Date: 26th August 2026
Reference: 17-994-L2-1

UPDATED CONCEPTUAL SITE MODEL – HINCHLEY ROAD, CHARLESTOWN

TECHNICAL NOTE

Project	Hinchley Road, Charlestown
Client	Miller Homes
E3P Project No.	17-994-L2-1
Subject	Updated Conceptual Site Model

1. INTRODUCTION AND BACKGROUND

E3P has received recent correspondence from the Contaminated Land Officer at Manchester City Council regarding the Miller Homes development at the site known as Hinchley Road, located north of Hinchley Road, Charlestown, Manchester, M9 7BX.

"Phase I report
The supporting covering letter advises that E3P did not undertake a Phase 1 report. However as previously stated, the original phase 1 prepared by Colliers which was used as the basis of the phase II was deemed insufficient as the end site use was not known at the time of the assessment which is not suitable. They have previously requested a revised phase 1, but this has not been submitted."

E3P have undertaken a review of the Phase I report (Ref: Colliers – Phase I Preliminary Risk Assessment – Land off Hinchley Road. Ref: 22.1784/CW/LC, dated February 2023), this report was written when no formal proposed development was provided. E3P have completed an updated Conceptual Site Model based on the proposed residential end use.

2. PROPOSED DEVELOPMENT

Miller Homes are constructing circa. 106 low-rise residential dwellings with associated access roads, parking, landscaping and adopted drainage infrastructure.

Figure 1.1 indicates the proposed development layout, which is included in Appendix I.

Figure 1.1 Proposed Development Plan



3. SITE SUMMARY

- The site was undeveloped and comprised a vegetated open space. To the north and east of the site, residential fencing restricted access to the Site. To the west, access was restricted by palisade fencing from the neighbouring school. The southern boundary of the Site was not bound by a fence/boundary wall.
- The site was roughly vegetated, undeveloped land with no significant use. The site surface was also uneven, with mounding along the north western boundary of the site approximately 2-3 m in height.
- Historically, mapping from 1848 indicates the site was undeveloped fields with “Moss House” present in the south of the site and a potential culvert present. No pertinent changes were identified until 1933 when the north east of the site was noted to be occupied by recreational grounds associated with the local high school. From 1956, Moss House was no longer recorded. Tennis courts were noted as present in the south of the site from 1975 until the aerial imagery from 2000 indicates they are no longer present. No further changes to the present day were recorded.
- A review of the British Geological Survey (BGS) mapping indicates that the geology of the subject site comprises superficial Peat deposits (in the northern part of the site) and Till deposits (in the south of the site), over bedrock of the Pennine Middle Coal Measures.
- The Environment Agency (EA) classify the Peat/Till Deposits as Unproductive Strata/ Secondary undifferentiated in the most southern point of the site. The underlying bedrock is classified as a Secondary (A) Aquifer.
- The site is not within a Groundwater Source Protection Zone (SPZ).
- There are no groundwater abstraction licences within 1km of the site.
- There are no surface water features onsite, or within 250m of the site
- One registered landfill site is recorded 125m south east of the site, accepting commercial, household and liquid sludge wastes.
- The site is situated within a Coal Mining Reporting Area, and an area of Development High Risk is present within the south of the Site.
- The site is situated within an area where 1-3% of homes are above the Radon Action Level. As such, no special radon protection measures are required.

4. UPDATED CONCEPTUAL SITE MODEL

Under EA LCRM (updated June 2025) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 risk assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area.

An initial screening of the on and potential off-site sources of contamination has been undertaken in relation to the Source-Pathway-Receptor (S-P-R) linkage.

At this stage, the assessment is qualitative and aimed to assess all plausible pollutant linkages based on information within the Phase I report, subsequent reporting updated this based on progression in line with LCRM.

4.1. POTENTIAL CONTAMINATION SOURCES

Potential sources of contamination have been identified during the review of the previous Phase I report (Ref: 22.1784/CW/LC, dated February 2023).

These sources and associated contaminants are discussed below.

Made Ground - Hydrocarbons, Heavy Metals, SVOC/VOC
The site has localised areas of Made Ground present due to the historical presence of Moss House, the recreational ground and tennis courts.

The Made Ground is of an unknown composition, as such, could include a variety of potential contaminants which may include hydrocarbons, PAHs, heavy metals and SVOC/VOCs.

Made Ground - Asbestos
The possible presence of Made Ground pre dates the ban on the use of asbestos in 1999.

There is a greater risk of asbestos in areas where demolition rubble is likely which includes the south of the site in the area of Moss House.

Infilled Ground / Landfill – Ground Gases
Any organic or putrescible material within the Made Ground, peat and from the nearby historical landfill are a potential source of hazardous ground gases. Any shallow hydrocarbon/SVOC or VOC impact could also pose a potential vapour risk.

4.2. POLLUTANT PATHWAYS

All the potential exposure pathways or pollutant linkages (PL) are presented below:

- PL1 – Soil Ingestion & Consumption of Homegrown Vegetables
- PL2 – Dermal Contact & Ingestion
- PL3 – Dust Inhalation
- PL4 – Vapour/Gas Inhalation
- PL5 – Vertical / Lateral Migration
- PL6 – Corrosion of Concrete
- PL7 – Tainting of Water Supply
- PL8 – Uptake by Plants

The potential contaminant linkages relevant to the site are discussed below.

