



PHASE 1 SITE INVESTIGATION

**1 STATION ROAD
GUNNESS
SCUNTHORPE
NORTH LINCOLNSHIRE
DN15 8SU**



REPORT PREPARED FOR

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1 Station Road
Gunness
Scunthorpe
North Lincolnshire
DN15 8SU**

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Drawing No. 23_001_050: Proposed Development Layout

Castle Hill Surveys Drawing No. CHS20-01-01: Topographic Survey

APPENDICES


Appendix A: Limitations & Exceptions of Assessment

Appendix B: Site Photographs

Appendix C: Environmental Search Results

Appendix D: Historical Ordnance Survey Maps

Appendix E: Risk Classification Matrix

 PEAK ENVIRONMENTAL SOLUTIONS		Document Schedule		
Client	J Chapman	Project No	42332R1	
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1.0 INTRODUCTION

This report provides the results of a Phase 1 Site Investigation completed to assist in residential re-development at 1 Station Road, Gunness, Scunthorpe, North Lincolnshire, DN15 8SU ('the site'). Figure 1 shows the site location (centred on NGR 484315 410977). Figure 2 and Drawing No. 23_001_001 (included in the Figures Section), show the current site layout and boundary.

Planning permission for development will be sought from North Lincolnshire Council (NLC) for a development comprising the demolition of an existing bungalow and the construction of three new residences. The proposed development layout is shown in Drawing No. 23_001_050 (included in the Figures Section).

This report provides information to help assess potential land contamination and geo-environmental issues that may affect the development and to assist NLC in their consideration of the planning application.

The report provides details of the environmental site setting based on a site walkover and information gathered from publicly available environmental/geological information from public bodies (including the Environment Agency (EA) (via DATA.GOV.UK) and British Geological Survey (BGS) (partially via a Groundsure Insight report reproduced in Appendix C). A review of current and historical Ordnance Survey mapping (included in Appendix D) been completed.

The site walkover was undertaken on the 29th February 2024, photographs of the site are included in Appendix B.

The assessment provides a site conceptual model, a land contamination preliminary risk assessment, risk evaluation and conclusions and recommendations to assist in furthering residential development at the site.

Limitations of Assessment

The report has been prepared under the umbrella framework provided by the non-statutory 'Land Contamination: Risk Management' (LCRM) guidance available at www.gov.uk and takes into account R&D66:2008 and the current National Planning Policy Framework. Information provided to or obtained by Peak Environmental Solutions has been relied upon in good faith. Our investigations exclude (i) surveys to identify the presence injurious and invasive weeds; (ii) surveys to identify the presence of asbestos containing materials in buildings and; (iii) surveys to identify geotechnical risk/issues, including those associated to potential mining legacy concerns. This report is subject to our standard terms of business and the attached limitations and exceptions. The report was finalised in January 2024 and should be read in the light of any subsequent changes in legislation, statutory requirements, statutory and non-statutory guidance, relevant research and industry practices, and should be read in conjunction with the references provided in Section 5.0.

2.0 PHASE 1 INVESTIGATION FINDINGS

2.1 Existing Site Layout

The site boundary and site features are shown in Figure 2 and Drawing No. 23_001_001. Photographs of the site are included in Appendix B.

The rectangular ~0.23 hectare site is located immediately to the east of Station Road at the southern end of the village of Gunness ~5km to the west of Scunthorpe in North Lincolnshire. No.1 Station Road is an existing residential property surrounded by a large garden that has recently undergone general clearance. The site currently comprises:

- A recently upgraded driveway/access track that extends along the southern site boundary into the centre of the site (Photos 1, 2 & 7).
- A second, hard surfaced driveway that exits Station Road in the north of the site and extends ~18m to an existing bungalow with an attached double garage at the northern elevation (Photos 2, 3, 4&6).
- A hard surfaced, former patio/terrace area located immediately to the east of the house/garage (Photos 5&6).
- A large, un-surfaced area that has recently been largely cleared of vegetation occupies the remainder of the site.

The whole site is surrounded by wooden fence and hedge lines and slopes gently to the east from an elevation of ~3.25m above Ordnance Datum close to the western boundary to ~2.42m near the eastern boundary. Station Road carriageway is at an elevation of ~4.0m AOD and both of the driveways therefore slope down to the east from the road level. Ground levels at the site are shown in Castle Hill Surveys Drawing No. CHS20-01-01 in the Figures Section.

The driveway in the south of the site has been recently created by importing partially crushed bricks, concrete, tiles etc. Some small stockpiles of construction materials are present in the former front garden area. In the main former rear garden area in the east of the site, recent clearance of sheds and other small buildings has resulted in fragments of glass, ash, plastic and other construction materials being present across much of the site surface. Some fragments of fibre board were also noted.

No underground structures (excluding underground services) were identified during the site walkover. A main sewer is understood to cross the centre of the site from north to south in the location shown in Drawing No. 23_001_050.

No bulk liquid (including oil) storage was ongoing within the site boundaries during the walkover. Other than general material associated with recent clearance, as described above, no visual or olfactory evidence to suggest the presence of ground contamination was observed.

At the time of the walkover, a trial pit had been left open near the eastern boundary (location shown in Castle Hill Surveys Drawing No. CHS20-01-01). The water level in the trial pit was ~0.6m below the ground surface and was resting at ~2.1m AOD. The trial pit is understood to have been opened by

the site owner and to have filled as a result of inflow from the surrounding ground rather than as a result of rainfall.

2.2 Surrounding Land Use

The site is located in a low-lying area on the eastern bank of the River Trent, which in this location is tidal and ~150m wide. The whole of the surrounding area is low lying, with water levels controlled by drainage ditches and pumping systems.

Mixed land uses are present immediately around the site, as follows:

- **North:** Houses on Station Road are present immediately to the north, with further housing within Gunness village centre beyond.
- **East:** Fields and drainage ditches are present to the east extending ~1.2km to developments on the edge of Scunthorpe.
- **South:** A farm track is located immediately to the south, with houses on Wharfdale Close beyond extending ~125m to a drainage ditch and a large chicken hatchery warehouse beyond.
- **West:** Station Road (the A18) is present immediately to the west. Beyond is the Gunness Wharf.

The Gunness Wharf occupies the area between the site and River Trent ~240m to the west. The area is used for loading and unloading of bulk transport completed via the boat on the River Trent. It also includes a manufacturing plant and significant bulk liquid storage tanks operated by Solventis who are understood to produce and store glycols, antifreeze, brake fluid and other motor fluid products.

Approximately 100m north-west of the site (to the north of the Solventis manufacturing area) is the Gunness Pumping Station. This comprises a series of large reservoirs understood to be used for waste water treatment.

To the south of the Solventis plant and ~150m south-west of the site is a garage and former fuel filling station and further bulk liquid storage tanks.

2.3 Proposed Site Layout

The proposed development layout is shown in Drawing No. 23_001_050 in the Figures Section.

