



GROUNDTECH
CONSULTING

Job title: Aldi Neath

Report type: UST Remediation Validation
Report

Prepared for: Aldi Stores Limited

Date: June 2021

Document Control Form	
PROJECT	ALDI NEATH
REPORT NAME	UST REMEDIATION VALIDATION REPORT
REPORT REFERENCE	GRO-20093-2556
STATUS	FINAL
ISSUE DATE	23 JUNE 2021
REVISION	
CLIENT	ALDI STORES LIMITED
CLIENT CONTACT	-
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Plans		
<i>Plan Reference</i>	<i>Revision</i>	<i>Title</i>
GRO-20093-P01	-	Project Location Plan
GRO-20093-P03	-	UST Removal Plan

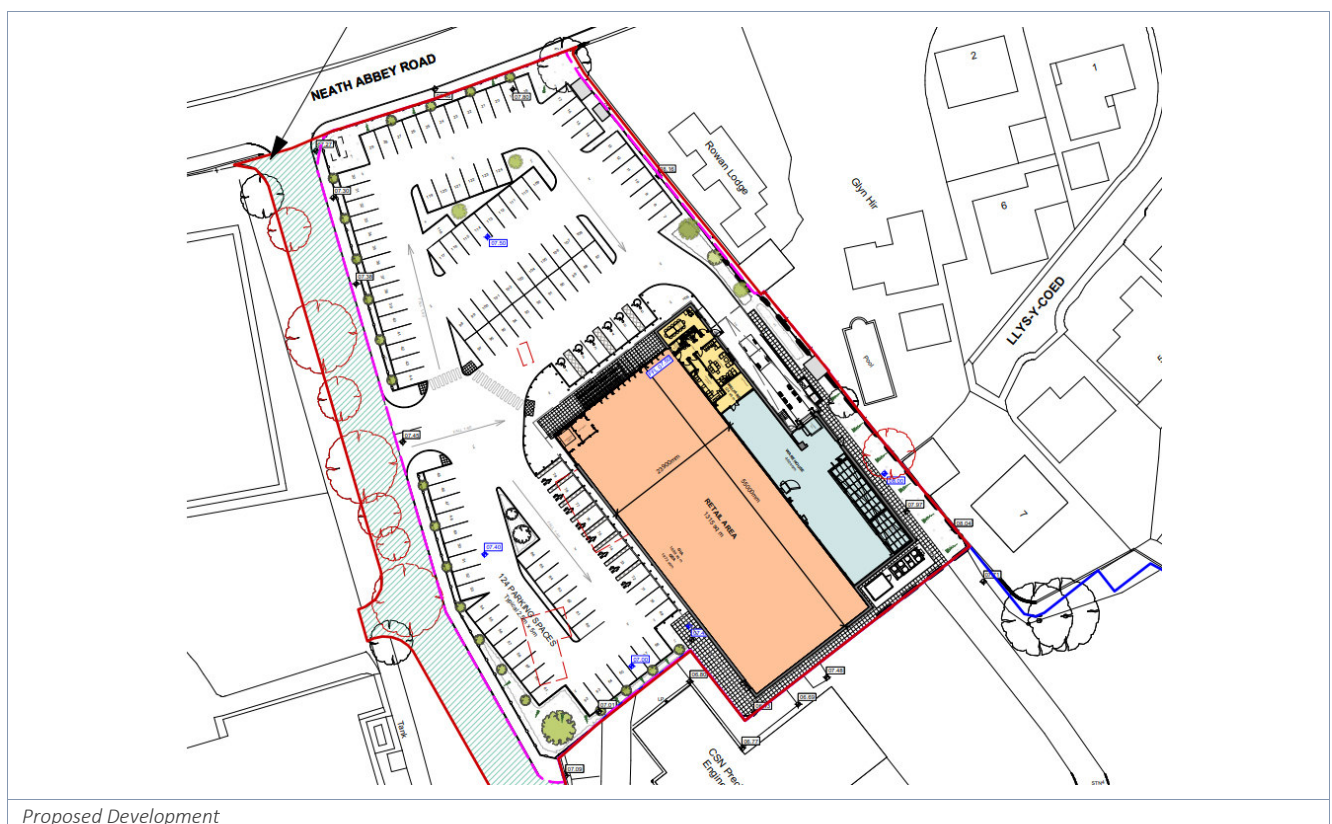
1.0 INTRODUCTION

1.1 Objectives

This report has been produced on behalf of Aldi Stores Ltd and relates to the removal of Underground Storage Tanks (USTs) as detailed in the UST Removal Specification produced by Groundtech Consulting in February 2021.

