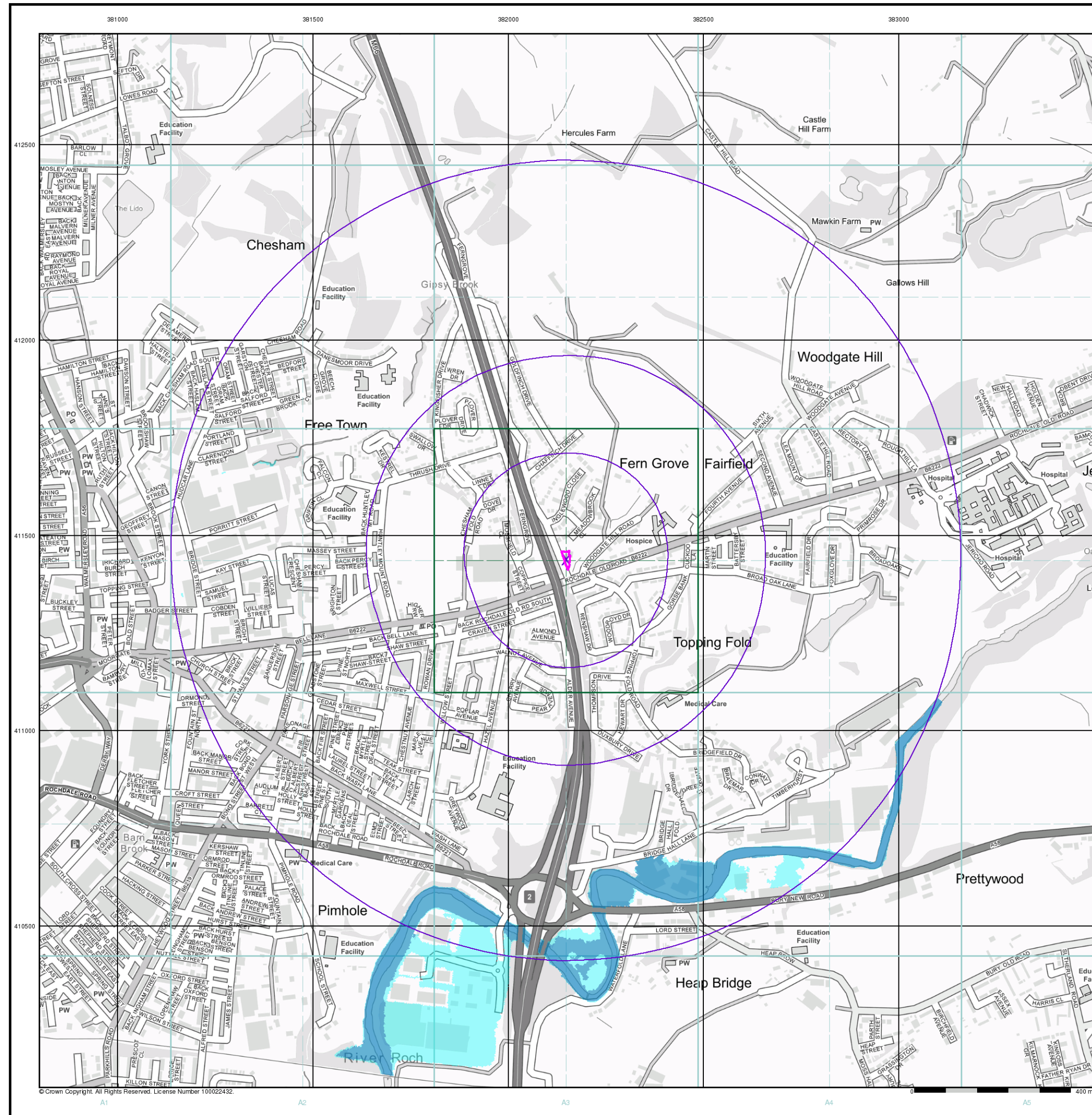




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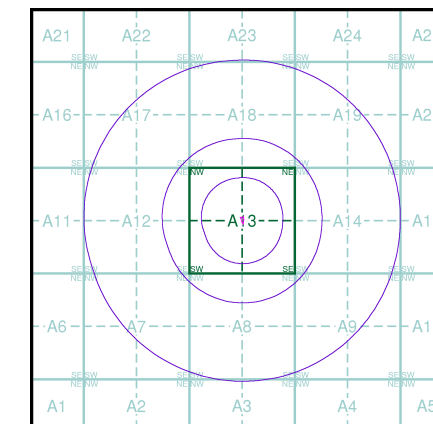
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