Under the proposals, the existing house and garage will be removed. A driveway will be established along the southern site boundary and will provide access to three new bungalows, two in the west of the site and one in the east. Each of the properties will have a hard surfaced parking area and soft landscaped gardens. The property in the east of the site will have a detached garage/workshop that will be located in the south-east of the site.

2.4 Geological Site Setting

The 1:50,000 scale BGS mapping for the area records superficial deposits in the form of Quaternary Warp comprising clay and silt immediately beneath the site and the surrounding area. Alluvial deposits comprising clays, silts, sands and gravels (although in this location deposits are likely to be clays and silts) are present along the River Trent margins to the west of the site. Bedrock geology in the area comprises Triassic Mercia Mudstone.

The BGS hold a database of borehole logs that can sometimes provide additional information local ground conditions. The closest record is for a borehole drilled in 1992 ~60m to the west of the site. In this location, ~6m of clay deposits were underlain by ~11m of saturated sand which extended to the base of the borehole.

The site is located outside the Coal Authority Coal Mining Reporting Area. Underground coal mining is unlikely to affect the site or the development.

Radon data produced by the UK Health Security Agency indicates that the site not in a radon affected area, <1% of homes in the area could potentially be affected by radon above the Action Level. At a maximum risk level of <1%, radon protection measures are unlikely to be required to comply with the current relevant Building Regulations for the proposed dwellings, unless there are higher risk areas within the dwelling, such as cellars or basements. The requirement for any radon protection measures under Building Regulations should be agreed with Building Control in due course.

2.5 Hydrogeological Site Setting

The superficial deposits beneath the site are classified by the EA as a 'Secondary A' aquifer: *permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers*'. The bedrock deposits are classified as a 'Secondary B' aquifer and are unlikely to represent a significant groundwater resource. The site is not located a Source Protection Zone (SPZ) set by the EA for the protection of important groundwater resources.

As detailed in Section 2.1, the site is in an area where shallow groundwater is likely to be present. The direction of groundwater flow beneath the site is not known and may be influenced by a variety of factors including local topography and the tidal nature of the River Trent in this location.

2.6 Hydrological Site Setting

Surface water at the site is likely to drain to the east and away from the River Trent. Gunness has been constructed on a ridge line that rises a little above the surrounding area. In general, drainage from land to the east of Station Road falls to the east into the extensive network of drainage ditches that surround the neighbouring fields. There is a drainage ditch in very close proximity to the northern site boundary which flows to the east into the Gunness South Drain located to the east of the site.

The site is located in area currently considered by the EA to be at a high probability of flooding (Flood Zone 3: 'Any year, the land has a 1% or more chance of flooding from rivers, or a 0.5% or more chance of flooding from the sea'). Flood risks at the site are understood to be being separately considered.

2.7 Ecologically Sensitive Areas

The Government Information website www.magic.gov.uk (viewed March 2024) lists conservation designations for the area. The River Trent ~240m to the west of the site forms part of the Humber Estuary Ramsar site and is also designated as a Site of Special Scientific Interest and Special Area of Conservation.

There are no other Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty, Environmentally Sensitive Areas, National Nature Reserves, Local Nature Reserves or Specially Protected Areas within 1km of the site.

2.8 Site History & Potentially Contaminative Landuse

Historic Ordnance Survey (OS) maps for the site (1886 to present day) are included in Appendix D and provide supporting information about previous on and off-site land use, including potentially contaminative land uses on or around the site. Aerial photography for the period between 1999 and 2023 has been viewed via Appendix C and Google Earth Pro.

The 1886 County Series 1:2,500 scale map shows the site to the east of Station Road and forming part of a field. Around 100m to the south are east-west rail lines leading from the Scunthorpe ironstone quarries to the River Trent and an 'Ironstone Wharf'. The road/rail bridge over the Trent had already been constructed by this time, as had many of the drainage ditches around the fields to surrounding the site. Developments in Gunness were limited to a rectory and some other small properties.

Little change is recorded on the mapping until 1938 when the existing house is shown on the site for the first time and the boundaries are in their current locations. The pumping station to the north-west is first shown in this mapping, as are many of the houses on Station Road and Gunness centre beyond.

Bulk liquid tanks are first recorded to the west of the site in 1948. The pumping station has also expanded by this time, with further expansion between 1949 and 1958. By the date of the next 1:2,500 scale plan in 1966, at least 9 bulk liquid tanks and two large depot buildings are recorded ~80-150m to the west/south-west of the site and a further three are shown ~230m to the south/south-west. The pumping station is shown as a series of five large rectangular tanks as it is today.

By 1983, some additional tanks have been added to the south of the main tank farm and by 1994, Wharfdale Close and associated houses and the hatchery facility to the south have been added.

The aerial photograph record shows that the number of bulk liquid storage tanks to the west remains constant and Gunness Wharf is in operation throughout the period covered. The eastern part of the site has a formal garden layout in 2003, but has become increasingly overgrown by 2019.

2.9 Contemporary Potentially Contaminative On-Site & Off-site Landuses

No industrial plants or facilities permitted to operate by the EA have been identified within, or within 500m of the site boundaries (see Appendix C). A historic Control of Major Accident Hazards (COMAH) site record has been identified to the west of the site. This covers relates to a historical site recorded under the register of and Notification of Installations Handling Hazardous Substances (NIHHS). The notification was made by Petrochem UK Limited, date unknown.

The hatchery ~125m to the south holds a consent for the discharge of site drainage to a tributary of the Warping Drain. This drain is present to the east and flows away from the site.

2.10 Registered Waste Operations, Infilled Land and Pollution Incidents

No areas of filled ground or permanent waste disposal have been identified within the site boundaries.

The EA database does not record the presence of any currently operational or historic landfills within 500m of the site. Gunness Wharf have registered waste exemptions to allow them to store waste in a secure place and to burn waste at a port (Appendix C). Impacts at the site are considered unlikely.

No pollution incidents that resulted in any significant impact on land have been identified on the EA database at the site or in the near vicinity (see Appendix C). The nearest pollution incident occurred ~75m to the west of the site in 2001 when a release of alcohols/aldehydes resulted in a local water course being impacted.

3.0 PRELIMINARY RISK ASSESSMENT

3.1 Contaminants & Hazards of Concern

The Phase 1 process has identified the following potential issues that may affect the development:

- The site was developed in the 1930s when the existing house was built and the garden enclosed. The garage and several small outbuildings were added across the garden in later years. Residential site use is unlikely to have resulted in significant ground contamination, but some asbestos containing materials (ACMs) may be present in site soils as a result of their use in historic site buildings. Site soils were also noted to include glass and other physically unsuitable materials during the site walkover.
- Some made ground has been brought onto the site to improve access and create roadways. Imported materials can sometimes include concentrations of contaminants, depending on their source. Significant thicknesses (>1m) of imported made ground are currently considered unlikely.
- Land to the west of the site and the west of Station Road has been used as a wharf and for solvent/petrochemical storage/processing/manufacturing activities for a period that started prior to 1938 and is on-going. Some ground contamination may be present as a result of this land use. Some migration of contaminants from the wharf area towards the site is considered possible, although migration will be limited and may be precluded by the presence of low permeability clay deposits in the area. The direction of groundwater flow at the site is currently unknown and is likely to be influenced by a range of factors including the tidal River Trent. (Note that shallow groundwater is present beneath the site, as observed during the site walkover).
- Other historic and contemporary land use around the site include a former fuel filling station (now car wash) and a hatchery. These land uses are further from the site and impacts on the site or the development are currently considered unlikely.

