

FINAL

AJS Environmental Ltd

Contaminated Land Piling Risk Assessment Report

Unit 10 to 11 Maesglas Retail Park

Newport

South Wales

NP20 2NS

Report No: 25-10-12

November 2025



Geo-Integrity, 4 Church Street, Maids Moreton, Bucks. MK18 1QE

Landline: (01280) 816409 Mob.: 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

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1 November 2025	Draft Report	Lee Ashworth B.Sc. M.Sc. F.G.S Engineering Geologist	Murray Bateman, M.Sc. DIC C.Geol Pg. Cert. Director
		SIGNATURE 	SIGNATURE 
1 November 2025	Final Report	Lee Ashworth B.Sc. M.Sc. F.G.S Engineering Geologist	Murray Bateman, M.Sc. DIC C.Geol Pg. Cert. Director
		SIGNATURE 	SIGNATURE 

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CONTAMINATED LAND PILING RISK ASSESSMENT REPORT

1 INTRODUCTION

1.1 SCOPE AND OBJECTIVES

Geo-Integrity Ltd were commissioned by AJS Environmental Ltd on the 24th October 2025 to undertake a Contaminated Land Piling Risk Assessment Report at Unit 10 to 11, Port Road, Maesglas Retail Park, Newport, South Wales, NP20 2NS. This report has been completed to assess geo-environmental data from the site in specific relation to the proposed piling method chosen on site.

The site is located at National Grid Reference 330760, 186380.

This report has been requested by AJS Environmental Ltd to address a planning condition put forward by Newport City Council to satisfy the planners that “there is no unacceptable risk to groundwater”, from the chosen piling method.

Therefore, the objectives of this report are: -

-  To undertake a review of the previous desk study and intrusive reports to identify any potential pollution sources on the site.
-  To evaluate the potential risks associated with the adoption of deep piles through areas of potential contamination.
-  To identify appropriate risk management and monitoring protocols that can be adopted to ensure any residual risk is brought within adequate and practicable limits.

1.2 SOURCES OF INFORMATION

The following sources of information have been used to compile this report: -

-  Site Investigation Report – Integral Geotechnique (Wales) Ltd. – Report Ref. 14043/OTJ/22/SI, dated July 2022
-  Supplementary Investigation – Integral Geotechnique (Wales) Ltd. – Report Ref. 14043/LP/Rev A, dated 27th November 2024

1.3 DEVELOPMENT PROPOSALS

The proposed development is stated as follows: “Extension to provide additional storage space”. The proposed development plan (ref. A8763 – 100) is shown in Appendix A.

1.4 PROPOSED PILING WORK

This report provides a piling risk assessment for the proposed piling at Unit 10 to 11, Port Road, Maesglas Retail Park, Newport, South Wales, NP20 2NS.

It is understood that the proposed piling method follows Continuous Flight Auger (CFA) techniques. CFA is an augured, non-displacement method, replacement system. It is considered an in-situ process: a continuous helical auger is rotated and concrete or grout is pumped at a continuous pressure through its hollow stem. It is also regarded as beneficial in reducing impact upon the local community in terms of noise pollution and vibration impacts.

2 PREVIOUS INVESTIGATION DATA

2.1 SITE INVESTIGATION REPORT - INTEGRAL GEOTECHNIQUE (WALES) LTD (REF. 14043/OTJ/22/SI), DATED JULY 2022

Integral Geotechnique Ltd undertook a Site Investigation Report including a Phase I Desk Study and Phase II Ground Investigation at the site on behalf of Valley Wholesale Carpets Ltd.

2.1.1 Summary of the Desk Study Information

2.1.1.1 Site Setting

The investigation area was described as square in shape, occupying an area of approximately 1.05 hectares. The site is situated on level ground, occupied by a warehouse surrounded by areas of hardstanding including car parking. Vegetated areas were restricted to the northern boundary of the site with mature trees situated along the southern and south-eastern boundary. The main warehouse was being used as a carpet and home furniture storage/distribution warehouse.

2.1.1.2 Site History

The recent history of the site was traced with the aid of an Envirocheck Report which can be found in the previous report. The previous report identified the site was undeveloped up until between 1884 and 1901 when the Alexandra Dock Railway was constructed encroaching the northern boundary known as the Mendalgyf Sidings. Between 1921 and 1937 maps showed sidings covered the entire site and by 1956 developments associated with the railway had reached its height. A gas holder was recorded 250m south-east of the site. Between 1966 and 1967 the railway sidings had been removed with the site mainly covered by grassland. Maps dated between 1977 and 1987 show the construction of the warehouse which currently occupies the site and has largely remained unchanged. Between 1986 and 1987 much of the surrounding railway sidings had also been removed, before the commencement of earthworks and landfilling to the north of the site indicated by 2000 aerial photography.

2.1.1.3 Published Geology

The previous desk study indicated the site is underlain by superficial Tidal Flat Deposits from the Quaternary Period, comprising highly compressible, normally consolidated, organic-rich clay, with layers of sand, gravel, and peat. This is underlain by Triassic bedrock strata known as the Mercia

Mudstone Group, comprising predominantly red, less commonly green-grey, mudstones and subordinate siltstones with thin beds of gypsum/anhydrite and sandstones.

The site was also recorded to be within an area where 1% to 3% of properties are above the radon action level, and therefore no radon protection measures are required in the construction of new buildings.

2.1.1.4 Hydrology and Hydrogeology

Several minor watercourses were identified in the vicinity of the site; however, no surface water features were located on site.