1.2 Proposed Works

Excavation, decommissioning and removal of existing underground storage tanks and disposal of contaminated soils has been undertaken at the site to prepare it for the development of a new Aldi retail store, as shown on the extract below.



1.3 Previous work

Groundtech Consulting Limited produced a UST Removal Specification (Ref: GRO-20093-2169) which was issued in February 2021. A summary of the Removal Specification is outlined in the following section.

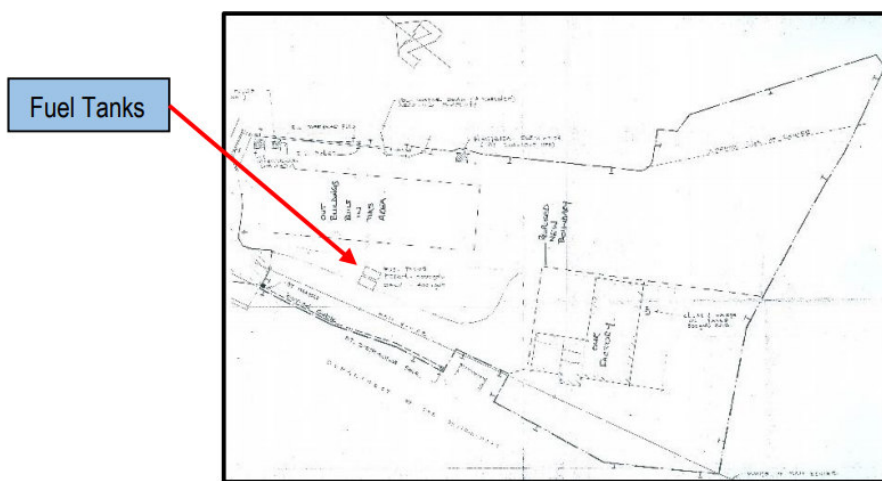
Earth Environmental & Geotechnical previously carried out a Geo-Environmental investigation at the site in April 2019 and the relevant information will be summarised in the following section.

2.0 OVERVIEW OF PREVIOUS WORK

2.1 Background

The site spans across two existing commercial premises which are accessed by separate roads that enter the site from the north off Neath Abbey Road. The approximate position of the site is shown on the Project Location Plan *GRO-20093-P01*. Celtic Stone Ltd occupies the south western area of the site which is formed by a tarmac access road and a concrete surfaced yard. A strip of soft landscaping vegetated with trees and bushes is present along the site's western boundary. The north eastern part of the site is currently a construction site and the new Aldi Store was under construction at the time of the validation works.

Earth Environmental & Geotechnical have identified three Underground Storage Tanks (USTs) used for storing fuel/oil in the central western area of the site as indicated on the plan below:



Ground Model

Eight boreholes (WS6 to WS13) were undertaken in the vicinity of the tanks which were advanced to depths between 0.7m and 2.0m bgl.

Made Ground was encountered in all locations in the vicinity of the USTs from ground level to a maximum depth of 0.8m bgl. Surfacing consisting of asphalt over concrete was encountered in all locations. This was in turn underlain by sand gravel and gravelly sand with fragments of brick.

The natural strata consisted of sandy gravelly cobbly Clay.

Groundwater was not encountered in vicinity of the Underground Storage Tanks.

No olfactory evidence of contamination was identified during the investigation. Visual evidence of contamination was identified in WS9 and WS10 at 1.85m bgl where a small area of black staining was observed.

Laboratory Testing

Sixteen samples from within the vicinity of the USTs were tested for speciated Polycyclic Aromatic Hydrocarbons (PAHs) and Total petroleum Hydrocarbons Criteria Working Group.

No concentrations were elevated above screening values for commercial end use and generally concentrations were recorded at levels below or close to laboratory detection limits.

2.2 Human Health Risk Assessment (Soils)

A summary of the Human Health Risk Assessment undertaken in the Earth Environmental and Geotechnical Geo-Environmental Investigation Report (Report Ref: B0786/19) dated May 2019 is presented below.

Receptor	Level of Risk	Comments
Site End Users – Soils	Low	No elevated concentrations of metals, PAHs or TPH recorded in any of the samples tested when compared to commercial end use criteria.
Site End Users - Asbestos	Low	No asbestos was detected in any of the samples that were screened.
Site End Users – Ground Gas	Low	Based on monitoring data obtained the site falls into Characteristic Situation 1 and gas precaution measures will not be required within the proposed development.