Human Health
The site is likely underlain by Made Ground in localised areas (Moss House, recreational grounds and tennis courts) of an unknown composition.

Any contaminants within the subsurface could pose a risk to both construction workers and future residential site users via soil ingestion (PL1), dust inhalation (PL3), dermal contact and consumption of homegrown vegetables (PL1/PL2).

Controlled Waters
The BGS records indicate the superficial soils in the north of the site comprise PEAT and Glacial Till in the south of the site.

The presence of PEAT may facilitate the vertical migration of any mobile contaminants within the subsurface. However, the presence of Glacial Till in across the south of the site would serve to restrict downward migration towards the underlying aquifer.

Site investigation will be required to confirm the ground conditions to assess if the permeability of the soils are a viable pathway.

There are also no abstraction points within 1km of the site, and no surface water features within a reasonable distance of the site.

The underlying Secondary A Aquifer is therefore considered the main sensitive, controlled waters receptor, albeit the risk to the receptor is deemed to be low.

Ground Gas
The site is understood to have undergone localised development, with the presence of Made Ground soils are a potentially significant source of hazardous ground gases (PL4). Whilst the potential for gassing is likely to have reduced over time due to degradation, there remains a potential for gas generation and potential risk to future site users.

The site is also underlain by PEAT, which may be a significant source of hazardous ground gas (PL4). Whilst the PEAT is the most likely source of ground gas, it remains a low risk as it is intended to be removed beneath sensitive elements of the proposed development, which will also have mitigation as a precaution.

A historical landfill site is recorded 125m south east of the site, however this is unlikely to pose as a significant source of hazardous ground gas due to the distance from site, the presence of roads and other buildings and the presence of cohesive superficial deposits in the south of the site would limit any vertical or lateral migration of ground gas.

Other Considerations
Due to the presence of Made Ground on the site, there is the potential for sulphate in ashy or Made Ground deposits which may impact buried concrete (PL6).

The Made Ground may contain contaminants which have the potential to be taken up by flora in soft landscaping/gardens (PL8).

Due to the site having been levelled and potential localised depths of Made Ground, the potential for hydrocarbon impact cannot be discounted and barrier pipe will likely be required for potable water supply, subject to completion of a UKWIR (PL7).

4.3. RECEPTORS

The applicable receptors that could be adversely affected by the identified potential contaminant sources are discussed below.

Future Site Users (Residential)
The development scheme includes low-rise residential dwellings, and therefore the risk to human health is a critical consideration.

It is anticipated that following an assessment and Tier 2 analysis the proposed development can be constructed with relevant mitigation measures and remedial/enabling management to significantly reduce any risk.

Secondary A Aquifer (Pennine Middle Coal Measures Bedrock)
The Secondary A Aquifer within the bedrock is considered a sensitive receptor, however the risk is deemed to be low as there is no viable pathway.

4.4. RISK MATRIX

The S-P-R linkage in Sections 4.1 to Section 4.3 has aimed to discuss all potential pollutants linkages, irrespective of significance.

However, in consideration of the proposed development and in order to quantify the possible risk to the identified receptors in relation to the application site, the following Risk Matrix (from CIRIA 552) is presented in Table 4.1.

Table 4.1 Risk Matrix

FROM CIRA 552 (2001)		RISK ASSESSMENT MATRIX			
		Consequence			
		SEVERE	MEDIUM	MILD	MINOR
Probability	HIGH LIKELIHOOD	Very High	High	Moderate	Moderate / Low
	LIKELY	High	Moderate	Moderate / Low	Low
	LOW LIKELIHOOD	Moderate	Moderate/ Low	Low	Very Low
	UNLIKELY	Moderate / Low	Low	Very Low	Very Low

In the context of the site, not all of the contaminant linkages are plausible and therefore Table 4.2 overleaf only includes a current risk rating where a credible and complete pollutant linkage has been established.

It should be noted the S-P-R linkages are based on the currently available records, however actual site conditions may vary, and historic records are periodic, as such a degree of uncertainty remains. Possible data gaps may include features unrecorded on historic plans, unrecorded geological features and unrecorded pollution incidents during the site's history.

4.5. CONCEPTUAL SITE MODEL SUMMARY

After reviewing all environmentally pertinent information and the potential contaminant sources, the following Initial Conceptual Site Model (Table 4.2) has been developed for the site.

