

Our Ref C337/21/E/3443
18th of November 2021

**Environmental
Geotechnical
Specialists**



Jellie Properties C/O Phoenix Textile Ltd,
The Old Parsonage,
2 Park Lane,
Bretton,
Wakefield
WF4 4JT

For the attention of Adrian Mosley,

Dear Adrian,

Ref: 48 Stile Common Road, Newsome HD4 6DE.

Further to the most recent consultation from the local authority, and in addition to site investigation undertaken at the site, a gas risk assessment has now been undertaken and is the subject of this letter report.

In order to comply with current guidance, desk-based research has been undertaken in order to evaluate if any potential gas sources are present beneath the site, but also within the surrounding local area. In order to complete this study, the following sources of information have been utilised:

- Groundsure Data-sets accessed at <https://Groundsure.io> on 17.11.21
- Historical Maps
- Site Plans
- British Geological Survey (BGS) Maps

Historical Land Use

Table 1: Historical Land Use		
HISTORICAL MAPPING SUMMARY		
Map Dates	On site	Within 250m
1854 – 1918	The site is undeveloped. The surrounding areas are predominantly residential, with a school to the south and liberal club to the north.	Ashing Hirst Plantation, in parts a former Quarry, on eastern side of White Gate Road – 200m to >250m E
1930 – 2003	Site is developed with the construction of a detached property. Surrounding areas remain similar.	
2020	Property is demolished.	

GEOTECHNICAL
ENVIRONMENTAL

Geological Appraisal

The appropriate map sheet for the site and the geology viewer has been examined and the following table presents the indicated geology:

Table 2: Geological Data for the Site

Strata Type	Strata Name ¹	Previous Name ²	Description
Artificial Geology	None Recorded	-	No artificial geology is indicated to be present beneath the site itself. It should be noted that there is one deposit of infilled ground indicated to be present 200m east of the site.
Superficial Geology	None recorded	-	-
Solid Geology	Pennine Lower Coal Measures Formation	Lower Coal Measures	Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.

No made ground or infilled ground is shown to be present beneath the site or within the immediate vicinity of the site. Furthermore, there is only one recorded deposit of infilled ground within 250m of the site boundary. With reference to the appended geological overview and cross section, it can be seen that a deposit of artificial geology is present approximately 200m to the east of the site (cross-hatched area on plan). Interestingly, this outcrop appears to correlate with the boundary of the Ashing Hirst Plantation that was identified on the historical maps. Ashing Hirst appears to have been quarried historically, therefore the infilled ground may have been created utilising spoil from quarry activity. Nonetheless, as per the appended cross-section, it can be seen that this deposit of made ground is present a considerable distance away from the site. Moreover, it is present at a higher elevation across the valley.

There are three local coal seams that are shown to outcrop within the local area. These seams are summarised as follows:

Table 2: Summary of Coal Seams within the Vicinity of the Site.

Seam Name	Indicated seam thickness ²	Outcrop distance from site	Known depth / thickness below site ³
Hard Bed Coal	0.1 – 0.8m	100m NW	2m / 1m
Middle Band Coal	0 – 0.6m	215m NW	Absent / 0m
Soft Bed Coal	0 – 0.8m	330m NW	31m / 0.6m

*All distances are given as approximations only. It should be noted that coal seam thicknesses vary over relatively short distances

The Hard Bed Coal (aka Halifax Hard) is commonly around 0.6m in thickness and was worked, together with its underlying seatearth, in various locations around the Huddersfield area close to outcrop. The coal extracted is recorded to have been utilised as engine and household coal. Given its close proximity to the site surface, it was estimated that

¹ Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and Geology of Britain Viewer [online resource from www.bgs.ac.uk]

² Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [online resource from www.bgs.ac.uk]

³ Sources: RGS Coal Investigation Report C337/20/E/1956 dated June 2021

underground shallow workings could be present. Indeed, this seam is now known to have been worked beneath the site as very shallow depths (<2.0m).

Beneath the Hard Bed Coal is the Middle Band Coal, which is recorded to be discontinuous and is often too thin to be viable for economic extraction. In this instance, this seam appears to be absent beneath the site (i.e. discontinued).

The Soft Bed Coal (aka Halifax Soft) is the lowest coal seam within the district. This seam is known to have been extracted beneath the site in the 19th Century by shallow mining and is often underlain by a seam of fireclay which was also commonly removed. The Coal Authority indicate workings are present within this seam; 0.51m in thickness, and last worked in 1900 at a depth of 33m. The RGS rotary investigation proved this to be true, albeit the depth was 31m and worked thickness was 0.6m.