The bedrock strata at the north of the site have been classified as Secondary A Aquifer. Secondary A Aquifer are permeable layers capable of supporting water supplies at a local rather than strategic scale. The overlying superficial Tidal Flat Deposits were classified as Unproductive Strata. Unproductive strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. It was previously stated that perched groundwater will likely be encountered resting on or within the Tidal Flat Deposits, however vertical migration of groundwater is likely limited due to low permeability. It was also considered any existing drainage could act as a pathway for potential surface contaminants.

2.1.1.5 Potential contamination

The previous desk study indicated the following potential on-site contaminants listed in table 4 below taken from the previous desk study:

Table 4: Potential Contaminants		
Land Use: Green Field until 1900's		
Material/Process	Contamination/Hazard	Evidence
Possible agricultural land / allotment gardens	No potential contaminants	Historical Maps
Land Use: Railway sidings since 1900's		
Material/Process	Contamination/Hazard	Evidence
Imported made ground/earthworks to accommodate the construction of the Alexandra Dock Railway	Metals, semi metals, non-metals, PAH, asbestos	Historical Maps
Land Use: Industrial/Commercial Estate from 1960's to present		
Material/Process	Contamination/Hazard	Evidence
Development into an industrial/commercial estate following the demolition of the Alexandra Dock Railway	Metals, semi metals, non-metals, PAH, asbestos	Historical Maps/current site use

The previous desk study indicated the following potential off-site contaminants listed in table 5 below taken from the previous desk study:

Table 5: Potential Contaminants: Adjacent Site Uses		
Potential Contamination Source	Boundary	Associated Contaminants and Hazards
Railway	Northern	Metals, semi metals, non-metals, PAH, asbestos
Landfill	Northern	Metals, semi metals, non-metals, PAH, asbestos

2.1.1.6 Preliminary Conceptual Site Model

The previous desk study identified two critical sensitive receptors including human health and controlled waters. Human receptors included end users for a commercial land-use scenario and construction workers. The most sensitive controlled water receptor was determined to be groundwater, specifically the Secondary A Aquifer of the underlying mudstones, which form the Mercia Mudstone Group. This also extends to the River Usk situated approximately 1000m south-east of the site.

Based on the findings of the previous desk study a preliminary conceptual model was presented shown in Table 6 as shown below taken from the previous report.

Table 6: Preliminary Conceptual Exposure Model				
Source		Receptor	Pathway	Potentially Active Pathway?
Origin	Contaminant			
Made Ground of unknown origin and historical land uses	Metals, semi-metals, non-metals, PAHs, Asbestos	Commercial – human health	Dermal Contact with made ground/dust	✓
			Ingestion of soil	✓
			Inhalation of dust	✓
			Inhalation of vapours – indoor/outdoor	✓
	Metals, semi-metals, inorganics, PAH	Groundwater quality	Leaching from made ground	✓
		Surface water quality	Transportation within groundwater	✓
Made Ground of unknown origin and natural ground	pH and water-soluble sulphate	Building Materials Durability	Direct contact	✓

2.1.2 Summary of the Previous Phase II Ground Investigation (Ref.14043/OTJ/22/SI)

2.1.2.1 Ground Conditions Encountered

The previous investigation undertook 12 No. Windowless Sample Boreholes (referenced WS01 – WS12) drilled to a total depth of 5.00m bgl.

The ground conditions encountered were recorded as a variable thickness of Made Ground, including large areas of hardstanding, over thick superficial argillaceous soils of the Tidal Flat Deposits.

A summary of the ground conditions was outlined in Table 7 taken from the previous report as shown below:

Table 7: Summary of Ground Conditions		
Depth (m)		Stratum
From	To	
0	0.07 / 0.22	Hardstanding (Concrete & Tarmac)
		OR
0	0.2	Topsoil: Grass onto soft dark brown gravelly SILT/CLAY with frequent rootlets at the surface. Gravel is fine to medium angular sandstone and limestone.
0.07 / 0.22	0.6 / > 5.0	Made Ground: Loose to dense dark brown/black/yellow, occasionally clayey, silty sandy and very sandy GRAVEL / gravelly SAND / SAND&SILT. Gravel is fine to coarse angular to sub-rounded sandstone, quartz-rich sandstone, limestone, and tabular mudstone. Frequently includes brick, glass, wood, ash, clinker, ceramic, tarmac, and slag.
0.6 / > 5.0	> 5.0	Tidal Flat Deposits: Soft to very soft light brown/bluish grey, sometimes mottled orange and brown, frequently organic, sometimes sandy and gravelly, CLAY with occasional pockets of pseudo-fibrous and amorphous peat. Gravel is fine to medium rounded sandstone and quartz. Occasional bands of loose/very loose grey and brown fine SAND and slightly clayey gravelly SAND. Gravel is fine to coarse angular to sub-angular mudstone and fine to medium rounded and sub-rounded sandstone, quartz-rich sandstone, and quartz.

Further details outlined within the report indicate the Made Ground soils were proven to comprise a variable thickness. The boreholes undertaken within the footprint of the proposed extension (WS01 – WS05) recorded Made Ground down to depths ranging between 0.60m and 1.50m bgl. However,

further south Made Ground soils were recorded much thicker as shown within exploratory holes (WS09 – WS12). It was noted no major obstructions were encountered at the drilling locations.

Groundwater was encountered at the site during the previous intrusive investigation, the recorded values are shown in the table below taken from the previous report:

Table 8: Summary of Groundwater Levels			
Borehole	Depth to Groundwater (mbgl)	Approximate Ground Level (mAOD)	Approximate Groundwater Level (mAOD)
WS04	1.16	13	11.84
WS05	3.70	13	9.3
WS06	1.10	13	11.9
WS07	2.40	13	10.6
WS08	1.27	13	11.73

Groundwater strikes were noted to be within the Tidal Flat Deposits and most likely attributed to perched water being retained in more granular/peat horizons.

