste classification and management documents to include as a minimum:
- Volumes and source of any materials removed from site, along with transfer tickets and acceptance notes at the relevant facilities.
- Laboratory validation test results and transfer notes for any imported materials;
- Formation level inspection records including site notes and photographs;
- Records of earthworks including as built drawings, photographs and quantities of materials;
- Records of any specialist remediation contractors works as a technical appendix if relevant (i.e. Japanese Knotweed / gas protection); and,
- Records of any variation to the agreed RMS including details of correspondence with statutory authorities.

The verification report will be submitted to local planning authority to discharge conditions

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 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

Key:

Units (x244):

Inc. x12 M4(3) Apartments

- 1B2P Apartment x41
- 2B3P Apartment x50
- 2B4P Apartment x35
- 3B4P Apartment x6
- 3B5P Apartment x10
- 4B6P House x24
(3 Storey - *Lovell Osbourne)
- 3B6P House x24
(2.5 Storey - *Lovell Berkshire)
- 3B5P House x25
(2.5 Storey - *Lovell Painswick)
- 2B4P House x16
(2 Storey - *Lovell Henbury+)
- 2B4P Coach House x13
- *

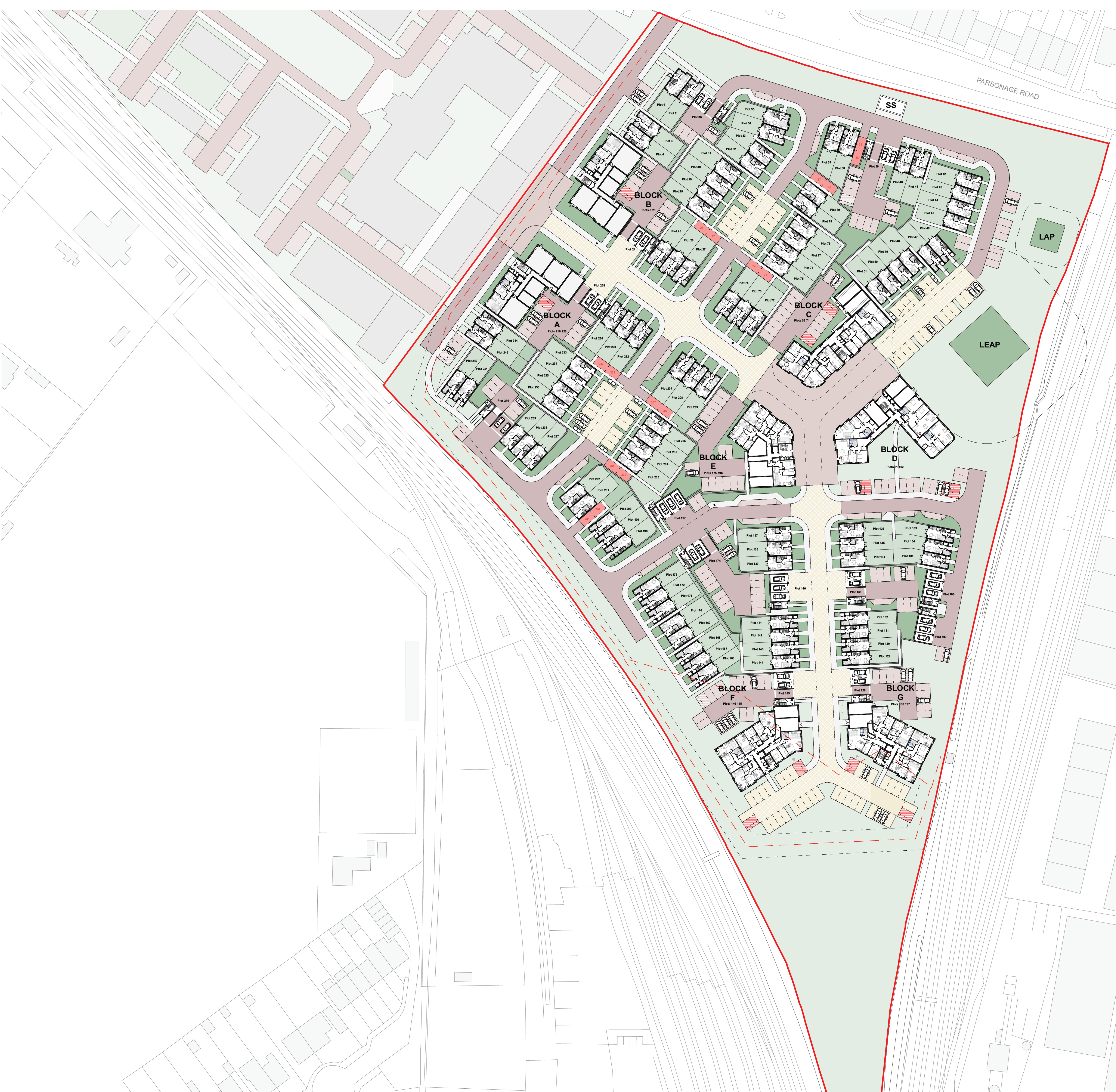
Layout based on the Lovell house type

Parking (x327):

- M4(3) Unallocated Parking Bay (x14)
- M4(3) Allocated Parking Bay (x12)
- Allocated Standard Parking Bay (x 6)
- Standard Parking Bay (x285)

Public Open Space:

- Circa. 13,582sqm (excluding boulevards)



Please Note:

This drawing can only be used for planning purposes. Dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Topographical / Ordnance Survey information shown has been prepared by a third party. HGP accept no responsibility for accuracy or completeness of the survey.

This drawing is to be read in conjunction with all other project drawings, construction notes and/or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval. Measurements and accommodation schedules are subject to amendments following coordinated input by others. Costings cannot be finalised until approval / confirmation by relevant authorities and client.

MUSE

P03	Road Network	28/11/24	TM	ME
P02	Second Issue	25/11/24	IC	ME
P01	Initial Issue	15/11/24	ME	ME
Rev	Description	Date	DB	CB

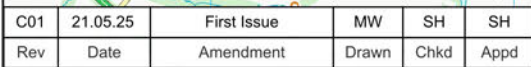
Former Novartis Site, Horsham
Block Plan

PROJECT	JOB NO
Novartis Site, Horsham	23.166
SCALE	DATE
1:500@A0	28.08.24
DRAWN BY/CHECKED BY	REVISION
1C / MLE	P03
DWG#	STATUS
17100 HGP XX XX D A 0102	PRELIMINARY

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Project ID	Drawing no.	Rev	File name
3750963	11101	C01	3750963-LW-111-XX-D-G-11101-C01