No other potential contaminants, sources of contamination or potential hazards have been identified during the Phase 1 assessment process.

Although significant contamination at the site is considered unlikely, the site soils and the historical development of the site and the surrounding area may have resulted in the presence of elevated levels of the following contaminants and hazards:

- Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc.
- Asbestos containing materials (ACMs).
- Banded speciated total petroleum hydrocarbons (TPH) fractions C6-C35.
- Priority 16 polyaromatic hydrocarbons (PAHs): naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo-a-anthracene, chrysene, benzo-b-fluoranthene, benzo-k-fluoranthene, benzo-a-pyrene, dibenzo-a,h-anthracene, benzo-g,h,i-perylene, indeno-1,2,3-c,d-pyrene.

In addition, storage of bulk liquid chemicals of unknown type within the wharf area to the west of Station Road may have resulted in the presence of other contaminants such as volatile organic compounds (including chlorinated solvents).

3.2 Source Pathway, Receptor Assessment

The qualitative preliminary risk assessment (PRA) is presented in Table 1 and considers the proposed residential development. The PRA includes an initial conceptual site model to assess the relative significance of risks associated with relevant land contamination pollutant linkages identified by a source-pathway-receptor analysis. The relative assessment of risk is based on the following:

- The likelihood (probability) of an event occurring, taking into account the presence of the hazard & receptor, as well the plausibility of the pathway. The likelihood is defined as the chance of a particular event occurring in a given period of time.
- The severity of the potential consequence, taking into account the relative significance the hazard (typically site specific) and the relative sensitivity of the receptor. Severity or consequence can be defined as adverse effect(s) or harm arising from a hazard that impairs receptor function/condition in the short term (acute) or longer term (chronic).
- Risk classification (very low to very high) using a risk matrix that combines 'consequence' and 'likelihood'; the risk matrix is detailed in Appendix E.
- For the purposes of the qualitative assessment, identified very low and low risks will be considered acceptable for the redeveloped use.

The PRA does not specifically consider risks to construction workers during the development who may come into contact with site soils. Protection of workers should be achieved via routine precautions and compliance with relevant construction health and safety statutory/non-statutory guidance and codes of practice.

Table 1: Post-Development Conceptual Site Model & Preliminary Risk Assessment

Relevant Pollutant Linkages			Risk Assessment			Comments
Source/Hazard	Pathway	Sensitive Receptor	Consequence	Likelihood	Preliminary Risk Classification	
Inorganic/organic substances in soils & groundwater	Direct contact (Ingestion & Dermal) Inhalation of soil dust Internal and external inhalation of organic vapour Ingestion of site grown produce Migration of organic contaminants into plastic water supply pipes	Human Health Future site users Neighbouring site users	Medium	Low likelihood	Moderate - Low risk	Some concentrations of contaminants may be present in site soils as a result of historic site use or imported made ground. Some concentrations of contaminants may migrate onto the site via groundwater as a result of off-site bulk liquid storage and chemical processing.
	Soils leaching to groundwater Perched water discharge to groundwater Lateral groundwater flow	Controlled Waters Groundwater	Medium	Low likelihood	Low-moderate risk	Contaminated groundwater may be present in the area as a result of bulk liquid storage and chemical processing. The underlying superficial deposits are unlikely to readily transmit contaminants in groundwater. The re-developed site use is unlikely to affect groundwater.
	Groundwater discharge to surface waters Direct surface run-off	Controlled Waters Surface water	Medium	Low likelihood	Low-moderate risk	Surface water courses are present in very close proximity. The redeveloped site use is unlikely to affect surface water resources.
Asbestos fibres/fragments in shallow soils	Inhalation of soil dust Direct contact (Ingestion & Dermal)	Human Health Future site users	Medium	Low likelihood	Low-moderate risk	ACMs may be present in existing site building and site soils.
Aggressive ground conditions	Direct contact with contaminated soils & pore water	BBM&S Buildings, building materials and services	Medium	Unlikely	Low risk	-

Note: Identified Very Low and Low risks are considered acceptable for the redeveloped use
 BBM&S: Buildings, building materials and services.

4.0 CONCLUSIONS AND RECOMMENDATIONS

A Phase 1 site investigation has been undertaken for the site to support the planning application process. The purpose of the assessment was to:

1. Determine the potential for land contamination issues arising from the current or historical uses of the site and surrounding area; and
2. Provide an assessment of potential risks that identified land contamination issues may pose to sensitive receptors on the developed site (including future site users, controlled waters and infrastructure).

The PRA has identified low – moderate risks to the site users and other receptors associated with potential land contamination from sources at or around the site. Low risks are generally considered acceptable. Some actions are considered necessary to deal with outstanding moderate risks to the identified receptors and other issues, as follows:

- An appropriate pre-demolition asbestos survey should be completed for the existing buildings and the survey recommendations should be implemented.
- The potential for on-site migration of contaminants in groundwater should be assessed by a suitably designed Phase 2 ground investigation. It is recommended that the scope of the investigation should be agreed in advance with NLC.
- The investigation should be followed by generic quantitative/qualitative risk assessments aimed at establishing risks to the identified receptors. The investigation should be focussed based on the results of this investigation. Following the Phase 2 investigation, the initial conceptual model and risk evaluation should be refined, reducing the uncertainties highlighted by this report.
- If necessary, the Phase 2 should be followed by the production of a remediation strategy based on the results of the Phase 2 investigation and risk assessment that ensures that the future site residents and other receptors are protected. The remediation strategy should include a Discovery Strategy for use during the redevelopment should unexpected impacted made ground deposits and/or natural soils and waste deposits be encountered. The strategy should include a protocol for characterising and dealing with any encountered contamination, including liaison with NLC
- Near surface soil materials present at the site may not be suitable for use at surface in future garden areas. A strategy should be developed to ensure that near surface soils in the future garden/soft landscaped areas do not represent a risk to the future site occupants. The strategy may involve testing of the existing materials and/or importing and placing a suitable thickness of appropriately validated subsoil/topsoil across all of the soft landscaped areas. The strategy should be agreed in advance with NLC and should be followed by appropriate validation, including a validation report that can be submitted to the local planning authority.