2.1.2.2 Contamination Testing and Summary of Interpretation

A total of 10 No. Made Ground soil samples derived from depths between 0.4m and 1.7m bgl were tested for a range of contaminants including asbestos, heavy metals, PAHs, Sulphates, pH and Phenol.

The results indicated that all of the analysed chemical elements and compounds are present at concentrations below the appropriate thresholds for a proposed commercial end-use development. It was also considered concentrations of determinands within the natural ground are likely to be naturally occurring and as such, the natural ground poses no significant threat to human health or the environment.

Based on the results the previous investigation concluded the risk to future end users from the site sourced contamination is considered to be low and therefore no contamination remedial mitigation measures were considered necessary.

In addition, the previous report also concluded, given the results of the site investigation, the potential risk to controlled waters from site sourced contamination is also considered to be low.

Sulphate and pH testing also confirmed the design sulphate class for concrete structures within the Made Ground is classified as DS-1 / AC-1 and when constricted within the Tidal Flat Deposits classified as DS-1 / AC-1.

2.1.3 Recommended Further Works

The previous investigation recommended a deeper borehole investigation due to encountering highly compressible, potentially gas producing organic clay, alongside significant thicknesses of Made Ground. It was therefore recommended a deeper borehole investigation be undertaken to aid pile design and to undertake a gas risk assessment.

2.2 SUPPLEMENTARY INVESTIGATION REPORT - INTEGRAL GEOTECHNIQUE (WALES) LTD (REF. 14043/OTJ/22/SI)

The previous supplementary investigation was undertaken to refine and provide additional information for the detailed pile design including a programme of gas monitoring to assess the gas regime at the site.

The previous investigation conducted three cable percussive boreholes (BH01 – BH03), drilled to a maximum depth of 18.00m bgl with ground gas monitoring standpipe installed within BH01 and BH03, locations shown on the exploratory hole plan of the previous report.

A summary of the ground conditions was outlined in Table 1 of the previous report as shown below:

Table 1: Summary of Ground Conditions		
Depth (m) From	To	Stratum
GL	0.2	REINFORCED CONCRETE
0.2	1.1/1.2	MADE GROUND: Loose black ashy gravelly SAND or loose brown and greyish brown gravelly SAND. Gravel is fine to coarse angular to sub-rounded of sandstone, ash, brick and crushed concrete in areas with inclusions of rubber and reinforcement bar and/or very soft grey and brown slightly silty slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to rounded of mudstone and sandstone with rare brick, crushed stone and ash
1.1/1.2	14.5/14.6	Very soft and soft brown grey silty CLAY with pockets of organic clay and layers of firm brownish grey and black fibrous clayey PEAT with frequent decaying organic material and pockets of cobble sized grey clay (TIDAL FLAT DEPOSITS)
14.5/14.6	15.4/15.5	Soft rapidly becoming firm and stiff reddish brown and grey sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to rounded mudstone and sandstone
15.4/15.5	>17.5/18.0	Weak reddish brown weathered MUDSTONE (Recovered as sandy very clayey gravels)

Perched groundwater was encountered at 1.00m to 1.20m bgl similar to the previous investigation. However, groundwater was also struck at 15.50m within the Mercia Mudstone with standing levels recorded at 8.60m bgl.

Further sulphate testing was undertaken on the underlying soils. Testing including water soluble sulphate and pH. Based on the values the Made Ground was classified as DS-1/AC-1, and the Tidal Flat Deposits were classified as DS-2/AC-2. It would be expected to undertake enhanced sulphate testing given the nature of the underlying natural soils including acid soluble sulphate and total sulphur. As stipulated within the guidance (BRE Special Digest 1) certain geological strata likely to contain a substantial sulphate concentration are ancient sedimentary clays including the Mercia Mudstone and recent Alluvium and peat which the site is underlain by. To fully classify the aggressive chemical environment, it would be expected to undertake enhanced sulphate testing on both the Tidal Flat Deposits and the Mercia Mudstone Group. The current classifications may cause a significant risk to the integrity of any underground concrete structures.

A ground gas risk assessment was undertaken as part of the previous supplementary investigation. A total of six monitoring visits were undertaken fortnightly. A summary of the results is given in Table 2 taken from the previous report.

Table 2: Summary of Ground Gas Results				
Borehole	Maximum Methane Concentration (%)	Maximum Carbon Dioxide Concentration (%)	Minimum Oxygen Concentration (%)	Gas Flow Rate (l/hr)
BH01	23.2	0.2	9.5	<0.5
BH03	0.3	0.1	18.4	<0.3

The previous investigation characterised the gas regime as Gas Characteristic Situation 2 due to elevated methane concentrations. It was concluded gas protection measures will be required within the proposed extension.

The supplementary investigation also provided the following foundation recommendations:

“Subject to vibration and noise, driven pre-cast concrete piles, driven to an appropriate set within the weathered mudstone bedrock deposits encountered from typically 15.4/15.5m depth, should be feasible. Based on the results of the intrusive site investigation, pile lengths are anticipated to be approximately around 20m, although variation should be expected. Pile capacity would be generated from a combination of friction and end bearing resistance, subject to the advice of a specialist piling contractor.

Variations in pile lengths should be limited to avoid over-stressing adjacent piles of different lengths. Piles will need to be designed to ignore load contribution from the made ground and soft and very soft underlying clay strata.

If finished ground levels are to be raised above existing site levels, consideration will need to be given to the effects of negative skin friction.