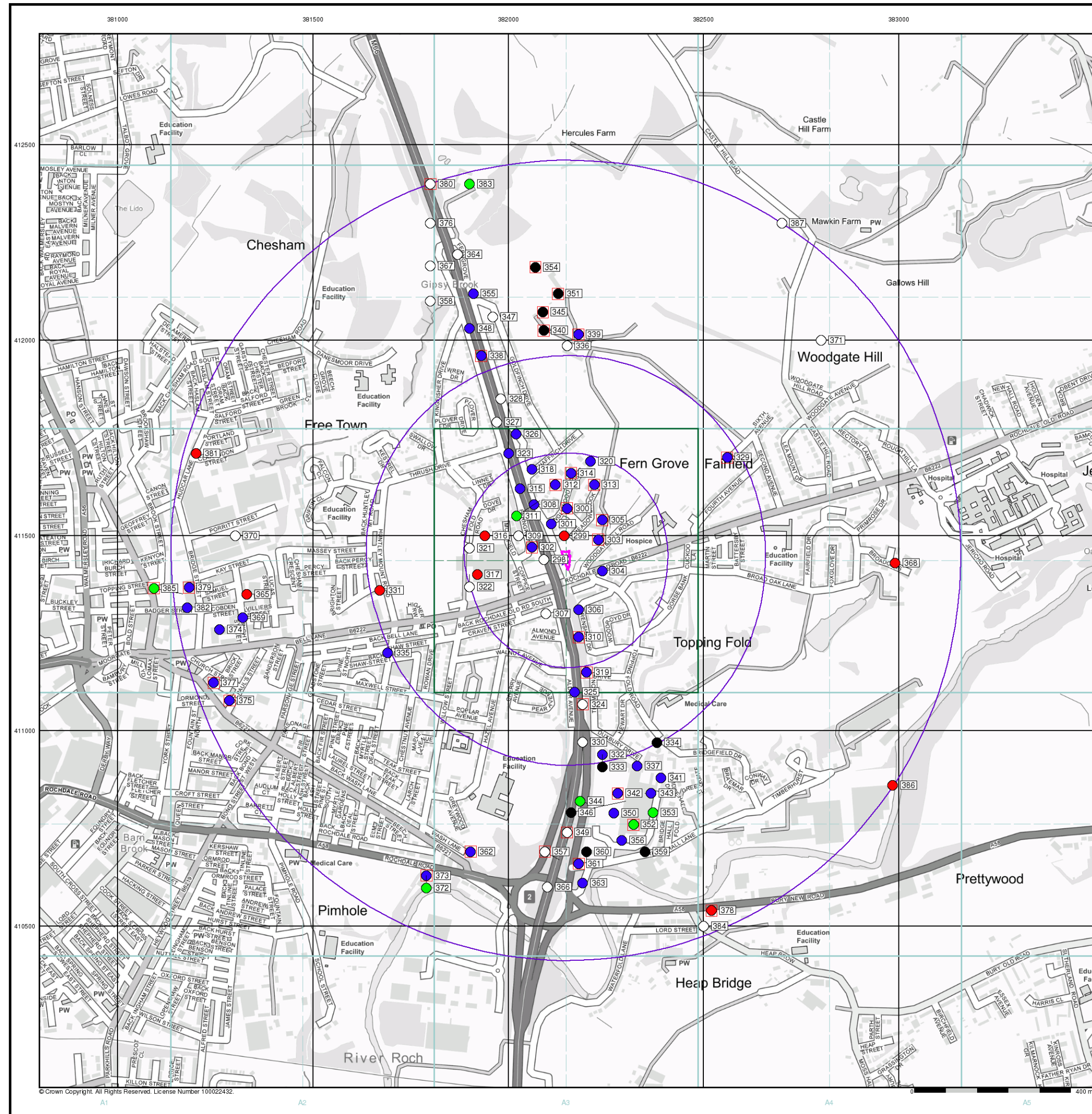
Order Number: 328158794_1_1
Customer Ref: LKC 23 1742
National Grid Reference: 382150, 411440
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Ferngrove House, Bury, BL9 7LS



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

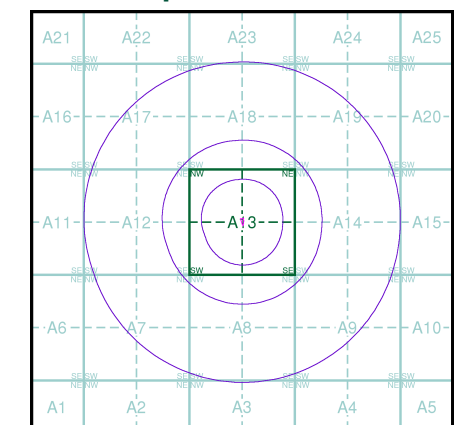
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

