GroundSolve Ltd
Consulting Geotechnical Engineers

CWRT PENTWMPATH, LLAY- VERIFICATION REPORT

GSL3498

VERSION 2

25/03/2026

Revision A

Prepared for: Castlemead Group Ltd

Prepared by: A Ridge

Castlemead
GROUP LIMITED

GroundSolve Ltd
Consulting Geotechnical Engineers

DOCUMENT CONTROL

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This report has been prepared by GroundSolve Ltd with all reasonable care and diligence, within the best practice and guidance current at the time of issue within the proposed redline boundary and proposed Site end use as presented by the Client.

This report is confidential to the Client and GroundSolve Ltd accepts no responsibility whatsoever to third parties to whom this report is presented.

Version No.	Description of Issue / Revision	Date of Issue	Author	Reviewed Approved By
2	Revision A	19/05/2025	Alex Ridge	James Thorburn
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1 INTRODUCTION

GroundSolve Ltd was commissioned by Castlemead Group Ltd to undertake a verification report for Cwrt Pentwmpath, Llay (the "Site").

This report has been devised to generally comply with the relevant principles and requirements of a range of guidance including:

- Welsh Local Government Assoc- Development of Land Affected By Contamination Guide for Developers 2017
- Flintshire County Council, The Development of Land Affected by Contamination. Reports to support planning applications, Oct 2017
- Part IIA of the Environment Protection Act, 1990
- BS5930:2015: "Code of practice for site investigations"
- BS10175: 2011 +A2:2017 "Investigation of Potentially Contaminated Sites - Code of Practice"
- The Building Regulations 2010. Part C (HM Government 2013)
- Environment Agency: Land Contamination Risk Management (LCRM), Version 3, October 2020
- Environment Agency (2017) "The Environment Agency's Approach to Groundwater Protection" November 2018 Version 1.2.

1.1 Proposed Development

The proposed development will consist of residential properties including 1 No. two storey apartment block (24No. Apartments) , 1No. semi detached and 6No terraced bungalows with associated private gardens, landscaping and car parking with a current electricity sub-station to remain in situ.



Extract from proposed development plan (see Appendix A)

1.2 Objectives

The report provides verification of site material and compares site conditions from the previous landuse and confirm that no imported material has been brought onto the site.

1.3 Previous Investigations

A number of previous investigations have been undertaken by GroundSolve Ltd in relation to the proposed and current residential development. A list of these reports is presented below:

- Coopers 7962 Site Investigation Report - Cwrt Pentwmpath, Llay – 21st December 2022
- Coopers 7962 Addendum Report - Cwrt Pentwmpath, Llay – 26th February 2024

The previous site investigation reports are discussed and summarised in **Section 2** of this report.

1.4 Limitations

This report has been prepared for the sole use of Castlemead Group Ltd. No other third party may rely upon or reproduce the contents of this report without the written approval of GroundSolve Ltd. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk.

2 PREVIOUS INVESTIGATIONS

2.1 Site History Review

A number of previous investigations have been carried out on the site. A summary of the findings from the previous investigations are given below:

Table 3.1 Current Site Overview.

Summary of main findings from the previous reports	
Site Location and description before development	The site was located to the south of Eighth Avenue, Llay. The site comprised of a 2No. two storey apartment blocks with car parking, gardens and soft landscaping and an electricity sub-station.
Site History	The site was shown to be greenfield land since the earliest historical mapping, until it was developed with the apartment blocks by 1980
Geological Setting	The information below is based upon the desk study information only: **Drift** - Glaciofluvial deposits of sand and gravel below the majority of the site with Glacial Till comprised of clay, sand and/or sand and gravel deposits across the north western boundary. **Bedrock** - Salop Formation comprised of mudstone, sandstone and conglomerates. **Geological Faults** - an inferred fault is present approximately 400m to the west of the site of the site, trending northwest to southeast. **Groundwate**r - the Glaciofluvial deposits were designated as a Secondary (A) Aquifer, the Glacial Till a Secondary (Undifferentiated) Aquifer, and the bedrock as a Secondary (A) Aquifer. The site does not lie within a Groundwater Source Protection Zone. There were no permitted groundwater abstraction points within 2km of the site. **Hydrology** - Nant y Gaer was the nearest surface water course 82m to the northeast of the site. **Flood Risk** - the site lies in an area with a 0.1% chance of flooding from rivers, surface water and small watercourses and the sea. The highest risk due to surface water flooding was recorded to be 0.1m to 0.3m depth as a 1 in 100 year occurrence in the far southeast of the site only. The remainder of the site was reported as not being at risk due to surface water flooding.
Site Investigation	The excavation of a 5 No. machine dug trial pits, 3 No. infiltration test pits, 1 hand dug trial pit and hand held dynamic cone penetrometer test location on 23rd November 2022 by Coopers. 3 x Hand excavated trial pits adjacent to the substation
Mining	The area is not affected brine extraction. However, the site is underlain by 5 No. coal seams at depths 680m and greater, in which extraction ceased by 1966. There are no recorded mine entries within 750m of the site and no opencast mining in the area. There is no known proposal for mine working at depth or opencast in the area. There are no records of subsidence due to coal mine working in the locality of the site. No special precautions are considered necessary due to the past mine extraction
Ground Conditions	Topsoil/made ground (similar to topsoil): No topsoil recorded only made ground (similar to topsoil) on site, including brick, rare glass, ceramics and plastics. Made ground: Shallow made ground including generally brick, glass, ceramics, natural stone and plastic, with limestone gravel below tarmacadam hardstanding and in service trenches. Drift strata: Interbedded sand and clay strata, generally with a clayey sand band overlying clay then a gravelly sand stratum below. Sand and gravel was found locally. Bedrock: Not encountered. Groundwater: Only minor groundwater seepages were noted in two locations perched at the head of the clay strata.