Any piles that are driven to a premature set should be investigated and allowances made for redriving, digging out any encountered shallow obstructions, or pile replacement.

Subject to the advice of a specialist piling contractor, the use of alternative piling techniques may be required.

Note that the adopted piling system will need to consider any potential vibration and noise issues in relation to the adjacent building. If noise and/or vibration issues preclude the use of driven piles then a bored/augured pile or drilled piling system deriving load capacity in the form of a suitably designed and constructed socket within competent mudstone bedrock, could be considered.

If an augured piling system is adopted, it will be necessary to segregate the made ground arisings from the natural soil arisings for appropriate off-site disposal.

It is recommended that the advice of a specialist piling contractor is sought in order to confirm the most appropriate piling technique and for the detailed pile design.

Floor slabs should be designed and constructed as suspended, and allowances made for the incorporation of appropriate gas protection measures.

This report should be forwarded to a specialist piling contractor for the detailed pile design.”

3 PILING RISK ASSESSMENT

The Piling Risk Assessment is based on the seven Pollution Scenarios presented within “Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination”: Guidance on Pollution Prevention, CL:AIRE, March 2025.”

These seven Pollution Scenarios are:

-  PS1: Creation of preferential pathways, through a low permeability layer (an aquitard), to allow potential contamination of an underlying aquifer
-  PS2: The driving of solid contaminants down into an aquifer during pile driving
-  PS3: Contamination of groundwater and, subsequently, surface waters by turbidity, support fluids, concrete, cement paste or grout
-  PS4: Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contaminant migration)
-  PS5: Creation of preferential pathways, through a low permeability surface layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. Volatile Organic Compounds (VOCs)) to the surface
-  PS6: Causing off site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process
-  PS7: Direct contact of site workers and others with contaminated soil arising which have been brought to the surface.

For piling works risks to receptors are likely greater when:

-  Contaminants are present on site and ground works could allow them to migrate
-  Piling would breach a low permeability layer or connect two previously discrete aquifers
-  The site overlies a Principal or Secondary A aquifer
-  The site is located within a groundwater source protection zone
-  The groundwater table is shallow or likely to be penetrated by piles
-  The geological strata are fractured or fissured
-  The works are close to a surface water body and run-off from arisings could pollute surface waters

4 PILING SCENARIO ASSESSMENT

Based on the proposed piling method (CFA), the likelihood and magnitude of risk associated with each of the above risk scenarios has been present in the table below:

Summary of Pollution Scenarios for Piling Activities under the Current Site Conditions			
Pollution Scenario	Pollution Risk	Scenario	Mitigation Measures
PS1: Creation of preferential pathways, through a low permeability layer (an aquitard), to allow potential contamination of an underlying aquifer	Low	Geology at the site comprises Made Ground underlain by Tidal Flat Deposits (Unproductive Strata), underlain by Mercia Mudstone Group (Secondary A aquifer). The proposed pile recommendations indicate piles will extend through the Made Ground and Tidal Flat Deposits and terminate within the underlying Mercia Mudstone. Based on the previous contamination risk assessment (ref. 14043/OTJ/22/SI) no significant source of shallow contamination has been identified within the Made Ground soils, with Low risk assigned to controlled water receptors. The site is not located within a SPZ. CFA is the proposed piling method. This method is recommended by the EA for piling through contaminated ground and is the most favourable method as it minimises cross contamination between different aquifer levels and causes minimal deformation to the surrounding soil.	No specific mitigation required.
PS2: The driving of solid contaminants down into an aquifer during pile driving	Low	Based on the previous contamination risk assessment (ref. 14043/OTJ/22/SI) no significant source of shallow contamination has been identified within the Made Ground soils, with Low risk assigned to controlled water receptors. CFA is the proposed piling method whereby soils is removed rather than driven down.	No specific mitigation required
PS3: Contamination of groundwater and, subsequently, surface waters by turbidity, support fluids, concrete, cement paste or grout	Low	Concrete and grout used in CFA piles will be in direct contact with Tidal Flat Deposits (Unproductive Strata) and Mercia Mudstone (Secondary A aquifer).	The use of rapid setting cement grout mixture for the construction of the piles will minimise the potential impact to controlled waters associated with this pollution scenario. A high slump concrete mix is recommended within the bore, reducing the risk of potentially contaminating the Secondary A aquifer Monitor grouting rates and total volume used – piling contractor to prepare monitoring plan as part of construction health, safety and environment documentation

PS4: Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contaminant migration)	<u>High Risk - Further Assessment Required – Enhanced Sulphate Testing</u>	Basic sulphate testing currently undertaken on Made Ground and Tidal Flat Deposits. As stipulated within the guidance (BRE SD1) certain geological strata likely to contain a substantial sulphate concentration are ancient sedimentary clays including the Mercia Mudstone and recent Alluvium and peat which the site is underlain by. To fully classify the aggressive chemical environment, it would be expected to undertake enhanced sulphate testing on both the Tidal Flat Deposits and the Mercia Mudstone Group. The current classifications defined in the previous site investigation reports may cause a significant risk to the integrity of any underground concrete structures.	Piling contractor to be made aware of any potentially aggressive ground conditions or groundwater. Concrete specified accordingly. All pile materials will be specified to be resistant to locally occurring ground and groundwater conditions.
PS5: Creation of preferential pathways, through a low permeability surface layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. Volatile Organic Compounds (VOCs)) to the surface	Low	Piles will penetrate highly organic Tidal Flat Deposits. Previous Supplementary Investigation recorded a characteristic gas situation – CS2 due to elevated levels of methane, attributed to soils with a high peat/organic content. Lower Explosive Limit values recorded >100% indicating potential ignition/explosion risk	Appropriate ground gas mitigation should be incorporated through the design process to counter the identified ground gas risk. Due to the potential risk of ignition/explosion spark resistant methods should be adopted and prepared by the piling contractor as part of construction health, safety and environment documentation.
PS6: Causing off-site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process	Low	CFA methods cause minimal deformation to the surrounding soils. The previous site investigation concluded the gas levels recorded relate to soils with a high peat/organic content associated with the underlying Tidal Flat Deposits. Such sources are known to have a low gas generation potential and therefore the identified source is unlikely to generate sufficient gas to sustain the rate of gas migration required to pose a risk to off-site receptors.	No specific mitigation required
PS7: Direct contact of site workers and others with contaminated soil arising which have been brought to the surface.	Low	CFA piling method – arisings produced Based on the previous contamination risk assessment (ref. 14043/OTJ/22/SI) no elevated concentrations were recorded when compared to GAC for a commercial land-use scenario, with low risk to human health	Use of appropriate personal protective equipment. Containment of any soil arisings and well managed disposal