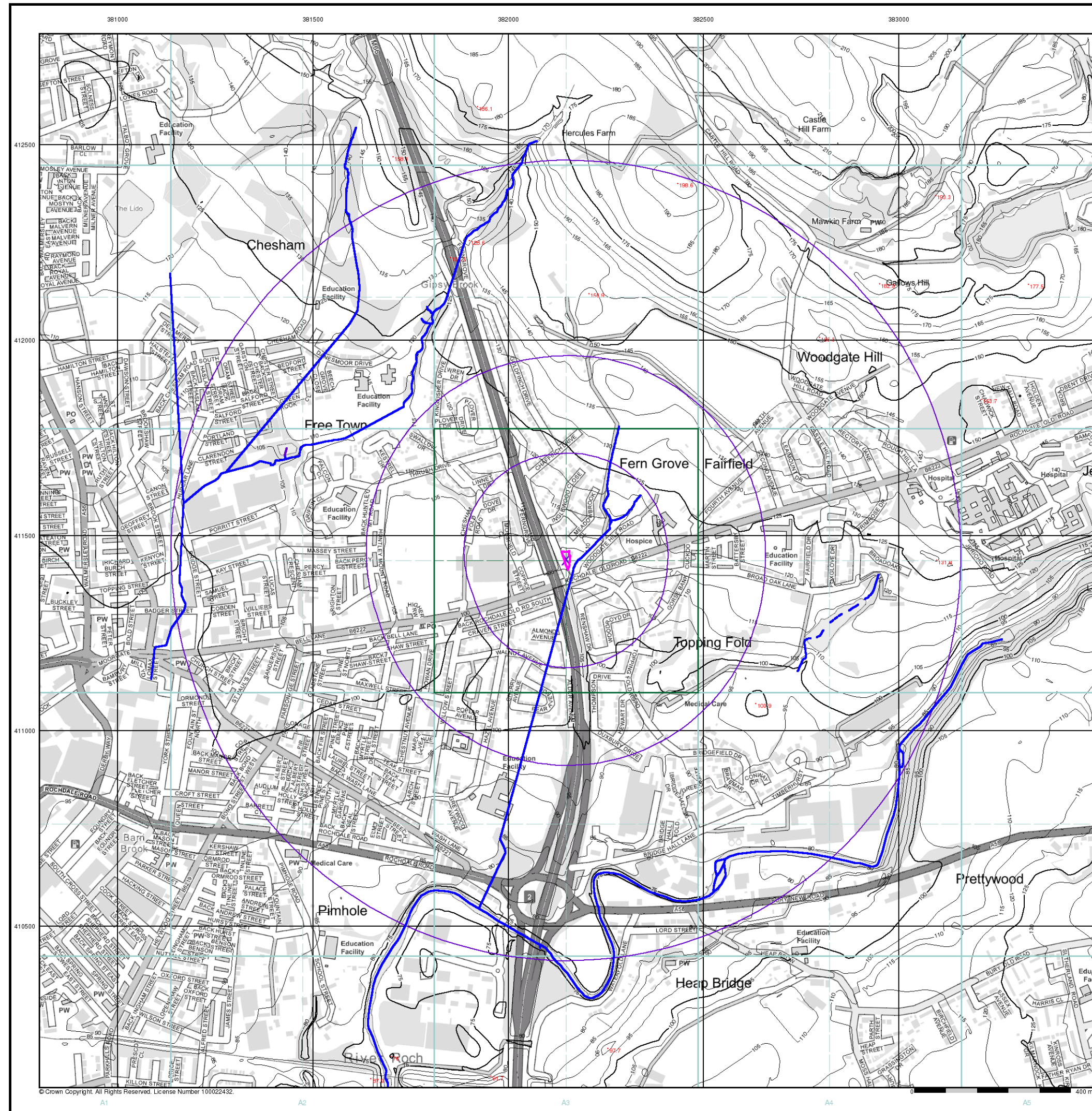
Order Number: 328158794_1_1
Customer Ref: LKC 23 1742
National Grid Reference: 382150, 411440
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Ferngrove House, Bury, BL9 7LS



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

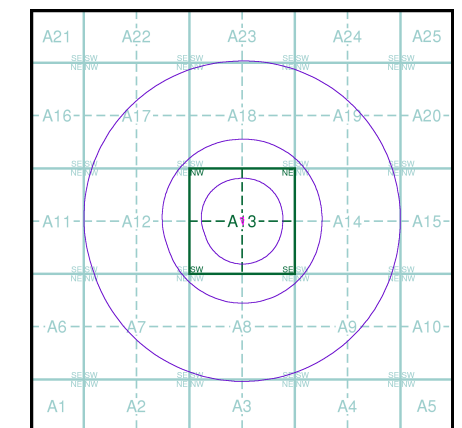
OS Water Network Data

- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

Contours (height in meters)

- | | | | |
|------------------|-------|-----|-----------------|
| Standard Contour | 105 | MLW | Mean Low Water |
| Master Contour | 100 | MHW | Mean High Water |
| Spot Height | 167.3 | | |

OS Water Network Map - Slice A



Order Details

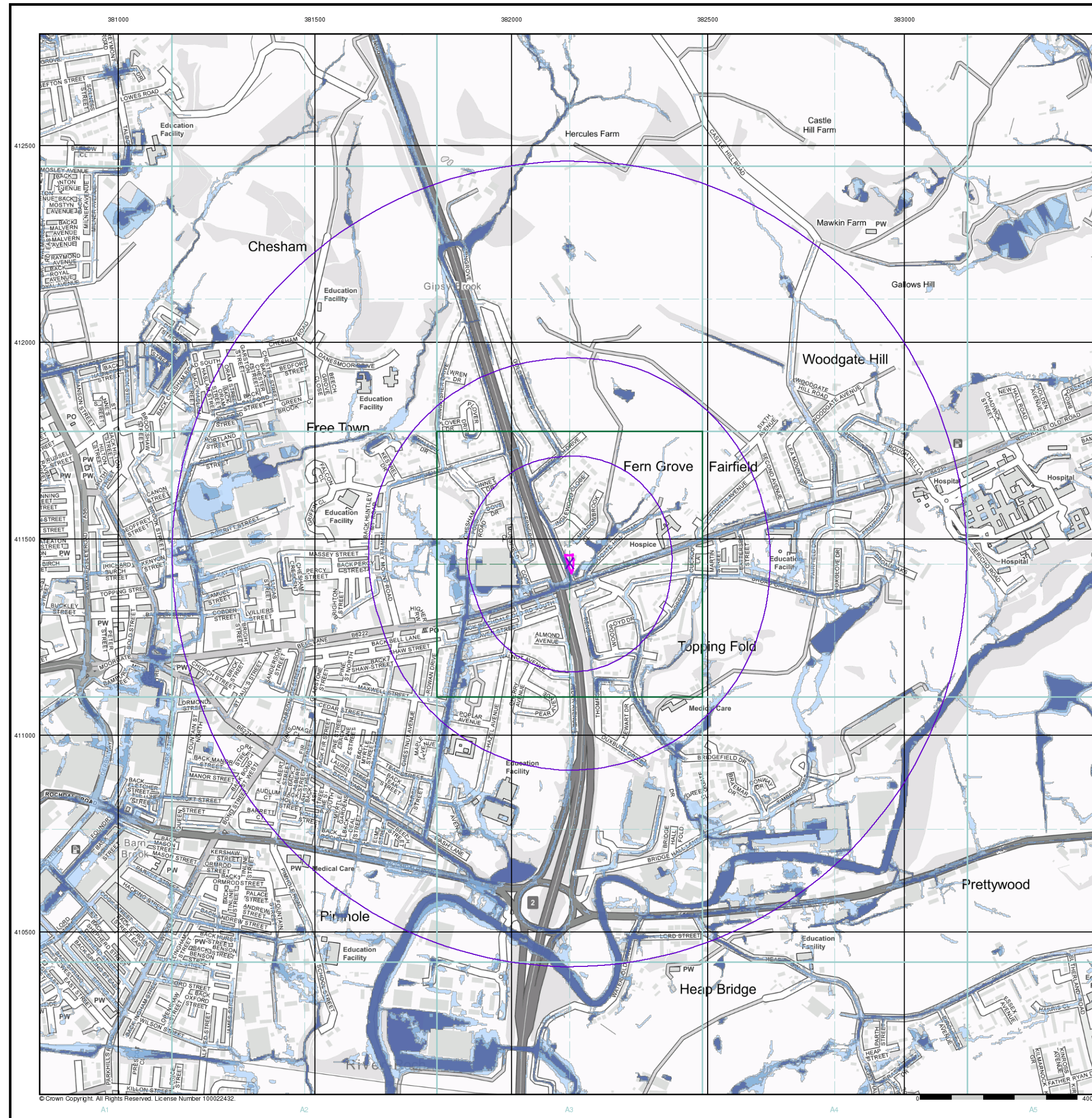
Order Number: 328158794_1_1
Customer Ref: LKC 23 1742
National Grid Reference: 382150, 411440
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Ferngrove House, Bury, BL9 7LS