Note: The following guidance may be relevant: YALPAG 2021. Verification requirements for cover systems. Technical Guidance for Developers, Landowners and Consultants. Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG). Version 4.1. June 2021.

- Production of a final verification report to document the successful implementation of the remediation/protection strategy and other engineering measures.
- New site services should be laid in clean service corridors.
- Below ground water supply services should comply with industry best practice for site development and the requirements of the water utility company.

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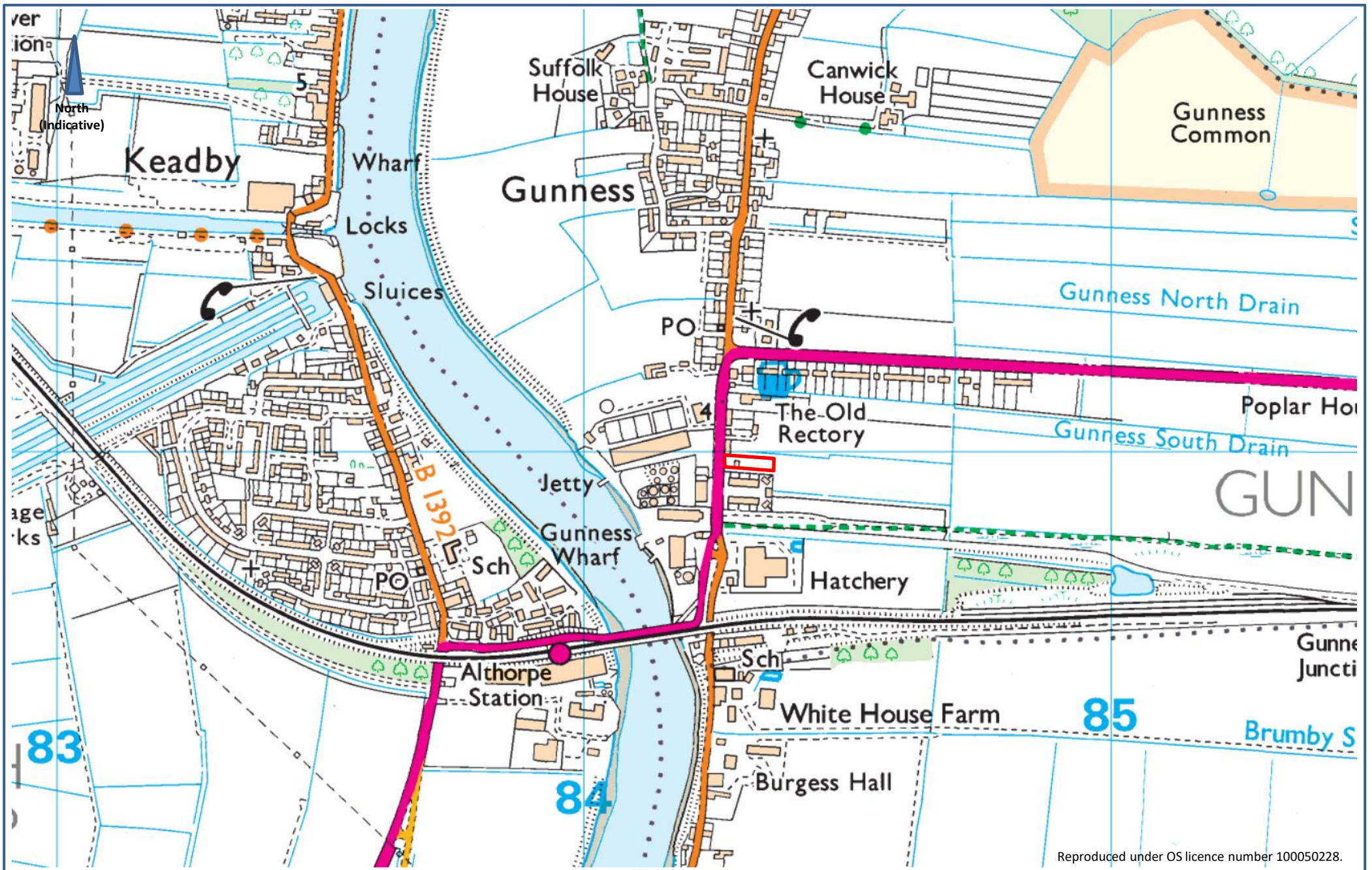
Controlled Waters

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64. The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015
65. British Geological Survey, 1997, The physical properties of major aquifers in England and Wales, Hydrogeology Group, Technical Report WD/00/04, Environment Agency R&D Publication 8.
66. British Geological Survey, 2000, The physical properties of minor aquifers in England and Wales, Hydrogeology Group, Technical Report WD/97/34, Environment Agency R&D Publication 68.

BBM&S

67. Environment Agency. 2001. Assessment and Management of Risks to Buildings, Building Materials and Services from Land Contamination. R&D P5-035/TR/01.

FIGURES



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<p>Figure 1</p>	<p>Site Location Plan</p>	<p> Site Location</p>	<p>Scale: Not to scale</p>
	<p>PEAK ENVIRONMENTAL SOLUTIONS</p>	<p>Site: 1 Station Road, Gunness, Scunthorpe, North Lincolnshire, DN15 8SU</p> <p>Project: 42332R1</p>	<p>Beechfield, Ninelands Road, Hathersage Derbyshire, S32 1BJ Tel: 01433 659071 www.peakenvironmentalsolutions.com</p>