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSION

A Piling risk assessment has been undertaken for the proposed works, to support the construction of an extension to the north side of the existing building at Unit 10 to 11, Port Road, Maesglas Retail Park, Newport, South Wales, NP20 2NS.

This risk assessment was completed based on the proposed piling method at the time of writing which includes CFA techniques. Therefore, this assessment has been reviewed based on the proposed CFA piles, a non-displacement piling method.

Based on the assessment undertaken, the risk rating for CFA piles was low risk for all pollution scenarios. One exception being a high risk associated with PS4 “Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contaminant migration)”. Currently, only basic sulphate testing has been completed on the underlying natural soils. However, as stipulated within the guidance (BRE SD1) certain geological strata likely to contain a substantial sulphate concentration are ancient sedimentary clays including the Mercia Mudstone and recent Alluvium and peat which the site is underlain by. **To fully classify the aggressive chemical environment, enhanced sulphate testing is required on both the Tidal Flat Deposits and the Mercia Mudstone Group.** The current classifications defined in the previous site investigation reports may cause a significant risk to the integrity of any underground concrete structures.

Should the proposed method of piling change further assessment will be required by a suitably qualified person.

5.2 RECOMMENDED MITIGATION MEASURES

The adopted method of piling (CFA) discussed above is subject to appropriate workmanship, mitigation and ensuring quality assurance quality control measures are adopted. The piling works should also be subject to appropriate method statements. Should the proposed piling method change then further assessment will be required by a suitably qualified person.

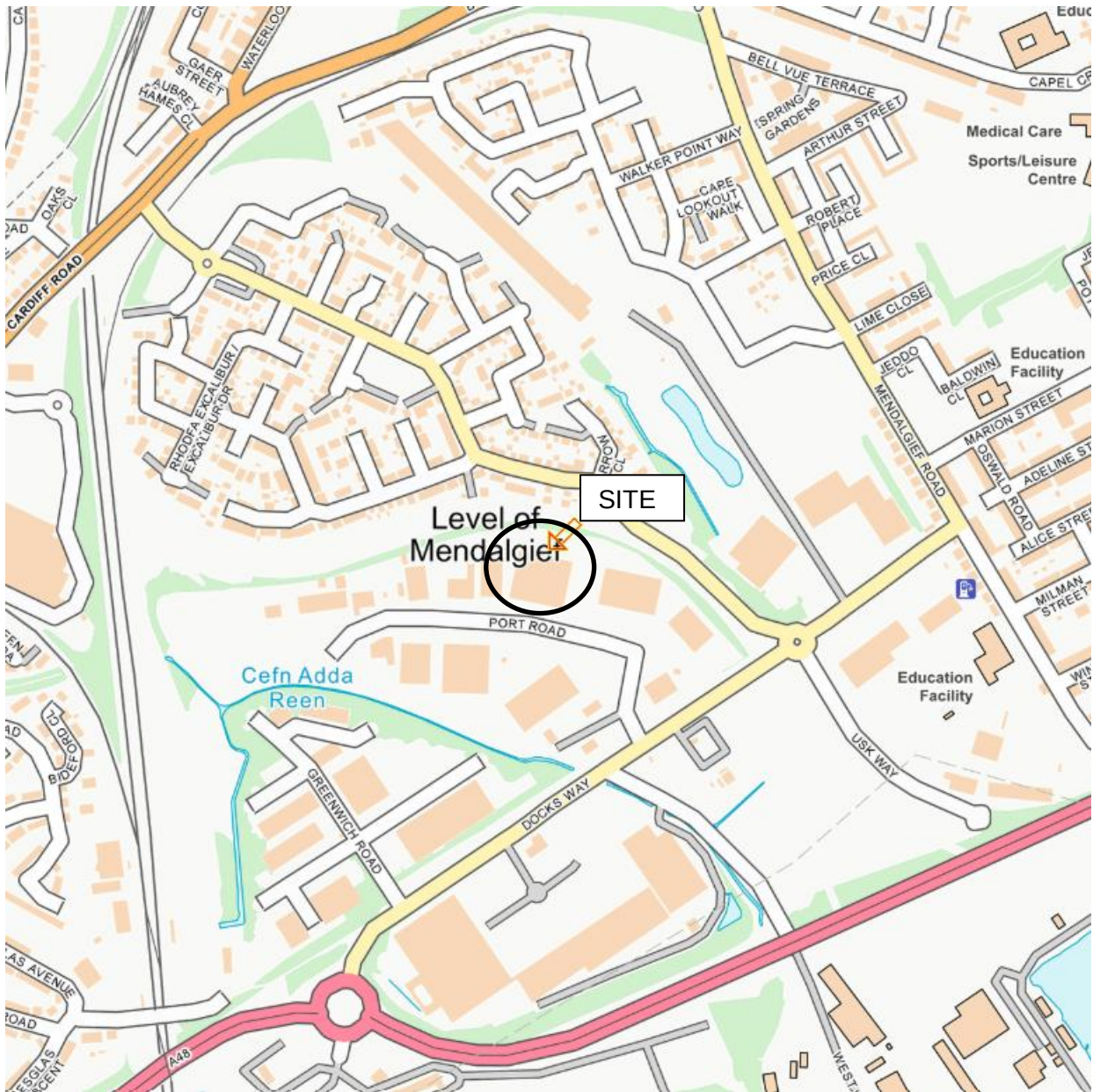
The following mitigation measures are recommended when using CFA piling techniques:

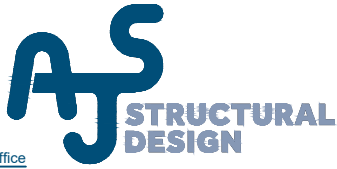
-  Correct PPE for all piling operatives, in case soils brought to surface are contaminated.
-  Containment of any soil arisings and well managed disposal
-  Any visual or olfactory evidence of contamination seen in pile arisings should be reported immediately and work halted at that location
-  Appropriate ground gas mitigation should be incorporated through the design process to counter the identified ground gas risk.
-  The use of rapid setting cement grout mixture for the construction of the piles will minimise the potential impact to controlled waters associated with this pollution scenario.
-  A high slump concrete mix is recommended within the bore, reducing the risk of potentially contaminating the Secondary A aquifer
-  Monitor grouting rates and total volume used – piling contractor to prepare monitoring plan as part of construction health, safety and environment documentation
-  Concrete used within the piles to be design in accordance with BRE Special Digest 1 – further enhanced sulphate testing should be undertaken within the underlying natural soils to appropriately classify the aggressive chemical environment for concrete
-  Ensure there is no under-rotation of augers
-  It should be ensured that good workmanship is implemented during construction to ensure the hole does not collapse. No holes should be left open and works should ensure that no preferential pathways are created (i.e. use of pile caps at all times). And any changes in drilling parameters should be recorded to monitor changes in strata.
-  Ahead of piling works, any required decommissioning boreholes and monitoring wells present on site should be undertaken using current Environment Agency guidance.

6 REFERENCES

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-  BRE Special Digest 1 : 2005 : Concrete in aggressive ground. Building Research Establishment.