2.3 Risk to Controlled Waters

Receptor	Level of Risk	Comments
Underlying Groundwater	-	Groundwater was not encountered within any of the exploratory holes carried out during the previous investigation.

2.4 Options Appraisal

Underground Storage Tanks have been identified in the central western area of the site and the proposed method of remediation was to excavate, decommission and exhume the tanks and remove them and any associated contaminated soils off the site.

2.5 Meeting of Remediation Strategy Objectives

It was proposed that remediation strategy objectives will be met in the following way:

Removal of USTs

Underground Storage Tanks have been identified on the site of the proposed Aldi retail store, the main objective of the remediation is the decommissioning and removal of the underground storage tanks and removal of all hydrocarbon impacted soils within the vicinity of the tanks.

The excavation which is in the proposed footprint of the Aldi store will then be backfilled with a suitably engineered fill.

Offsite Disposal of Waste Material

The tanks are to be transported offsite for dismantling upon removal. The person responsible for the removal of the tank should ensure that the recipient of the tank is made aware of the tank's previous use, the toxic hazard within the tank and the need to take adequate precautions against fires and explosions when dealing with it.

Prior to transportation, the Licensing Authority should ascertain the destination of the tank(s) and should inform the relevant Petroleum Licensing Authority.

Any TPH impacted soils and other wastes should be removed from site to a licensed waste management facility.

The waste should be taken by a registered waste carrier in accordance with applicable Waste Management Regulations. Waste consignment / transfer notices will be required and need to be retained by the Contractor.

Verification and Reporting

Verification shall comprise obtaining soil samples from the base and sides of each excavation following the removal of the USTs and any TPH impacted soils. Subsequent testing will be undertaken to determine if the soils remaining in situ are below the appropriate commercial screening values for the respective Contaminant of Concern.

On completion of the verification works the appropriate verification documentation, detailing the works that have been completed in accordance with the agreed Implementation Plan, will be forwarded to the client and the Local Authority.

The verification report is to include:

- *The geo-environmental test results for the samples taken from the base and side of the excavation.*
- *Confirmation of the dimensions of the excavations, including photographs of the excavations.*
- *Details of all waste removed from the site (waste carrier transfer notes etc.).*

3.0 VALIDATION

3.1 Remediation Objectives

The objective of this document is to verify that the remedial measures set out in the Groundtech Consulting UST Removal Specification have been adhered to with respect to removal of Underground Storage Tanks, associated contamination and waste disposal. This Remedial Validation Report is based on the results of the validation visits completed on 17th May 2021 and 19th May 2021.

3.2 Validation Works

Groundtech Consulting Validation

Groundtech Consulting visited site on two occasions on 17th May and 19th May 2021 to supervise the removal of two Underground Storage Tanks (USTs) and associated concrete bases as illustrated on plan *GRO-20093-P03* and to collect validation samples from the base and side of the excavations. Earth Environmental and Geotechnical indicated three tanks were present. However, only two tanks were present in the area indicated and only two fuel tank chambers are indicated on the site plan.

Decommissioning and Removal of USTs

Two Underground Storage Tanks (circa 5000 litres) were removed by Arc Bauen on 14th May 2021 and decommissioning was undertaken as outlined in the UST Removal Specification. No free product was present within the tanks upon removal.

The concrete cradle and bases were removed between dates of 17th May and 19th May 2021 under supervision by Groundtech Consulting Limited. The excavation was circa 8.0m wide and 8.0m long and reached a maximum depth of 4.2m bgl. Approximately 78 tonnes of material were removed which consisted predominantly of clean reinforced concrete and also granular Made Ground soils and natural gravel and cobbles.

Ground Model

The following main Made Ground strata were encountered during the validation works:

- *Grey sandy slightly clayey angular to subrounded fine to coarse gravel of mixed lithologies was encountered to a maximum depth of 0.4m bgl.*

The following main natural strata were encountered during the validation works:

- *Grey Dark brown sandy clayey subrounded to rounded fine to coarse Gravel and Cobbles of mixed lithologies including quartzite was encountered underlying the Made Ground to a maximum depth of 4.2m bgl.*

Groundwater was encountered within the excavation as a slight ingress from 3.8m bgl.