Waste Management and Gas Monitoring

Table 3: Landfill Data and Artificial Ground, Recorded and Anticipated

Waste Type	Location	Comments	Monitoring Requirement
Landfills (Historic) ⁴	-	None recorded within 250m	N
Landfills (Active) ⁵	-	None recorded within 250m	N
MADE GROUND & INFILLED GROUNDWORKINGS			
Description	Location	Comments	Monitoring Requirement
Infilled Ground	200m E	As discussed above, this deposit of infilled ground is present a considerable distance from the site. Moreover, this deposit is present on the opposite side of the valley and at a higher elevation. Thus, if this deposit was considered to represent a producing source, the gas produced would vent to atmosphere before reaching the site in any event.	N

Insitu Testing

A standpipe was installed in the sole borehole completed at the site during the RGS site investigation. It should be noted that no further boreholes, and subsequently further standpipes, were installed due to the difficult ground conditions encountered – shallow voids resulted in the vast majority of the site being deemed unsuitable for rig access due to the risk of ground collapse. Visits were made to the site between the 4th June and the 29th June 2021. The results of this work are tabulated below:

Table 4: Gas Monitoring

Location	Date	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Flow	Barometric Pressure (mb)	Water Level (m)	Standpipe Depth (m)
BH01	04.06.21	0.0	0.1	20.9	0.1	1012↑	—	1.9
	14.06.21	0.1	0.1	21.2	0.1	1010↑	—	
	22.06.21	0.0	0.1	21.1	0.1	1012↑	—	
	29.06.21	0.0	0.1	21.0	0.1	1006↓	—	

↑ rising pressure

↓ falling pressure

→ steady pressure

⁴ Sources: <https://groundsure.io> accessed on 17.11.21

Discussion

In order to establish the gas screening value (GSV) for carbon dioxide or methane, the maximum gas concentration (expressed as a decimal) is multiplied by the borehole flow rate (l/hr). In this case 0.1% (0.001) methane was recorded along with 0.1% (0.001) carbon dioxide, in association with a maximum flow rate of 0.1 l/hr. This results in a GSV of 0.0001 l/hr for methane and a GSV of 0.0001 l/hr for carbon dioxide.

In accordance with Table 8.5, *Modified Wilson and Card classification* of the CIRIA report C665, *Assessing risks posed by ground gasses to building*, the site may be characterised as *Characteristic Situation Level 1*. It is therefore considered that there is a low risk of harm to end users and site operatives and no special precautionary measures are required in accordance to Table 8.6, *Typical scope of gas protection measures*, of CIRIA report C665.

With regard to the number of monitoring visits required reference is made to Tables 5.5a and 5.5b of CIRIA report C665 (2007)⁵. Accepting that the proposed development is of high sensitivity (residential with gardens) and that the generation potential is very low, these tables suggest that 6 readings could be undertaken over a period of 3 months. However, in this case a total of 4 monitoring visits were undertaken over a 1 month time period from a sole standpipe. Therefore, some precautionary remedial measures will be required. As such, given the low flow rates encountered, in addition to the low gas concentrations, gas protection measures installed in line with Characteristic Situation Level 2 will be adopted.

Conceptual Site Model and Risk Assessment

In view of the desk-based research and site investigation, a conceptual site model is presented accordingly as Table 5. Sources of gas are considered to be limited to coal workings beneath the site. It should be appreciated that the shallowest workings are going to be removed by means of excavation, with concrete plugs installed on the site boundary.

The risk assessment has been evaluated with reference to the following ratings and definitions:

Low - A pollution linkage is unlikely and/or the likelihood of harm occurring is low and of minor consequence.

Moderate - The linkage exists but the likelihood of harm occurring is not considered to be significant although remedial action may be necessary

High - The linkage exists and the available data indicates that significant harm may be caused and remedial action could be necessary.

The results of the risk assessment are presented in Table 5.

⁵ Adapted from tables 5.5a and 5.5b of CIRIA C665, 2007, *Assessing risks posed by hazardous ground gas to buildings*, p60.

Table 5: Conceptual Site Model and Site Specific Risk Assessment

Conceptual Site Model		Site Specific Risk Assessment		
Pathways	Receptor	Linkage Present?	Risk Rating	Notes
Migration of hazardous gases via permeable strata or shallow mining activity	Operative	Yes – shallow mine workings present beneath the site. Shallowest workings to be excavated and plugged by concrete. Thus, source will be limited to workings at 31m depth.	Low	Low concentrations of gas recorded and operatives to be working in a well-vented environment.
	End User		Low to Moderate	Low concentrations have been recorded. However monitoring only taken from one standpipe. Precautionary remedial measures required.
	Neighbours	No – the workings extend beyond the boundary of the site, thus the source will extend over boundary lines	N/A	