APPENDIX A

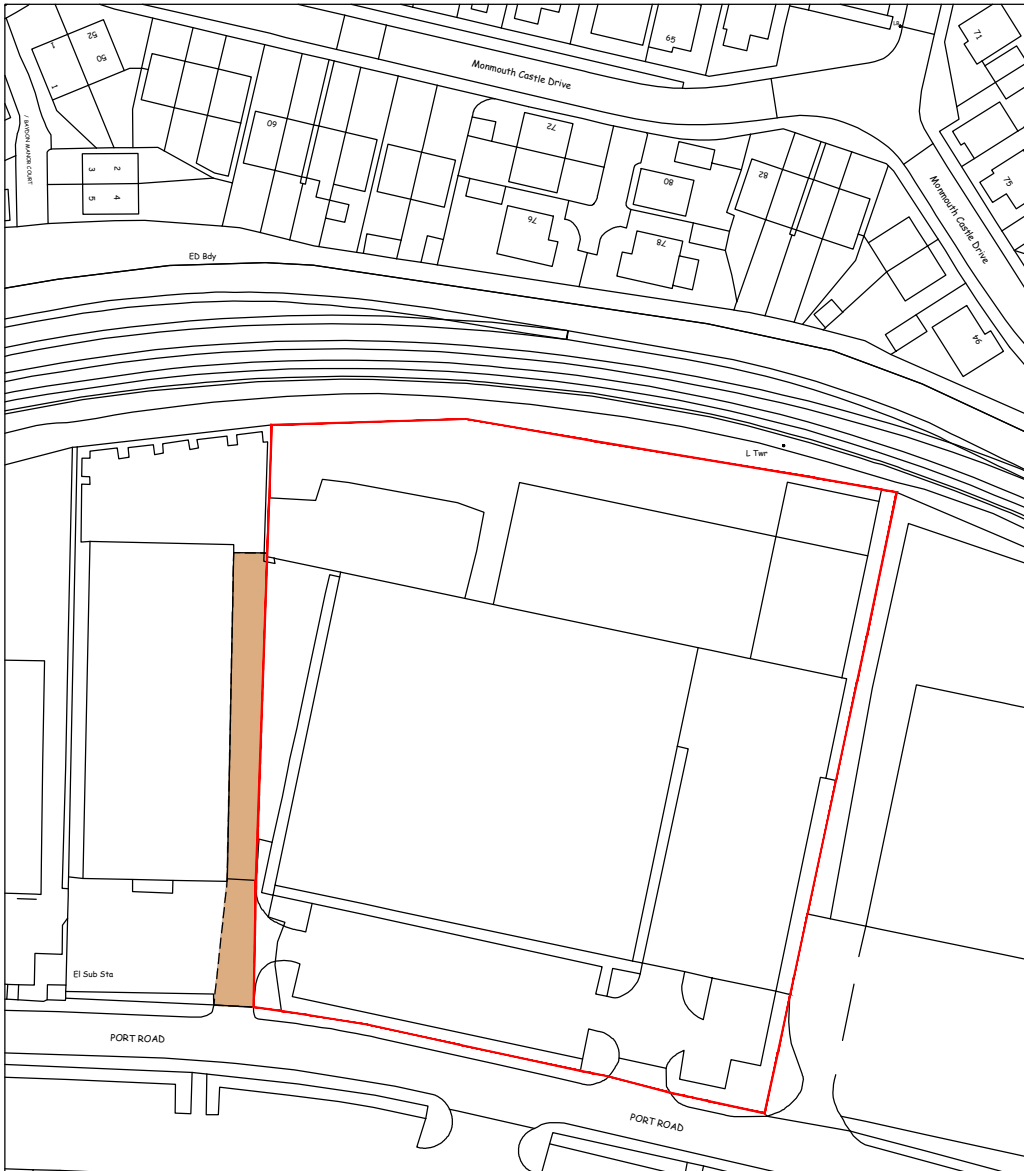




Uttoxeter Office
2 Church street
Uttoxeter
Staffs. ST14 7HT
Tel: 01889 723003

Derby Office
Durham House, Stanier Way
Wayvern Business Park
Derby. DE21 6BF
Tel: 01332 913011

Client: Valley Wholesale Carpets Unit 10, Maesglas Retail Park Newport NP20 2NS		Drawing No A8763 - 001
		Drawn By: MW
Title: Location Plan		Checked By: SS
Scale: 1:1250 @ A4	Revision: P0	Date: February 2025