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Web: www.envirocheck.co.uk



General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

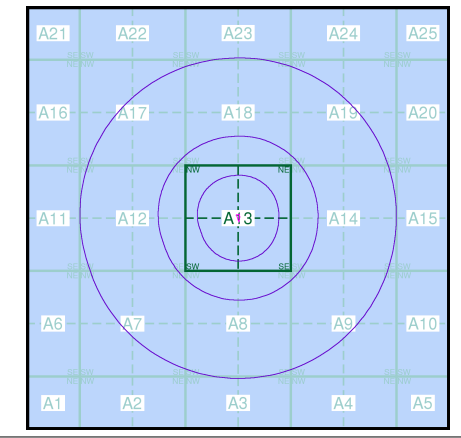
Risk of Flooding from Surface Water

- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

- See the suitability map below
- National to county
 - County to town
 - Town to street
 - Street to parcels of land
 - Property

E/NRW Suitability Map - Slice A



Order Details

Order Number: 328158794_1_1
Customer Ref: LKC 23 1742
National Grid Reference: 382150, 411440
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Ferngrove House, Bury, BL9 7LS



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Appendix C – Historical BGS Boreholes

Rust Environmental				Project Fern Grove, Bury		Trial Pit 105 Sheet (1 of 2)	
Bearing: South SD81SW		Trial Pit Plan A B C C		Client Morris Homes Limited		Project No. EGMCH001	
Ground Level: 267				Shoring: None		Date: 30.07.97	
Co-ordinates: 8215 1153				Stability: Collapse 1.10m to 2.60m on completion		Plant: JCB 3CX	
						Water: None encountered	

Depth	Face A:	Face B:	Face C:	Depth
0.00		1		0.00
0.40		2		0.40
1.10		3		1.10
1.70		4		1.70
2.60		5		2.60
3.70		6		3.70

Sampling			Strata		
Sample Depth	Type	Strength (kN/m²)	Ref. No.	Strata Depth	Description
			1	0.00-0.40	Loose dark grey sandy silt with rootlets (TOPSOIL)
0.70	Hv*	34,36 34,38	2	0.40-1.10	Firm orange brown mottled grey very silty sandy CLAY (ALLUVIUM)
0.80	J				
1.50	J		3	1.10-1.70	Loose to dense grey very silty fine to medium some coarse SAND with little fine gravel (ALLUVIUM)
2.00	J		4	1.70-2.60	Loose to dense grey and dark grey laminated clayey SILT (ALLUVIUM)
3.00	Hv*	42,44 38,38	5	2.60-3.70	Firm grey and dark grey laminated very silty clay (GLACIAL TILL)
3.00	J				