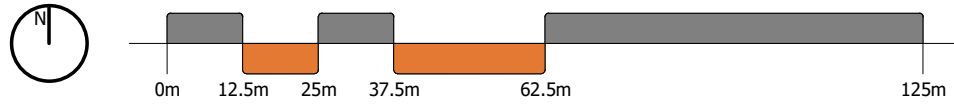
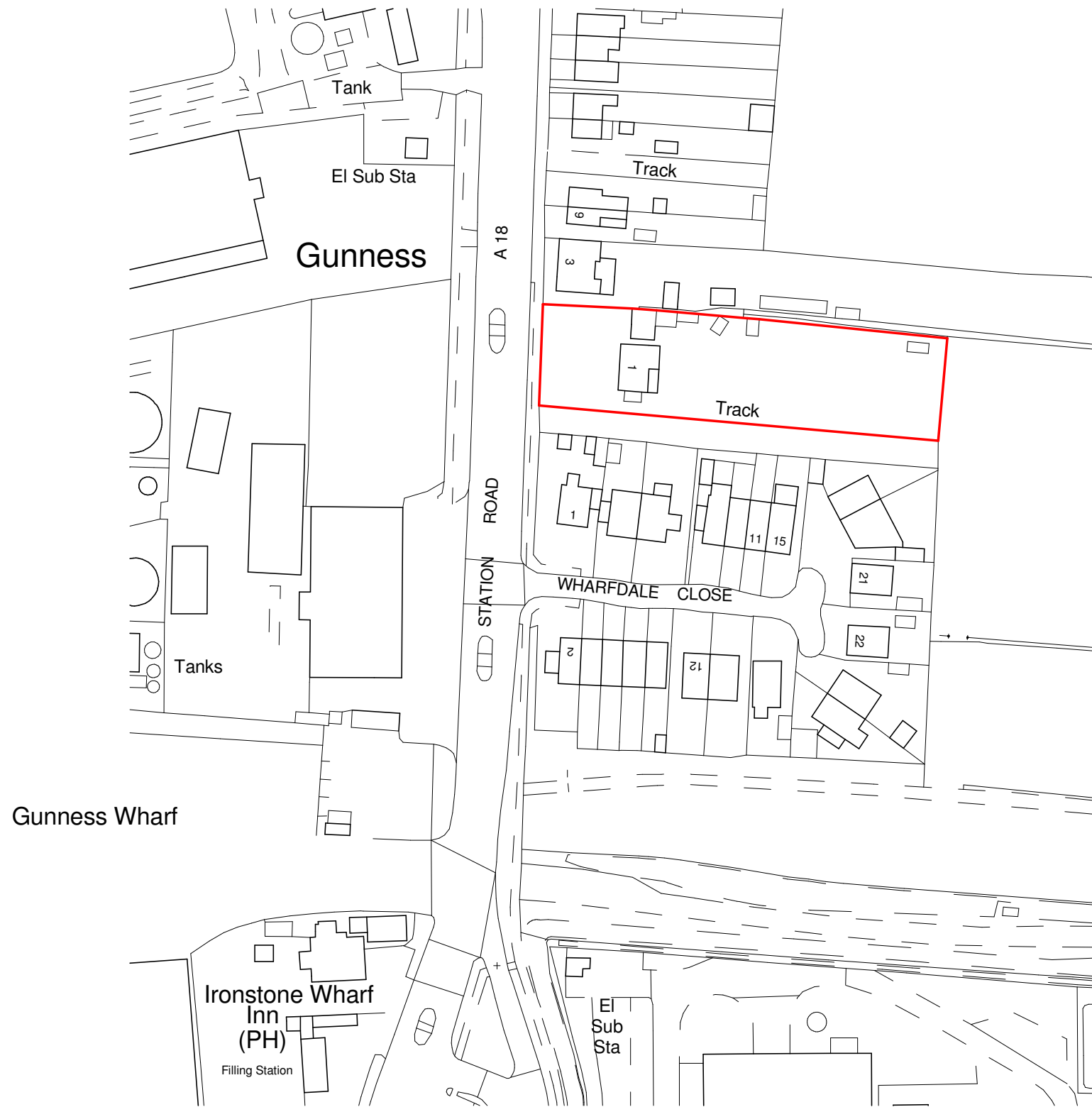


Figure 3

Aerial Photograph from June 2019

□ Site boundary (indicative)

Scale: Not to scale



Notes

Explanations:
 Unless otherwise stated -
 • All dimensions are in millimeters
 • Dimensions are shown from structure, NOT finishes

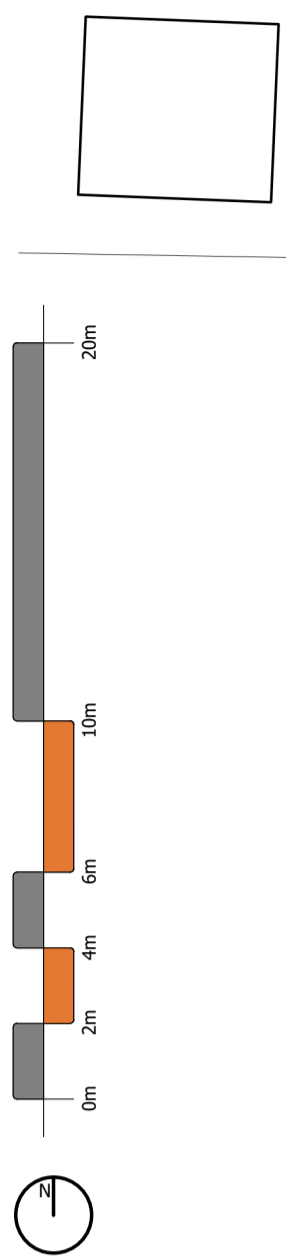
Instructions:
 Responsibility is not accepted for values obtained in scaling from this drawing.

Construction information should be taken from written dimensions only.

Inconsistencies should be reported to the Author immediately.

References:
 To be read in conjunction with:

Rev	Details	Date	Signed
Project Name			
Residential Development			
Client			
Mr J. Chapman			
Project Address			
1 Station Road Gunness, DN15 8SU			
Drawing Title			
Site Location Plan			
Drawing Stage		Purpose	
02. Concept Design		For Comment	
Project Number		Drawing Number	Revision
23_001		00-00_001	
Date	Scale	Drawn By	Checked By
13/07/2023	1 : 1250	Dan Mc	
Approved By	Size		
	A3		



STATION ROAD A18

Existing dense and overgrown vegetation to be removed to tidy the site and improve the street scene.

1200mm Grass strip to be installed to the front of Plots 1 & 2 of the shared driveway to accommodate any services. Strip to be planted with minor shrubs and wildflowers.

Existing kerb drainage/gully to be removed and install 100mm ACO Road/Drain (or similar approved). Drain to be tied back into existing drainage run and all works (path/road/pipe) to be made good upon completion.

Site entrance to shared driveway flipped to the opposite side of the site to move away from existing crossing point to improve health and safety when entering and exiting the site as well as increased visibility.

Drop kerb to be installed and existing road and path to be made good.

Lines showing a 90m visibility line in each direction for safe vehicle access and egress.