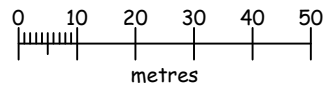


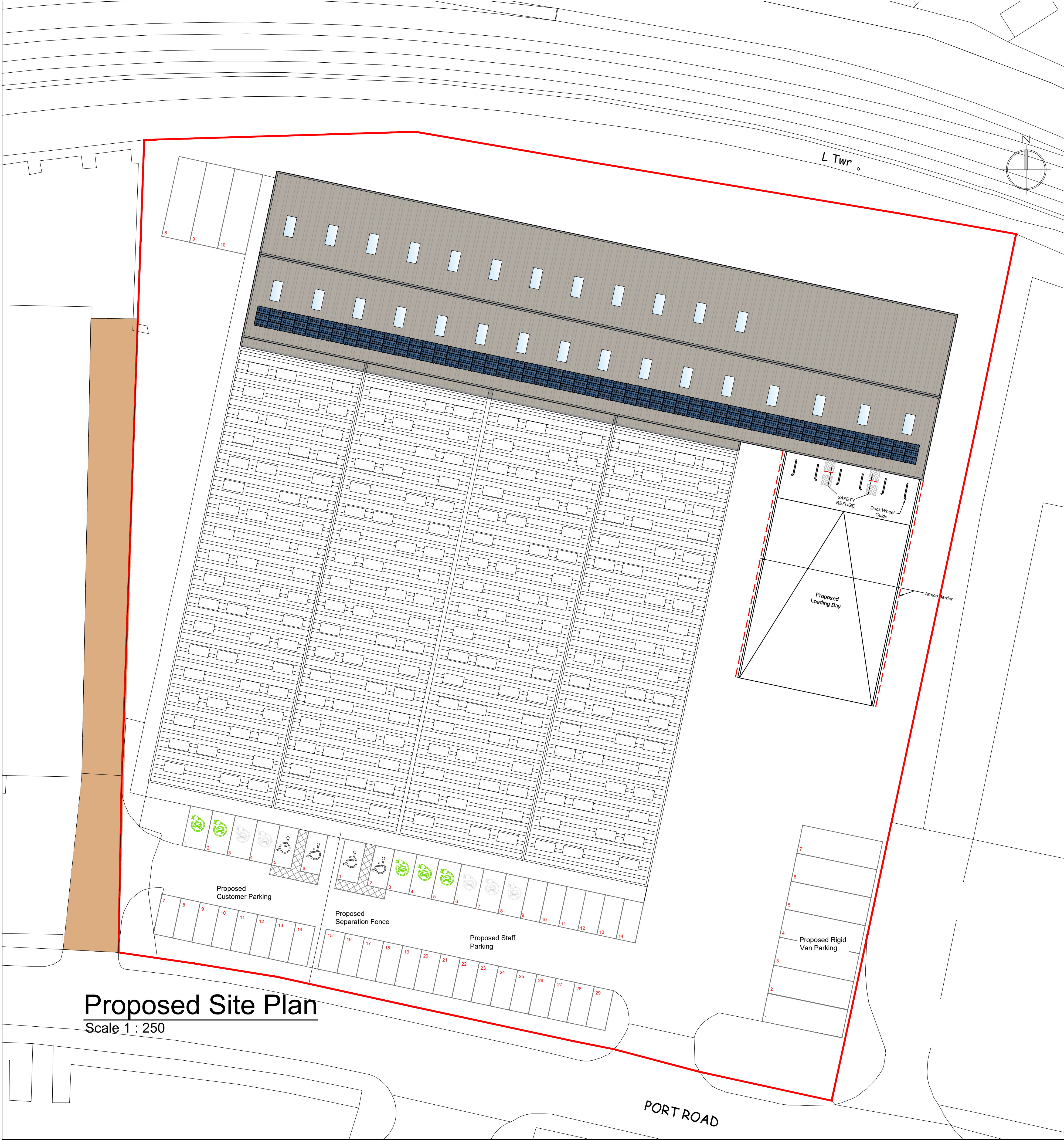
NORTH



Serial number: 291588

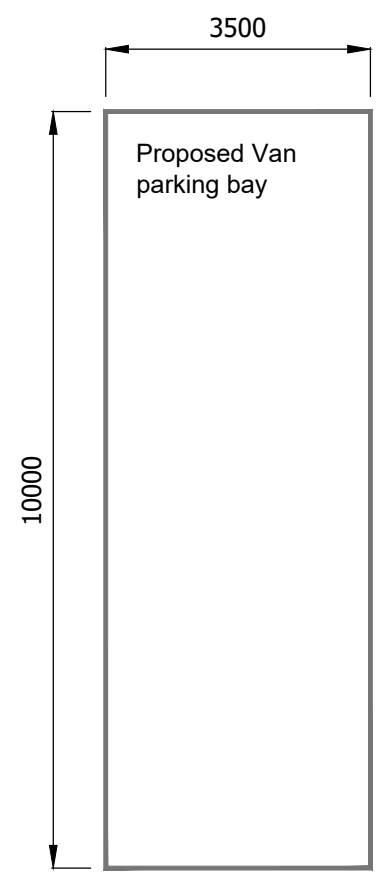
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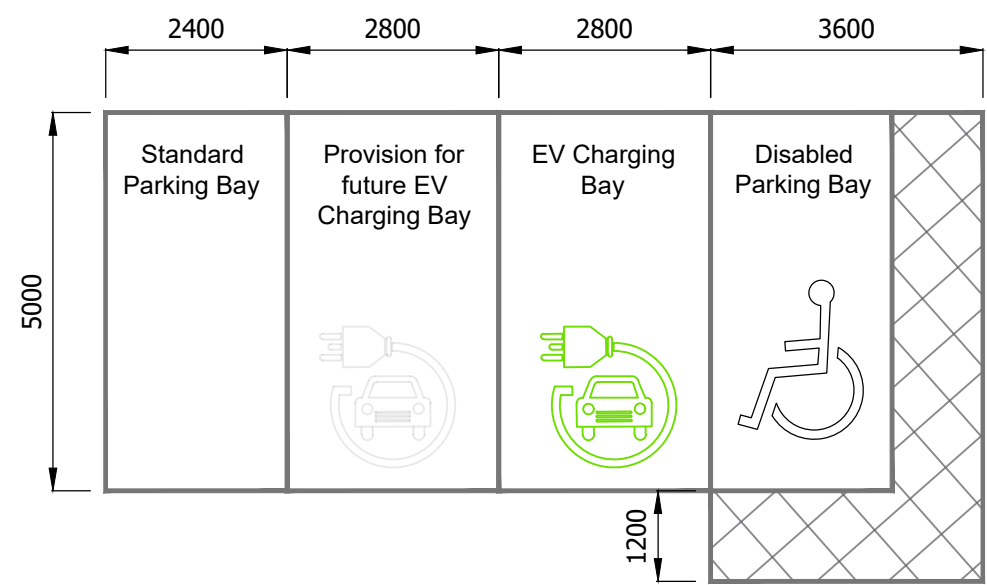
Proposed Site Plan
Scale 1 : 250

Van Parking Key
Scale 1 : 100



Schedule	
Customer	
EV	2no.
Future EV expansion	2no.
Accessible space	2no.
Car Parking	8no.
TOTAL	14no.
Staff	
EV	3no.
Future EV expansion	3no.
Accessible space	2no.
Car Parking	21no.
Van Parking	10no.
TOTAL	39no.
Cycles inc: 10 secure spaces Internal	

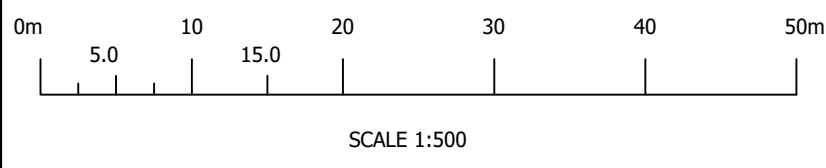
Car Parking Key
Scale 1 : 100



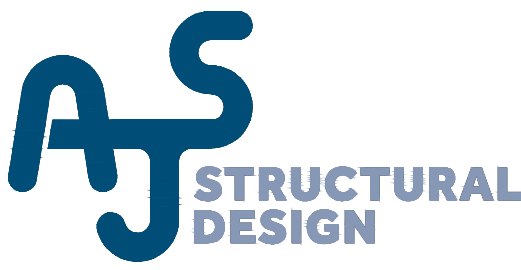
BUILDING REGULATIONS PURPOSES.

Notes:

- 1) Do NOT scale, if in doubt ask.
- 2) To be read in conjunction with the building regulation specification, structural calculations and construction drawings.
- 3) The contractor to confirm details of the existing structure are correct prior to commencement of any works. if there are any discrepancies please contact us.
- 4) Soakaways are to be a minimum of 5.0m away from any building and 10.0m away from any water course.
- 5) All drainage details are indicative and should there be any discrepancies, please contact us to review or agree with the building control officer.
- 6) Contractor to locate the position of any existing services prior to excavation.
- 7) Drawing subject to approval from building control officer.



Rev.	Revision Description	Drm	Date
P1	Addition of Bregs Information	MW	27/02/25
P2	Proposed Extension Position Moved	MW	20/06/25
P3	Proposed Extension Size Amended	MW	05/08/25



Uttoxeter Office: 2 Church Street, Uttoxeter, Staffs, ST14 8AG
Derby Office: Durham House, Stanier Way, Wyvern Business Park DE21 6BF
Uttoxeter Tel: 01889 723003 Derby Tel: 01332 913011

Contract Title:
Valley Wholesale Carpets Phase 1 Side Extension and Loading Dock

Drawing Contents:
Proposed Site Plan

Drawing Status:
PRELIMINARY

Drawn by:	Date:	Scale:
MW	February 2025	as shown @ A1

Drawing No:	A8763 - 100	P3
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