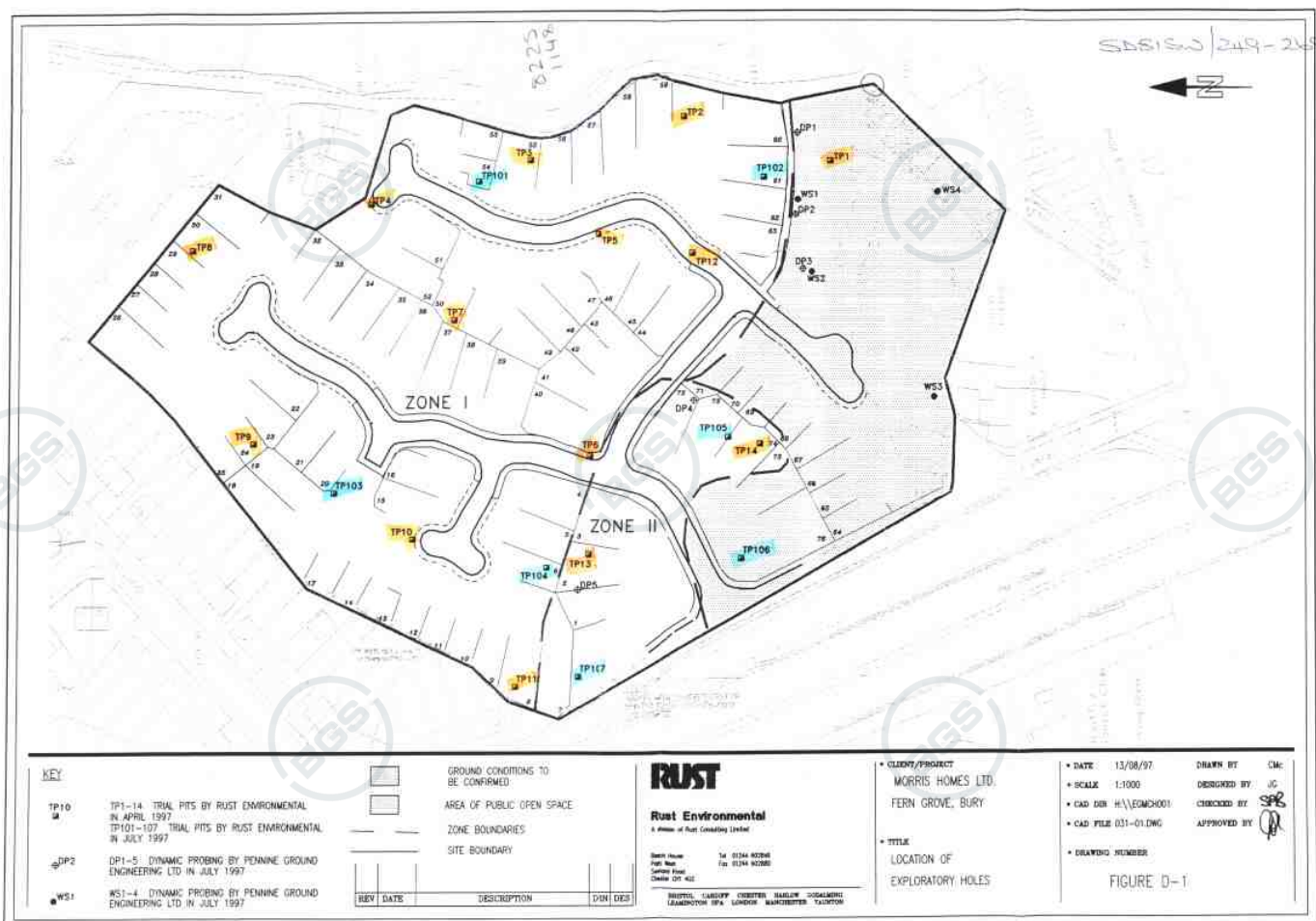
Remarks :

Symbols and abbreviations are explained on the accompanying key. All linear dimensions are in metres unless otherwise stated.