Table 7.2 Initial Conceptual Site Model

SOURCE / CONTAMINANT	POLLUTANT LINKAGE	RECEPTOR	PROBABILITY	CONSEQUENCE	CURRENT RISK
Human Health					
Heavy Metals & PAHs – Made Ground	PL1 & PL2	Human Health	Low Likelihood	Mild	Low
ACM in Made Ground	PL3	Human Health	Unlikely	Severe	Moderate/Low
Ground Gas					
Ground Gas / Vapour – Made Ground	PL4	Human Health	Low Likelihood	Medium	Moderate/Low
Ground Gas – PEAT		Human Health	Likely	Medium	Moderate
Radon		Human Health	Low Likelihood	Mild	Low
Controlled Waters					
Metals / Hydrocarbons & SVOC	PL5	Secondary A Aquifer	Low Likelihood	Medium	Moderate/Low
Other Considerations					
Sulphates	PL6	Buried Concrete	Low Likelihood	Minor	Very Low
Hydrocarbons – Made Ground	PL7	Potable Supply	Low Likelihood	Medium	Moderate/Low
Various – Made Ground	PL8	Flora (Uptake)	Likely	Minor	Low

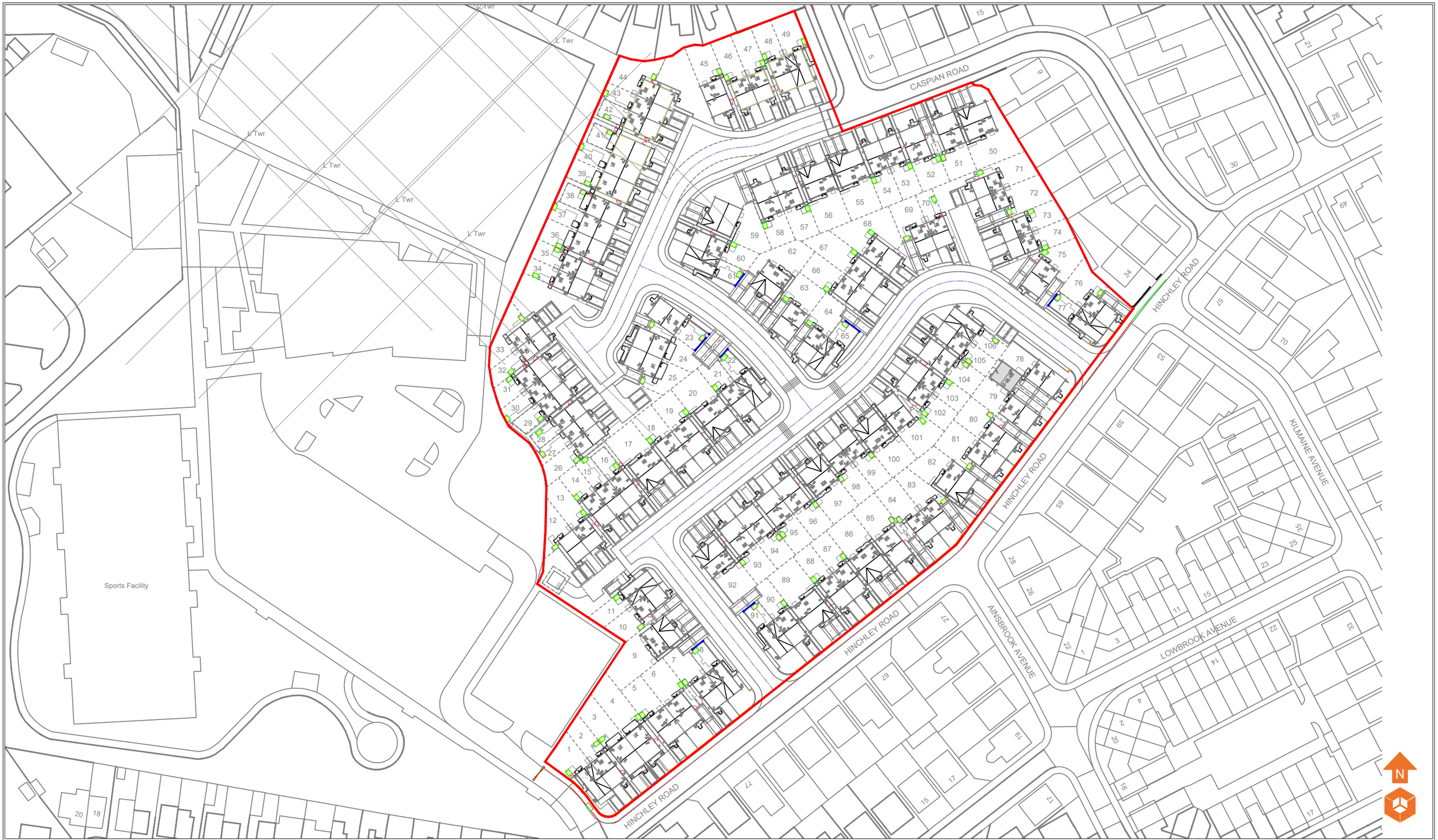
If site conditions change and/or new environmentally pertinent information is provided the above assessment should be revised.

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APPENDIX I: DRAWINGS





P1	REVA	25.08.2026	TG	EF	EF	
Phase	Issue	Date	Drawn	Checked	PM	

Notes:

Client: Miler Homes LTD

Job No: 17-994

Date: 25.08.2026

Drawing No: 002

Scale: NTS

Job Title: Hinchley Road, Charlestown

Drawing Title: Proposed Development Plan

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