No visual evidence of hydrocarbon contamination was noted within the excavation and the tanks appeared to be in good condition with no evidence of leaks occurring. A significant amount of reinforced concrete was present forming the cradle of the tanks and a further slab was present beneath the cradle. The concrete was in good condition and did not appear to be impacted by any potential hydrocarbons, this made up the majority of the material disposed of off site. A faint hydrocarbon odour was noted on some of the shallow soils excavated from above the tank which were disposed of offsite along with the cradle and base and soils in the immediate vicinity of the tanks.

Sampling

Following the excavation of the tanks, validation samples (USTA to USTI) were collected from the base and sides of the excavation. The location of each sample collected is illustrated on plan *GRO-20093-P03*. A sample was also taken of the waste material excavated for disposal (USTW).

The results of testing on the validation samples have indicated that Total Petroleum Hydrocarbons (TPH CWG) concentrations for the soils at the base and sides of the pit excavated in the area of the former tanks are below the relevant screening values for commercial end use, furthermore the concentrations are all below laboratory detection limits. The geo-environmental testing results are presented in *Appendix 3*.

TPH CWG concentrations above the laboratory detection limits have been detected in the sample USTW which was taken from the material to be disposed. Laboratory testing has interpreted the presence of weathered diesel which confirms the contents of the tanks. The concentrations recorded are still below the relevant screening values for commercial end use. The Waste Transfer Notes are in *Appendix 4*.

Following the validation, the excavation was infilled by Arc Bauen with a suitably engineered clean fill material.

4.0 CONCLUSIONS

The chosen method of remediation was to remove the source of contamination by removing the Underground Storage Tanks (USTs) and any associated contaminated soils. Two tanks were removed in the west central area of the site in the location where they were indicated to be present by Earth, Environmental and Geotechnical.

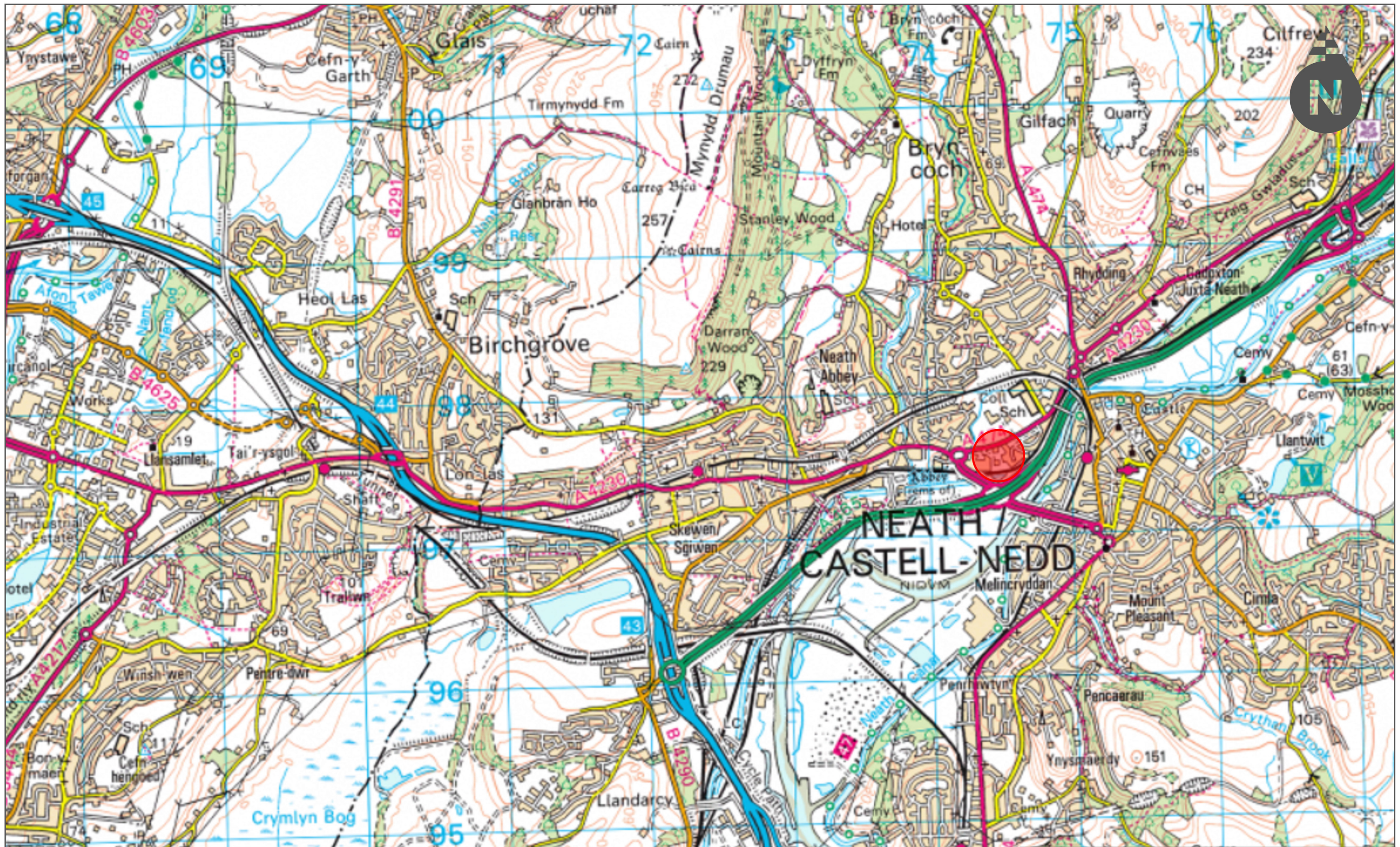
Arc Bauen undertook the excavations and Groundtech Consulting obtained validation samples over two validation visits on 15th May and 19th May 2021. The results of the laboratory testing indicated that the contaminated soils were removed successfully and the soils remaining in-situ are suitably clean for the proposed commercial end use.