Ref: R7PL005.1

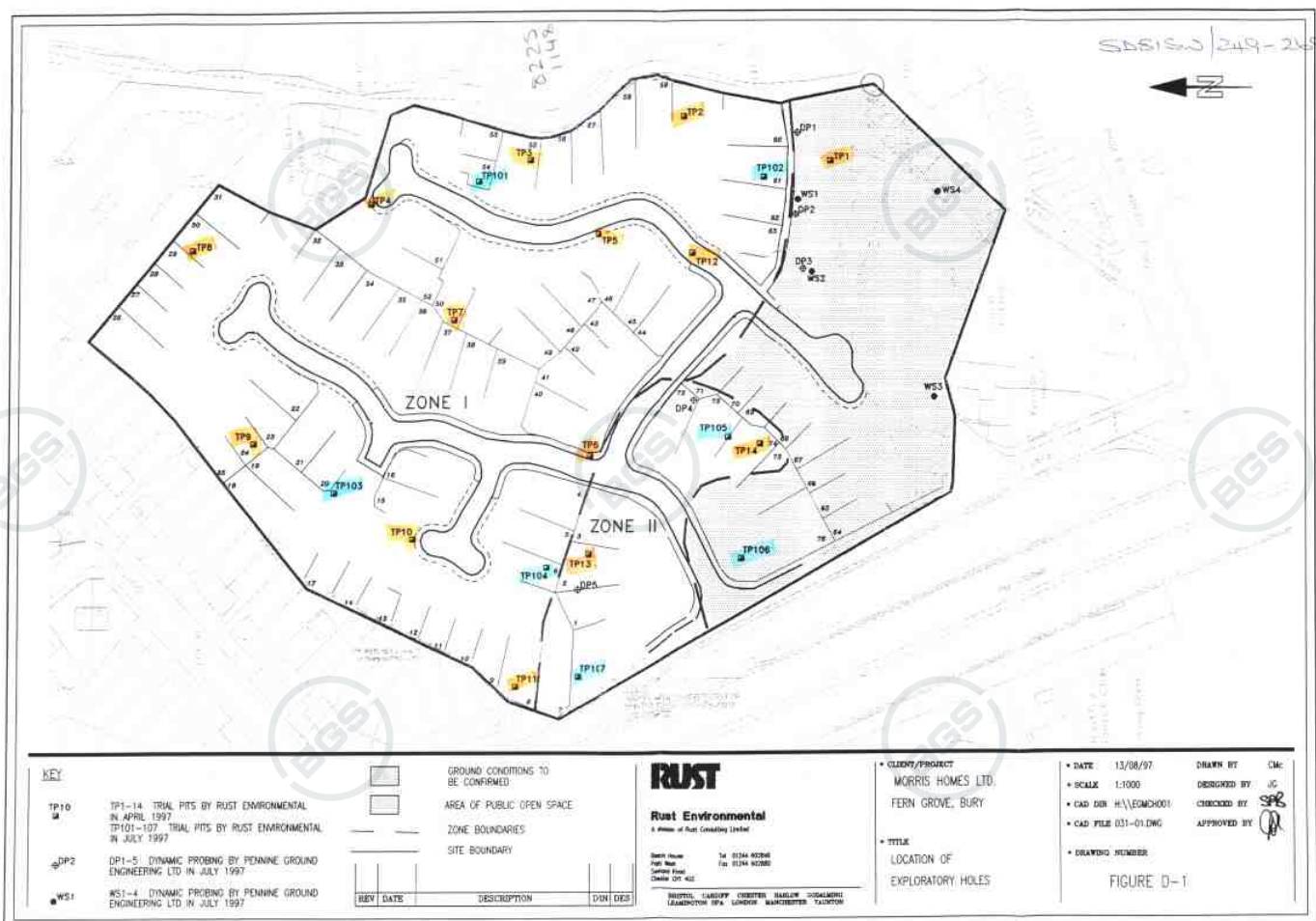


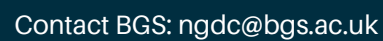
Rust Environmental			Project		Trial Pit	
			Fern Grove, Bury		105 Sheet (2 of 2)	
Bearing: South SD81SW		Trial Pit Plan B A ↑ C	Client		Morris Homes Limited	
Ground Level: 267			Shoring: None		Date: 30.07.97	
Co-ordinates: 282210 411530			Stability: Collapse 1.10m to 2.60m on completion		Plant: JCB 3CX	
			Water: None encountered		Logged by: SPB Checked by: [Signature]	
Depth	Face A:	Face B:	Face C:	Depth		
4.40		6 Base of Trial Pit		4.40		
Sampling			Strata			
Sample Depth	Type	Strength (kN/m ²)	Ref. No.	Strata Depth	Description	
			6	3.70- 4.40	Very stiff grey brown silty CLAY with some fine to coarse subrounded gravel, occasional cobbles (GLACIAL TILL)	
Remarks						





Rust Environmental			Project		Trial Pit	
Bearing: East SD81SW			Fern Grive, Bury		106 Sheet (1 of 1)	
Ground Level: 268			Client		Morris Homes Limited	
Co-ordinates: 8211 1153			Shoring: None		Date: 30.07.97	
			Stability: Good during excavation		Plant: JCB 3CX	
			Water: None encountered		Logged by: SPB Checked by:	
Trial Pit Plan						
B ↑ A C						
Depth	Face A:	Face B:	Face C:	Depth		
0.00		1		0.00		
0.30		2		0.30		
0.60		3		0.60		
1.10		4		1.10		
1.40		5		1.40		
2.10		Base of Trial Pit		2.10		
Sampling			Strata			
Sample Depth	Type	Strength (kN/m ²)	Ref. No.	Strata Depth	Description	
0.40	J		1	0.00-0.30	Loose dark brown clayey sandy silt with rootlets and some roots (TOPSOIL)	
0.80	J		2	0.30-0.60	Stiff desiccated orange brown very silty sandy CLAY (SUBSOIL)	
1.20	J		3	0.60-1.10	Stiff orange brown mottled light grey very silty CLAY with some fine to medium subangular gravel (PROBABLE GLACIAL TILL)	
2.00	J		4	1.10-1.40	Loose to dense orange brown very silty fine to medium some coarse SAND (PROBABLE GLACIAL TILL)	
			5	1.40-2.10	Very stiff fissured dark grey brown silty CLAY with some fine to coarse subrounded gravel (GLACIAL TILL)	
Remarks						







RECORD OF WELL (SHAFT OR BORE)

At Mossfield Mills SW

Town or Village Blun

County LANCS Six-inch quarter sheet BB NW

For Mr. J.H. Thomas & Sons, Ltd.

Exact site of well

Attach a tracing from
a map, or a sketch-
map, if possible.

Level of ground surface above sea-level (O.D.) feet.

Is well-top at ground level? If not, state how far above feet.
below feet.

Shaft ft., diameter ft. Details of headings

Bore ft.; diameter of bore: at top ins.; at bottom ins.

Lengths, diameters, perforations, etc., of lining tubes 6" to 18" h.s.; 7" to 42" h.s. with casing,
4" to 70" h.s.

Water struck at depths, below well-top, of (feet)

TEST DETAILS { Rest-level of water ft. above well-top. Section at ft. Yield on hours' days'
Month pumping gallons per (max. capacity of pump g.p.h.),
Year with depression of feet. Recovery to in mins. hours.

WORKING CONDITIONS { Rest-level of water in (month), (year), ft. above well-top.
Highest " in (month), (year), ft. above below "
Lowest " in (month), (year), ft. above below "
Section at ft. Rate of pumping galls. per for hours per day,
with average depression of ft. Recovery to in mins. hours.

Quality of water (attach copy of analysis if available)

Well made by J.T. Hyman Date of well

Information from J.T. Hyman

ADDITIONAL NOTES.

LOG OF STRATA OVERLAP.

GEOLOGICAL SURVEY AND MONITORING,
SCOTT KEMMINGTON,
LEWIS, S.W.2.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map. on 6" Map.	