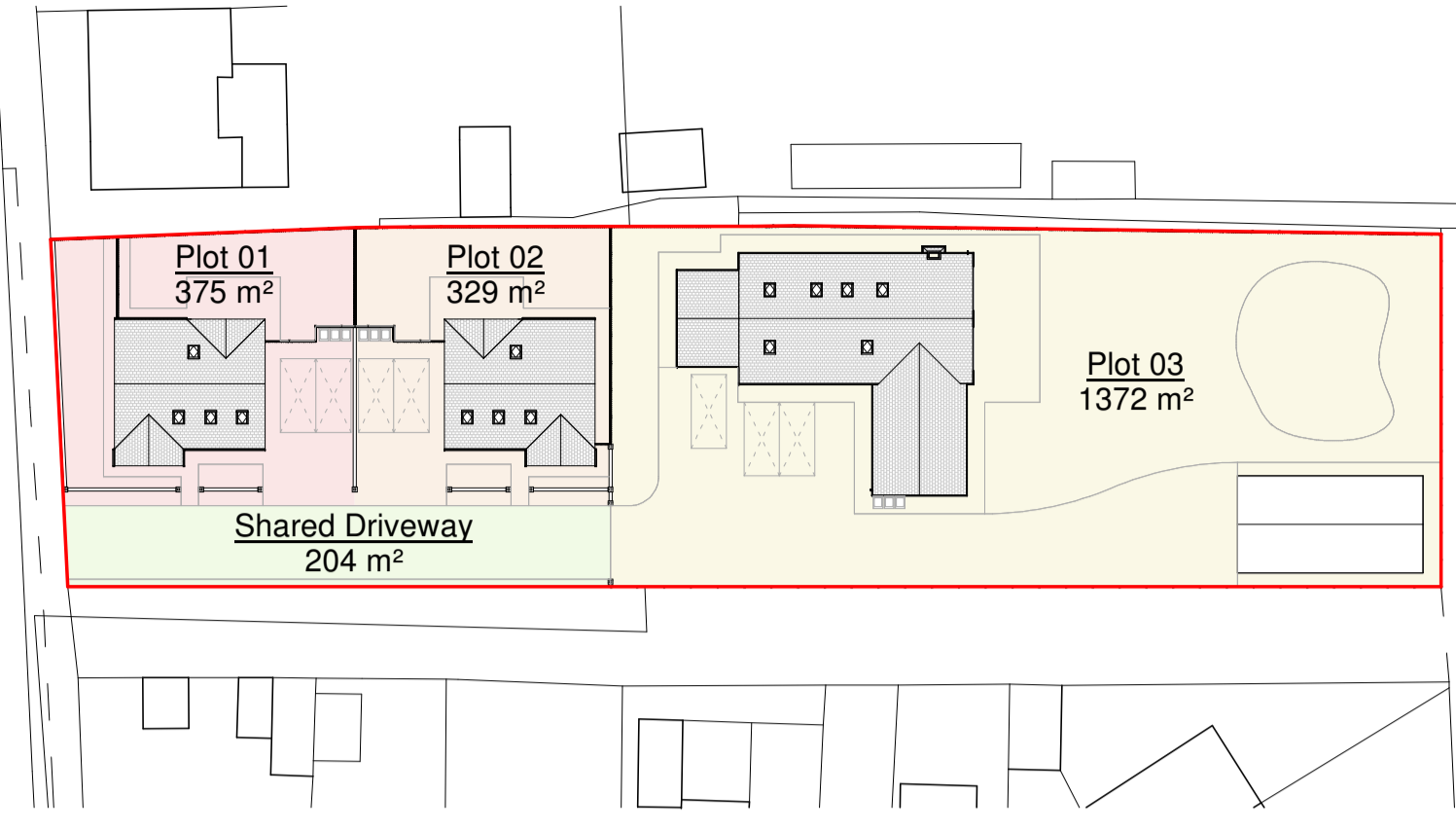
STATION ROAD A18

MH_F_2901
CL 3.85
IL 1.99

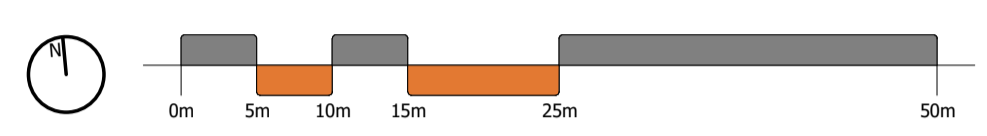


MH_F_3901
CL 2.56
IL 1.14

WHARFDALE CLOSE



Area Plan
1 : 500



Notes

Explanations:
Unless otherwise stated:
• All dimensions are in millimeters
• Dimensions are shown from structure, NOT finishes

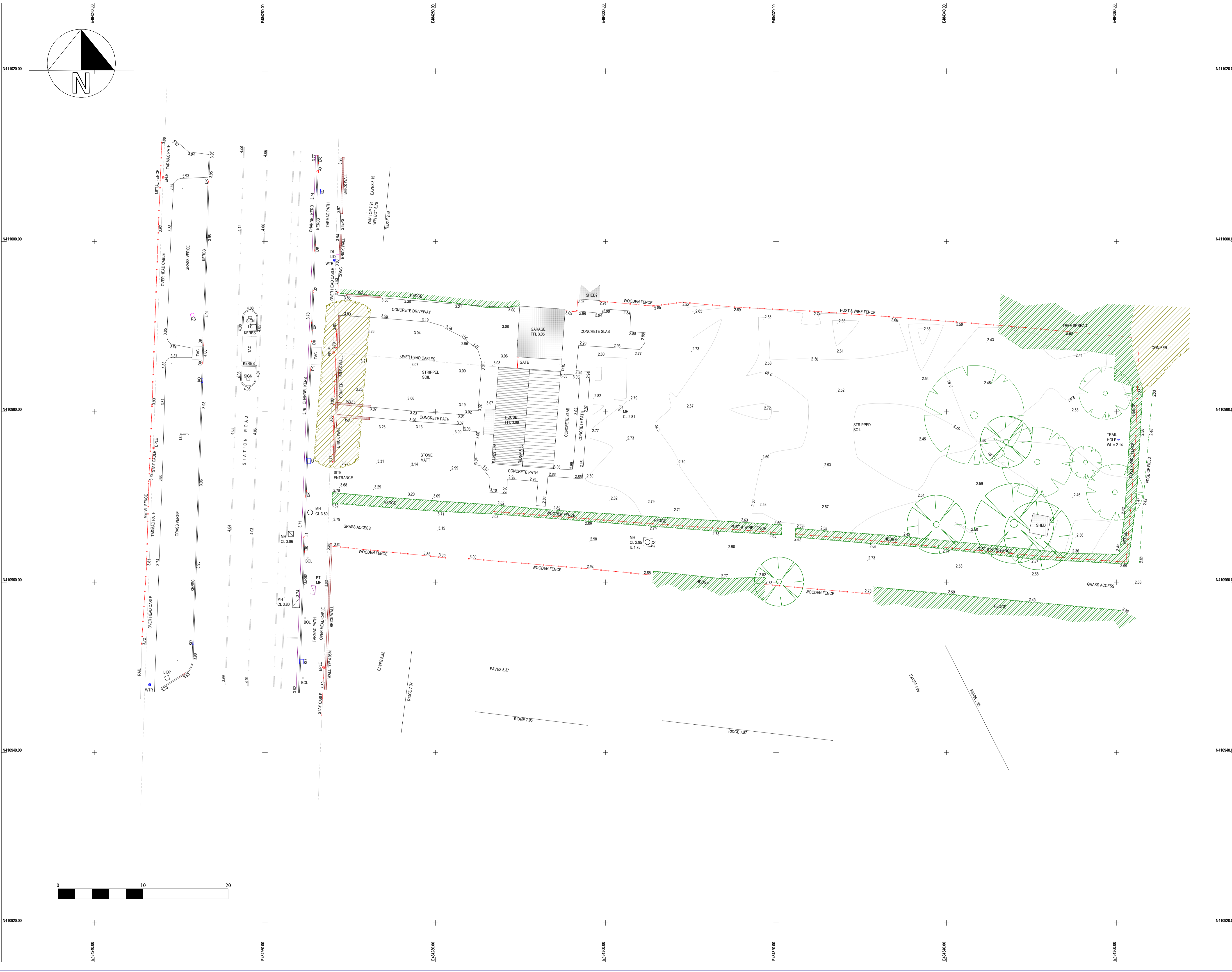
Instructions:
Responsibility is not accepted for values obtained in scaling from this drawing.
Construction information should be taken from written dimensions only.
Inconsistencies should be reported to the Author immediately.