Summary of main findings from the previous reports	
Ground Gas Risk Assessment	No recorded historical or active landfill sites are present within 250m of the site. The conceptual model has demonstrated that there is a negligible risk posed to the proposed development. The site is therefore classified as Green in accordance with the NHBC Report No. 10627-R01(04)/CS1 in accordance with BS8485:2015+A1:2019.
Contamination Sources	No contamination encountered in any of the strata during initial ground investigation. Addendum Site Investigation carried out adjacent to old substation recorded no olfactory or visual evidence of contamination and chemical testing were recorded below GACs. Therefore no additional risk to the proposed development.
Remediation	No known remediation required across the site with regards to contamination. If topsoil and/or sub-soil are imported to site, sampling for chemical testing required

Local Authority Correspondence

Wrexham Borough County Council Contaminated Land Officer (CLO) gave the following correspondence on 19th June 2024.

Further to my Memo dated 30 May 2024 I have reviewed the full copy of the following report and can confirm that I have no further comments.

- *Coopers, Site Investigation Report for land at Cwrt Pentwmpath, Llay, Reference: 7962si, dated 21 December 2022, for Castlemead Group Limited.*

As previously stated I am in agreement with the findings and recommendations within the reports and note that no specific remedial actions are required and can now recommend the discharge of condition 3.

Whilst no clean cover system is required it is possible imported topsoil might be brought to the site for other purposes, if that is the case then verification of this to ensure it is suitable for use will be required. In addition there is the possibility of unforeseen contamination and should this be encountered then works in the area should stop whilst assessment of the ground and consultation with the Contaminated Land Team takes place. A validation report is required for the discharge of condition 4, this should detail these works where relevant or provide confirmation that they were not relevant.

3 VERIFICATION OF SOFT LANDSCAPED AREAS

3.1 Introduction

The risk assessments have concluded that remediation measures are not specifically required to address risks to human health from existing soils on site.

The proposed development has reused the existing topsoil material within the new soft landscaped areas. At the start of the development phase, the existing topsoil material was stripped and stockpiled prior to reuse.

3.2 Unexpected Contamination

The following photographs show that no unexpected Made Ground was encountered during the earthworks and excavations for the foundations.











Following the completion of the development, the stockpile topsoil material was reused in the new soft landscaped areas of the site as identified in the photographs below and in Appendix B.







4 CONCLUSIONS

The initial site strip and foundation excavations did not encounter any unexpected Made Ground. The existing topsoil was stripped and stockpiled prior to being reused within the new soft landscaped areas.

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6 DEFINITIONS

AOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GQRA	Generic Quantitative Risk Assessment
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
Ppm	Parts per million
Ppmv	Parts per million by volume
SAC	Special Area of Conservation
SPZ	Source Protection Zone (see **Error! Reference source not found.**)
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest

APPENDIX A – SITE DRAWING



LEGEND

- 1.8m high timber hit and miss fencing with concrete posts and gravel boards
- 1.8m high personnel gate to match fencing. Lockable to SBD standard.
- Concrete paving slabs to private paving. Paths to be 900mm wide (minimum) or 1200mm wide (minimum) to shared or communal areas.
- S — 6'X4' shed securely fixed to concrete base.
- B — Area identified for storage of refuse and recycling bins and trolley.
- Air source heat pump unit.
- Soft landscaping

Schedule of Accommodation	
8	1B2P bungalows
24	1B2P apartments
32	total

Site Area 4744m² approx

NOTES:
ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE PRIOR TO ANY WORKS OR FABRICATION.

DO NOT SCALE OFF THIS DRAWING.

ANY ERRORS, OMISSIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF MUNRO ASSOCIATES IMMEDIATELY.

REV	DATE	DESCRIPTION	BY
B	Feb 22	Apartment building updated in line with revised floor plan	PO
A	Jan 22	Alterations to car parking spaces	MC

Drawing Status
PRELIMINARY

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Scale
1:250 @ A1

Date
November 2021

Drawn
PCO

Drawing Title
Site Layout (Option B)

Project No.	Drawing No.	Revision
20.211	P-105	B

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APPENDIX B – SITE PHOTOGRAPH
































Marshrshalls