(For Surveyors only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far... ..	THICKNESS		DEPTH		The	O/L
		Feet	Inches	Feet	Inches		
		...	...	...	...		
	Quick sand	18	-				
	Sand	22	-	40	-		12.19
	Soft shale	3	-	43	-		12.80
	Hard shale, water-bearing	22	-	64	-		12.50
	Soft shale	6	-	70	-		21.33
	Hard "	25	8	95	8		30.02
	Subsequently deepened to 100' about 100 galls thrown. finished by 3/4/64						

SD815W/6 SD 8218 1152 SD8115

RECORD OF WELL (SHAFT OR BORE)

At Bury Quilting Co., Fern Grove Mills,

Town or Village Bury County Lancs. Six-inch quarter sheet 88 N7.2

Exact site _____ (A rough sketch-map or a tracing from a map is very desirable)

_____ in parish of _____

Level of ground surface above sea-level (Q.D.) 370 ft. If well starts below ground surface, state how far _____ ft.

Shaft _____ ft., diameter _____ ft. Bore _____ ft. Diameter of bore: at top _____ ins.; at bottom _____ ins.

Details of permanent lining tubes (internal diameters preferred) _____

Water struck at depths of (feet) _____

Rest-level of water _____ below top of well _____ feet. Suction at _____ feet. Yield on _____ hours' test _____ gallons per _____ (with pump of capacity _____ g.p.h.); depressing water level to _____ feet below top. Time of recovery _____ hrs. Amount normally pumped daily _____ g.p.h. for _____ hours.

Quality (attach copy of analysis if available) _____

Sunk by Messrs. Wm. Matthews or Mr. _____ Date of well _____

Information from Messrs. Wm. Matthews, Boston.

[illegible]

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON.
LONDON, S.W.7.

For Survey use only

Date received

G.B.M. Office
File No.

Site marked
on 1" map
(use symbol)

(*11815) Wt.29061/O.369 10,000 9/59
A.& E.W.Ltd. Gp.6H4



(051) Wt. 5923 - S.33 8000 6/23 Gp. 147 M.R.Co.Ltd.

SECTION OF Boring

at Bury, Quilting Co. / Bury

Fern Grove Mills

Maps: One-inch 85

Six-inch 88 N.W. 8

County Lancashire

Height above O.D. 370 (below 375 contour)

Latitude

Longitude

Communicated by Wm Matheson R

Date of sinking

Made by Morton

Dip of Strata

59 / 45 / 80 N.W. 5

Well.

Gravel

Grey rock

Grey sandstone.

Blue shale.

Shale and grey sandstone

Thickness.

Depth from Surface.

8 .

8 -

4 .

12 -

7 6

19 6

69 .

88 6

21 6

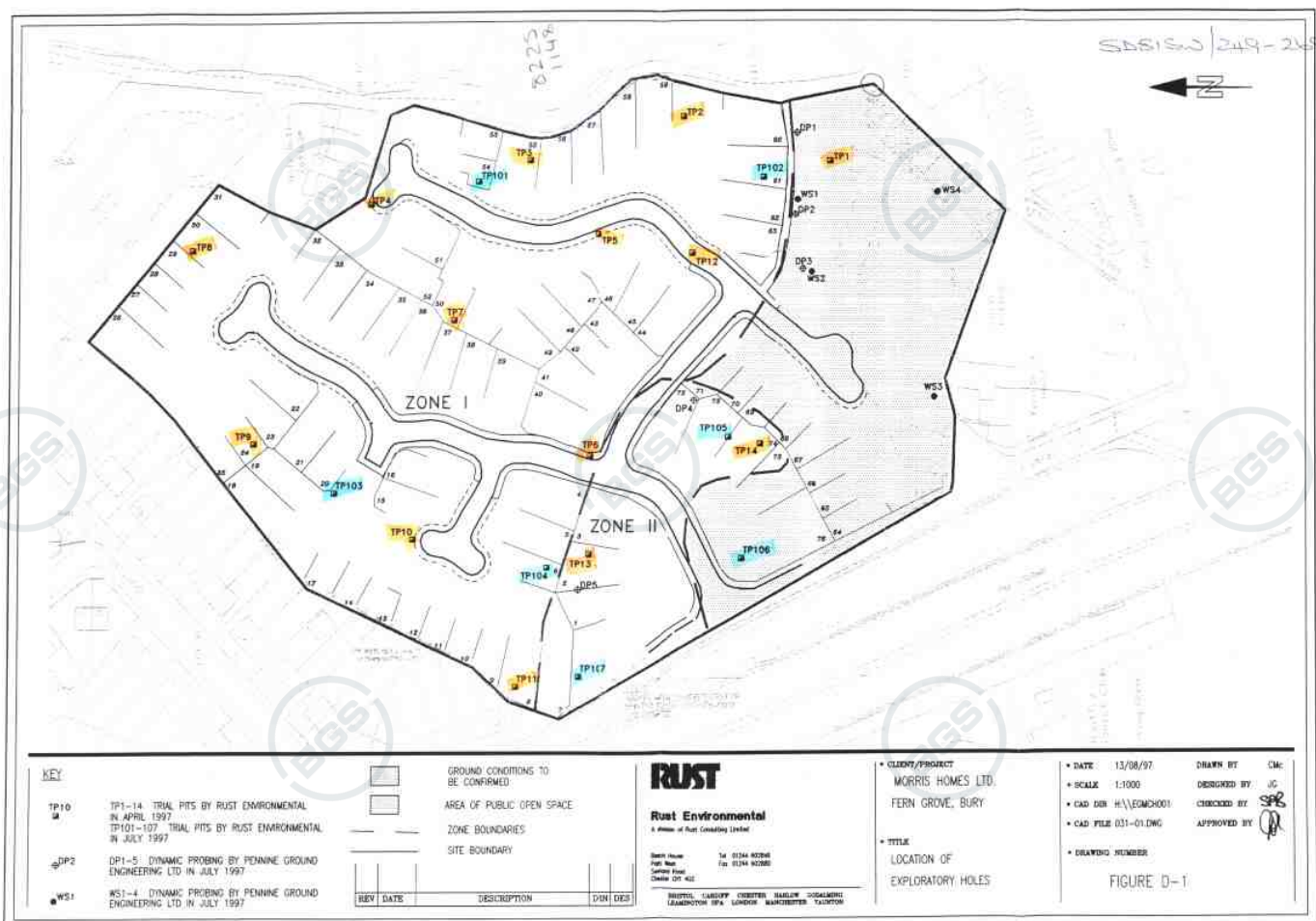
110 -

20 .