References:
To be read in conjunction with:

MH_F_2901
CL 3.85
IL 1.99

MH_F_3901
CL 2.56
IL 1.14

Rev	Details	Date	Signed
Project Name Residential Development			
Client Mr J. Chapman			
Project Address 1 Station Road Gunness, DN15 8SU			
Drawing Title Proposed Site Plan			
Drawing Stage 02. Concept Design		Purpose For Comment	
Project Number 23_001	Drawing Number 00-00_050	Revision	
Date 13/07/2023	Scale As indicated	Drawn By Dan Mc	Checked By Approved By Size A1



NOTES

ABBREVIATIONS & SYMBOLS

AV	AIR VALVE	OHC	OVERHEAD CABLE
BH	BORER HOLE	PB	POST BOX
BOL	BOLLARD	PNV	PIPE INVERT LEVEL
CATV	CABLE TV M/H	PM	PARKING METER
CH	CHANNEL	PO	POST
CL	COVER LEVEL	PT	POST TOP LEVEL
CO	CORNER	P/R	POST & RAIL FENCE
DC	CABLE TV LID	P/W	POST & WIRE FENCE
DP	DOWN PIPE	RE	EDGE OF ROAD/NO KERB
DR	DRAIN	RL	EDGE OF ROAD/NO KERB
EL	EAVES LEVEL	RP	RISE LEVEL
EP	ELECTRIC POLE	RS	ROAD SIGN
ER	EARTH ROD	S/L	STONE LEVEL
FB	FLOWER BED	S/SF	SOFFIT LEVEL
FI	FIRE HYDRANT	SV	VALVE
FFL	FINISHED FLOOR LEVEL	SW	SURFACE WATER
FW	FLAG POLE	Tac	TACTILE PAVING
FW	FOUL WATER	TH	TRIAL HOLE
GV	GAS VALVE	TL	TRAFFIC LIGHTS
HW	HEADWALL	TL	TARIMAC PATH
IC	INSPECTION COVER	TOW	TOP OF WALL LEVEL
IL	INVERT LEVEL	TP	TELEGRAPH POLE
KB	KERB BOTTOM	TRK	TRACK
KO	KERB ORLET	UTL	UNABLE TO LIFT
KT	KERB TOP	VP	VENT PIPE
LP	LAMP POST	WL	WATER LEVEL
LC	LIGHT COLLUM	WLVL	WATER LEVEL
MH	MANHOLE	WM	WATER METER
MP	MARKER POST	WO	WASH OUT POINT

1. THE POSITION OF THIS SURVEY IS BASED ON GPS OSTN15 GRID
2. ALL LEVELS RELATE TO HGTS TAKEN USING TRIMBLE VRS NOW
3. TREES SPREADS ARE DRAWN TO SCALE AND SHOW THE GENERAL AVERAGE CANOPY SPREAD.
4. ALL BELOW GROUND LEVEL INFORMATION INCLUDING VOIDS, DRAINAGE & SERVICES HAVE BEEN IDENTIFIED FROM THE SURFACE LEVEL ONLY. THEREFORE PIPE SIZES ETC ARE ESTIMATIONS ONLY. ALL CRITICAL DIMENSIONS SHOULD BE CHECKED PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS
5. EVERY EFFORT HAS BEEN MADE TO LOCATE AND SURVEY ALL VISIBLE FEATURES. IT SHOULD BE NOTED THAT SOME ITEMS MAY HAVE BEEN OBSOURED AT THE TIME OF THE SURVEY AND THEREFORE NOT SHOWN ON THIS DRAWING.
6. PHYSICAL BOUNDARY FEATURES SHOWN ON THIS DRAWING DO NOT NECESSARILY REPRESENT THE ACTUAL LEGAL BOUNDARIES. THIS INFORMATION SHOULD BE CONFIRMED WITH THE RELEVANT DOCUMENTATION.
7. THE CONTRACTOR MUST CHECK AND VERIFY ALL SITE LEVELS, DIMENSIONS, UTILITIES AND DRAINAGE DETAILS PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS. ANY DISCREPANCIES MUST BE NOTIFIED TO CASTLE HILL SURVEYS LTD.
8. ALL SURVEY STATION CONTROL POINTS MUST BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING ANY SITE WORKS.

Point	Easting	Northing	Elevation
J1	484264.631	410965.281	3.727
J2	484265.662	410994.130	3.818
J3	484266.192	411008.247	3.889

SURVEY DATE: 02 / 01 / 2024 INITIALS: JT

REV	AMENDMENTS	DRN	DATE

Client:
Mr JOSEPH CHAPMAN

Project Title:
LAND OFF STATION ROAD
GUNNESS
SCUNTHORPE

Drawing Title:
TOPOGRAPHICAL SURVEY

Scale @ A1: 1:200 Date: 03 / 01 / 2024
Drawing No: CHS 24-01-01 Rev:
C.A.D. Title: design_innovate station road gunness/topo (chs 24-01-01).mjo
Drawn By: JT Checked By: CT

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Land Surveying & Site Setting Out Services
Commerce House, Carlton Boulevard,
Lincoln, LN2 4WJ Tel: 07710649549
E-mail: castlehillsurveys@outlook.com
Website: www.castlehillsurveys.co.uk

APPENDIX A

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

J Chapman (the Client) has requested that a Phase 1 Site Investigation (the 'Project') be performed at the site. The report (and any copies of it) have been prepared for the sole use and reliance of the Client. This report (and any copies of it) shall not be relied upon or transferred to any other parties without the express written authorisation of Peak Environmental Solutions Limited. If an unauthorised third party comes into possession of this report, (and any copies of it) they rely on it at their peril and the authors owe them no duty of care and skill. Findings and opinions conveyed in the services should only be used by competent persons acting on the behalf of the Client and the findings and opinions conveyed in the services should only be used for the intended use. Copyright of reports & documents remains with Peak Environmental Solutions Limited. The project and report are subject to Peak Environmental Solutions standard terms and conditions.

The findings and opinions conveyed via this report are based on information obtained from a variety of sources as detailed within this report, and which Peak Environmental Solutions Limited believes are reliable. Nevertheless, Peak Environmental Solutions Limited cannot and does not guarantee the authenticity or reliability of the information it has relied upon. The report represents the findings and opinions of experienced geo-environmental consultants. Peak Environmental Solutions Limited does not provide legal advice and the advice of lawyers may also be required.