Groundtech Consulting can confirm that the UST removal works have been undertaken in accordance with the Groundtech Consulting UST Removal Specification.

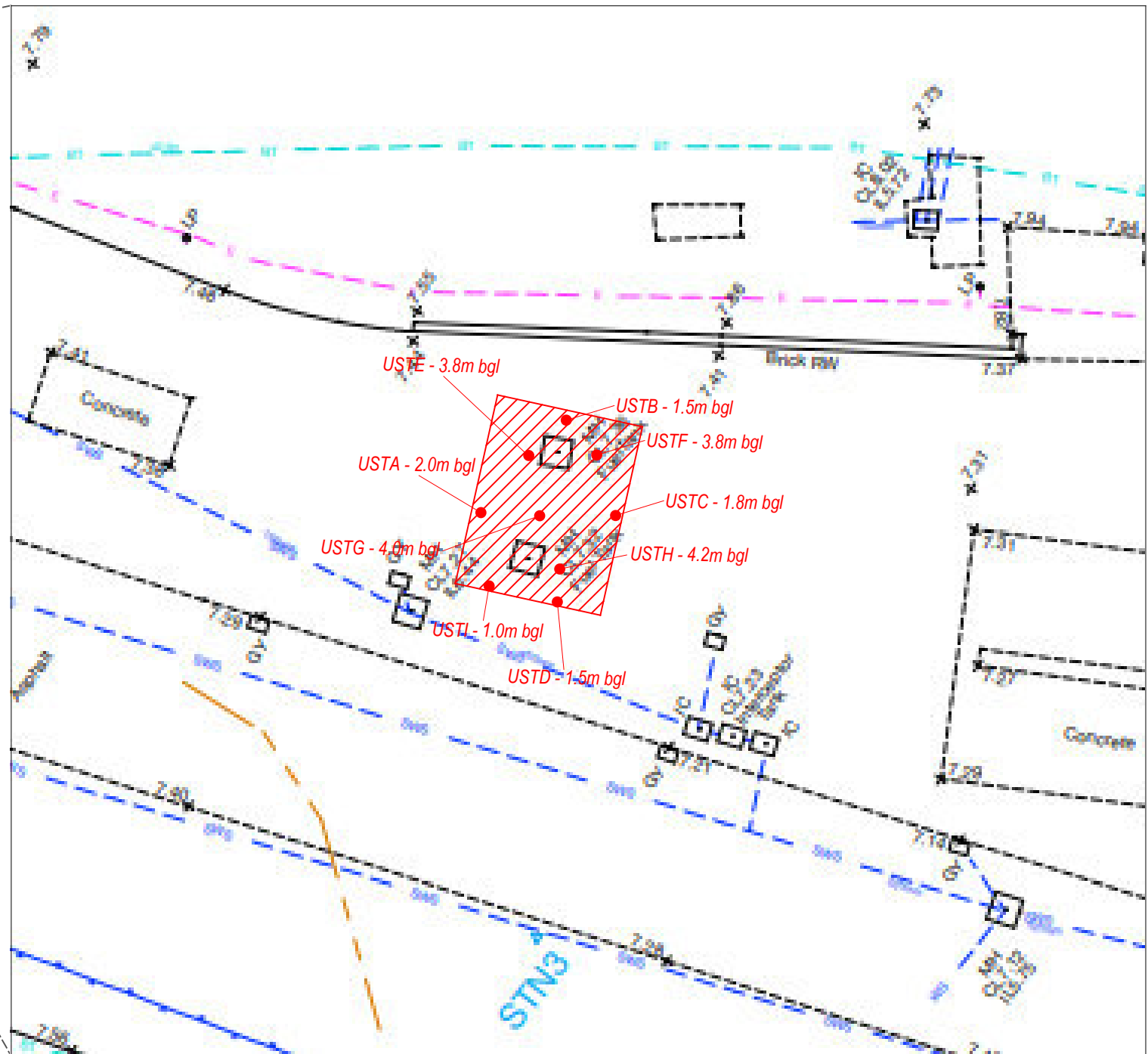
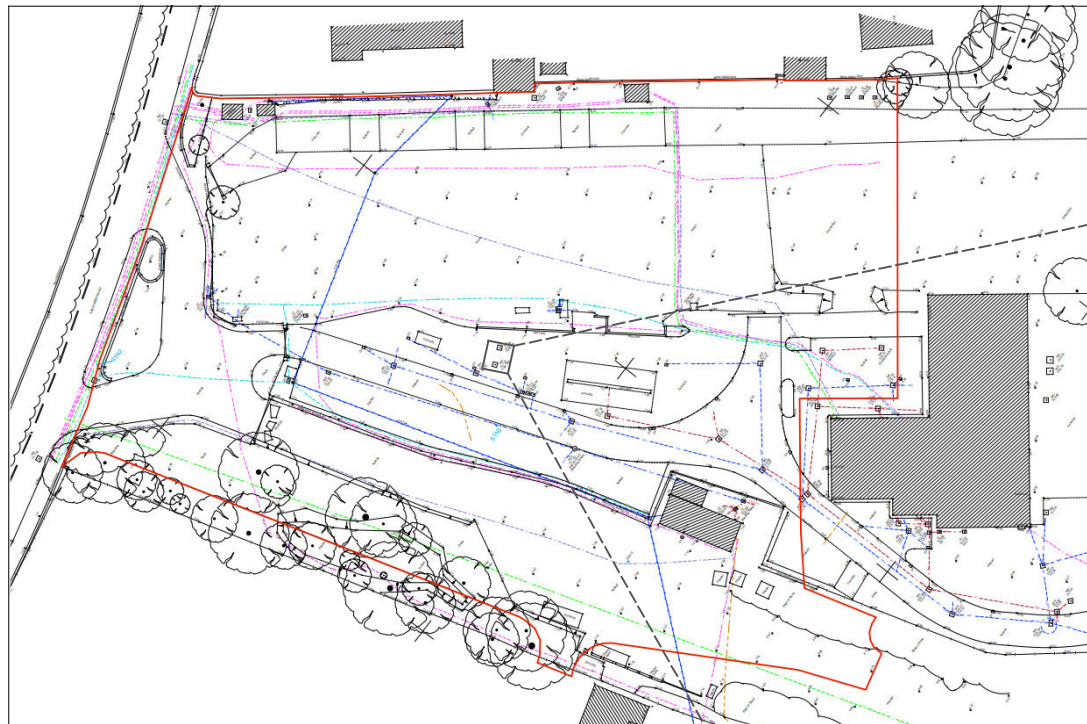
The excavated material was initially stored in a bunded area before being loaded into wagons and exported offsite to a suitable waste disposal facility.



APPENDIX 1 - Plans



 GROUNDTECH CONSULTING	CLIENT	DATE				Status		Notes  Location of Site
	ALDI STORES LIMITED	APRIL 2020				Preliminary		
	PROJECT TITLE	SCALE				Draft		
	ALDI, NEATH	NTS				Issued	●	
	PLAN TITLE	PLAN NUMBER				For Comment		
	PROJECT LOCATION PLAN	20093 01	Rev.	Details	Date	Approved		



CLIENT	ALDI STORES LIMITED
PROJECT TITLE	ALDI NEATH
PLAN TITLE	UST REMOVAL PLAN

DATE	JUNE 2021
SCALE	NTS
PLAN NUMBER	GRO-20093-P03

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes
 Approximate Extent of Excavation





APPENDIX 2 - Validation Photographs



Photograph 1 – USTs in situ prior to exhumation



Photograph 2 – Removed tank