130 -



Rust Environmental			Project Fern Grove, Bury		Trial Pit Sheet 14	
Bearing: SD81SW		Trial Pit Plan 	Client Morris Homes Ltd		Project No. EGMCH001	
Ground Level: See Remarks 262			Shoring:		Date: 30/4/97	
Co-ordinates: 8215 1152			Stability: Some spalling during excavation		Plant: JCB 3CX	
			Water: Strata wet below 2.0 m		Logged by: DEB Checked by: AB	
Depth	Face A:	Face B:	Face C:	Depth		
0.00		1		0.00		
0.15		2		0.15		
0.40		3		0.40		
0.55		4		0.55		
1.20		5		1.20		
1.40		6		1.40		
2.00		7		2.00		
2.50		8		2.50		
3.00				3.00		
Sampling			Strata			
Sample Depth	Type	Strength (kN/m²)	Ref. No.	Strata Depth	Description	
			1	0.00	Dark brown TOPSOIL	
			2	0.15	Firm brown clayey SUBSOIL	
			3	0.40	Firm/medium dense light brown very sandy CLAY intermixed with very clayey SAND	
0.70	Bag		4	0.55	Firm friable brown mottled orange brown and grey very sandy CLAY with occasional gravel	
			5	1.20	Medium dense brown silty fine to medium SAND	
1.40	Bag		6	1.40	Soft and firm friable grey brown mottled brown very silty very sandy CLAY with occasional roots and layers and pockets of clayey sand.	
2.10	Bag		7	2.0	Firm friable grey very sandy very clayey SILT with occasional roots, in places becoming very silty very sandy CLAY. Some bands of grey brown sand. Wet on surfaces.	
			8	2.5	Firm grey silty CLAY with occasional roots	
				3.0	Base of pit.	
Remarks						
Ground Levels: 114 m AOD (To nearest 0.5 m)						
Symbols and abbreviations are explained on the accompanying key. All linear dimensions are in metres unless otherwise stated.						



Appendix D – Zetica UXO Unexploded Bomb Risk Map

UNEXPLODED BOMB RISK MAP



SITE LOCATION

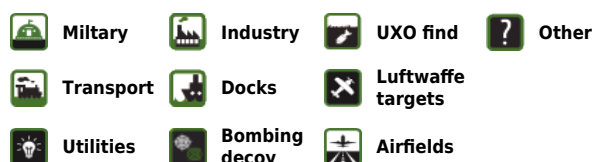
Location: BL9 7LS,
Map Centre: 382152,411448



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.



How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to uxo@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Appendix E – Risk Evaluation

RISK EVALUATION

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552⁹. It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude of the probability (likelihood) of the risk occurring (Table B).

Consequence (Severity)		
Classification	Definition	Example
Severe	Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution (note: water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/properties. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High Concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled waters. Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). Pollution of sensitive water resources (note Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceed generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary). Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures, and services ('significant harm' as defined in DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable damage to buildings, structures, and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table A. Classification of Consequence

Probability (Likelihood)	
Classification	Definition
High Likelihood	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollutant linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur in the very long term.

Table B. Classification of Probability.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

Table C. Comparison of Consequence against Probability

Once the risk has been determined the corresponding action can be assessed (Table D).

Risk	Action Required
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table D. Description of the Classification and Likely Action Required.

Where a very low risk is identified no specific remediation is required.

Where a low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where there is a moderate/low risk is identified, an assessment will be undertaken to establish what category the pollutant linkage will fall into.

Where LKC identifies a moderate or higher risk, remediation or further investigation work is recommended.

Appendix F - References

¹ Environment Agency, October 2020, "Land contamination risk management (LCRM). How to assess and manage the risks from land contamination".

² Ministry of Housing, Communities and Local Government, July 2021, "National Planning Policy Framework".

³ Environment Agency, October 2020, "Land contamination risk management (LCRM). How to assess and manage the risks from land contamination".

⁴ DEFRA & Environment Agency, March 2002, "Potential Contaminants for the Assessment of Land", R&D Publication CLR 8.

⁵ CL:AIRE, October 2021, "Good Practice for Risk Assessment for Coal Mine Gas Emissions".

⁶ Environment Agency, January 2009, "Updated technical background to the CLEA model", Science Report SC050021/SR3.

⁷ CIRIA, January 2001, "Contaminated land risk assessment. A guide to good practice", C552.

⁸ Health & Safety Executive, 1991, "Protection of Workers and the General Public during the Development of Contaminated Land", HSG66.

⁹ CIRIA, January 2001, "Contaminated land risk assessment. A guide to good practice", C552.

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- » Geotechnical
- » Contaminated Land
- » SuDS & Flood Risk
- » Project Management
- » Land Remediation
- » Land Drilling
- » Japanese Knotweed
- » Air Tightness Testing