The opinions presented in this report are based on a review of records, available investigation reports and historical sources. Peak Environmental Solutions Limited has found indicators that suggest that geo-environmental hazards may exist at the site and these may warrant mitigation or consideration appropriate to the end use stated by the Client. Not finding such indicators does not mean that geo-environmental hazards do not exist at the site. In addition, the Risk Assessment did not include any enquiry with respect to substances not included within the substances of concern.

The Client is advised that the geo-environmental conditions stated within reports supplied to Peak Environmental Solutions Limited are subject to change. Certain indicators of the presence of geo-environmental hazards may have been latent at the time of the most recent site reconnaissance and may subsequently have become observable. It is possible that Peak Environmental Solutions research, while fully appropriate for the Project, failed to indicate the existence of important information sources. Assuming such sources actually exist, their information could not have been considered in the formulation of Peak Environmental Solutions findings and opinions.

Certain indicators or evidence of geo-environmental hazards may have been outside the very limited portion of the subsurface investigated or monitored, latent at the time of this work or only partially intercepted by the works and thus their full significance could not have been appreciated. Groundwater levels are particularly susceptible to variations due to seasonal or other effects. Accordingly, it is possible that Peak Environmental Solutions work, whilst fully appropriate for the Project failed to indicate the presence or significance of geo-environmental hazards. Assuming the presence of a hazard, it could not have been considered in the formulation of Peak Environmental Solutions findings and opinions. The subsurface geological profiles and other descriptions are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

Any geotechnical comments given in this report and the opinions expressed are based on the ground conditions from literature sources and/or encountered during site works and on the results of geotechnical and analytical tests made in the field and laboratory. However, there may be special geotechnical conditions prevailing at the site which have not been disclosed by the literature sources and/or investigations and which have not been taken into account in the report. Accordingly, a careful watch should be maintained in any future groundworks and any geotechnical comments, findings and recommendations of this report be reviewed, as necessary, as work proceeds.

Any interpretation of the results of the Project have been based on the proposed site usage and the findings are not valid should the proposed land use and/or the regulatory regime/guidance change. Where interpretation is based on public domain guidance/protocols/models/software/code, Peak Environmental Solutions is not liable for errors in the guidance/protocols/models/software/code.

Peak Environmental Solutions Limited believes that providing information about limitations is essential to help the Client identify and thereby manage their risks. These risks can be mitigated, but they cannot be eliminated, through additional research. Peak Environmental Solutions Limited will on request, advise the client of the additional research opportunities available, their impact on risk, and their cost.

In preparing this report, it has been assumed that all past and present occupants have provided all relevant and other information, especially relating to known or potential geo-environmental hazards. This report is not required to identify insufficiencies or mistakes in the information provided by the user/owner or from any other source, but has sought to compensate for these where obvious in the light of other information.

Authorised or unauthorised copies of this document may come into the possession of organisations via the Planning Portal or via other means, such as the Freedom of Information Act. Organisations are requested by Peak Environmental Solutions to these Limitations and Exceptions and our standard terms & conditions, especially with respect to confidentiality, report use and copyright.

APPENDIX B
SITE PHOTOGRAPHS



Photo 1: Looking east across Station Road at the site frontage and adjacent field access



Photo 2: Looking north-east from the site entrance in the south-west corner at the existing bungalow



**PEAK ENVIRONMENTAL
SOLUTIONS**

Site: 1 Station Road, Gunness, Scunthorpe, North Lincolnshire, DN15 8SU

Project: 42332R1

Beechfield, Ninelands Road, Hathersage
Derbyshire, S32 1BJ
Tel: 01433 659071
www.peakenvironmentalsolutions.com



Photo 3: Looking south-east from the north-west corner of the site at the front garden area and existing bungalow



Photo 4: Looking south-west from the front of the bungalow at the front garden, Station Road and Gunness Wharf beyond



Photo 5: Looking south-east from the bungalow



Photo 6: Looking south-west from the centre of the northern boundary



Photo 7: Looking north-west from the centre of the southern boundary



Photo 8: Looking west from the north-east corner of the site



Photo 9: Looking west from the south-east of the site



Photo 10: Looking north from the Keadby Bridge towards the River Trent, Guinness Wharf and the site location - indicated by the red arrow

APPENDIX C

ENVIRONMENTAL SEARCH RESULTS

APPENDIX D

HISTORIC ORDNANCE SURVEY MAPS

APPENDIX E

RISK CLASSIFICATION MATRIX

RISK CLASSIFICATION MATRIX

The relative assessment of risk is based on the following:

- The likelihood (probability) of an event occurring, taking into account the presence of the hazard & receptor, as well the plausibility of the pathway. The likelihood is defined as the chance of a particular event occurring in a given period of time.
- The severity of the potential consequence, taking into account the relative significance the hazard (typically site specific) and the relative sensitivity of the receptor. Severity or consequence can be defined as adverse effect(s) or harm arising from a hazard that impairs receptor function/condition in the short term (acute) or longer term (chronic).
- Risk classification (very low to very high) using a risk matrix that combines 'consequence' and 'likelihood'; the risk matrix is detailed below.
- For the purposes of the qualitative assessment, identified 'very low' risks will be considered to be of 'no-concern' and acceptable for the redeveloped use.

Table - Qualitative Risk Classification Matrix

Probability (likelihood)	Consequence			
	Minor	Mild	Medium	Severe
High likelihood	Low risk	Moderate risk	High risk	Very High Risk
Likely	Low risk	Low to moderate risk	Moderate risk	High risk
Low likelihood	Very low risk	Low risk	Low to moderate risk	Moderate risk
Unlikely	Very low risk	Very low risk	Low risk	Low to moderate risk
No Linkage	No potential risk			
Consequence	Minor	Mild	Medium	Severe
Ratings	- No measurable effect on humans - Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems - Repairable effects of damage to buildings, structures and services	- Exposure to human health unlikely to lead to "significant harm" - Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce - Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long term maintenance of the population - Minor damage to crops, buildings or property	- Elevated concentrations which could result in "significant harm" to humans health as defined by EPA 1990, Part 2A if exposure occurs - Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce - Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long term maintenance of the population - Significant damage to crops, buildings or property	- Highly elevated concentrations likely to result in "significant harm" to humans health as defined by EPA 1990, Part 2A if exposure occurs - Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce - Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long term maintenance of the population - Catastrophic damage to crops, buildings or property
Probability	Unlikely	Low likelihood	Likely	High likelihood
Classification	Improbable that exposure/event would occur even in the long term	Possible that exposure/event could occur. However, not certain that even over a long period that exposure/event would occur and is less likely in the shorter term	Probable that exposure/event would occur. However, exposure/event is not inevitable, but is possible in the short term and likely over the long term.	Exposure/event very likely in the short term and almost inevitable over the long term, or evidence at the receptor of harm or pollution