Remedial Measures

In order to assess the protection measures required BS8485: 2015 +A1: 2019: *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings* has been employed. In accordance with Table 3 (BS8485), *Building types*, of the code, the development may be considered to conform to Type A. Therefore, on the basis of Table 4 (BS8485) *Gas protection score by CS and type of building*, the minimum gas protection score required (points) is 3.5. The gas protection system should consist of at least two different elements. The elements work independently and collaboratively, and a single element should not be used because there would be no redundancy to allow for defects in the component. In order to achieve a suitable score, the following shall be considered:

Table 6: Combination of protection elements (BS8485: 2015) for CS2

Reference	Protection Element	Score
Table 5	Cast insitu monolithic reinforced ground bearing raft or reinforced cast insitu suspended floor slab with minimal penetrations.	1.0 or 1.5 ⁶
	Basement floor and walls conforming to BS8102:2009, Grade 2 waterproofing.	2.0
	Basement floor and wall conforming to BS8102:2009, Grade 3 waterproofing.	2.5
Table 6 ⁷	Pressure relief pathway ⁸ (usually formed of low fines gravel with a thin geocomposite blanket or strips terminating in a gravel trench external to the building)	0.5
	Passive sub-floor dispersal layer (Note 1):	
	Good Performance	1.5
Table 7	Very good performance	2.5
	Gas resistant membrane complying with the requirements given in Table 7 (Note 2)	2
Total Score		Min: 3.5 Max: 7.0

⁶ To achieve a score of 1.5, the raft or suspended slab should be well reinforced to control cracking and have minimal penetrations cast in.

⁷ For details on the criteria for good and very good performance see Annex B of BS8485: 2015.

⁸ If the layer has a low permeability and/or is not terminated in a venting trench (or similar), then the score is zero.

Note 1:

Dispersal layers could include:

- Clear void.
- Polystyrene void former blanket.
- Geocomposite void former blanket.
- No-fines gravel layer with gas drains.
- No-fines gravel layer.

Note 2:

The gas resistant membrane shall meet the following criteria (from Table 7, BS 8485: 2015):

- Sufficiently impervious (methane gas transmission rate $<40.0\text{ml/day/m}^2/\text{atm}$ (average) BS ISO 15105-1 manometric method).
- Sufficiently durable and strong to remain serviceable for the anticipated life of the building, to withstand in-service stresses and installation process.
- Capable, after installation, of providing a complete barrier to the entry of the relevant gas.
- Verified in accordance with CIRIA C735: 2014: *Good practice on the testing and verification of protection systems of buildings against hazardous ground gasses.*
- Chemically resistant to degradation by other contamination that might be present.

It should be appreciated that if the membrane installed does not meet all the criteria above, then the score for the membrane is considered to be zero.

In addition to the above, the following points shall be considered.

- Technical drawings of the incorporation of the gas protection measures into the sub-structure will be provided by a suitably qualified engineer/architect and produced in accordance with the guidance given in BRE 414.
- The sequence of construction indicating when the gas protection system will be installed will be included with the remediation statement. Where possible the installation of membranes will take place as a unique activity on site and shall not take place until sub-structure construction is complete.
- During and following the installation of the membrane, all parties in attendance at the site shall be made aware that a gas protection system is to be employed within the construction. Such communications should include, but not be limited to, the CDM documentation for the site and site inductions.
- The installation of the membrane shall be carried out only by suitable personnel and the qualifications or experience/training will be included as part of the remediation statement. The suitability of personnel will be assessed in accordance with Annex 1 of CIRIA C735.
- The installation shall be in strict accordance with manufacturer specifications and recommendations, which shall also be included as part of the remediation statement.
- The membrane system employed will not be an ensemble (i.e. a system comprising a mixture of products from different manufacturers will not be employed).
- Membranes shall be supplied to site on a single wound roll, creased product will not be accepted or employed.
- Whilst membranes are exposed, signage will be provided to indicate the access to the installation area is prohibited unless authorised. Footwear will be checked prior to accessing the membrane surface to ensure no sharp objects are apparent, such as stones caught in treads. The use of sharp objects or hot-works

- around the exposed membrane will be strictly prohibited unless the risk of damaging the membrane has been full assessed and mitigated.
- Non-conformance of manufacturer recommendations shall be discussed and agreed as acceptable, in writing, with a suitably qualified person from the manufacturer.

Conclusion

The desk-based research has identified that sources of gas are limited to coal workings present at 31m depth beneath the site. Whilst gas monitoring has been undertaken, this was from a sole standpipe with four readings completed, albeit the final reading was undertaken during a period of falling barometric pressure. Nonetheless, low concentrations of gas and low flow rates were recorded across all four visits.

However, as only one standpipe has been installed, it is considered unreasonable for Characteristic Situation Level 1 to be adopted. Thus, gas protection measures should be installed in line with Characteristic Situation Level 2. In order to achieve this, a score of 3.5 must be achieved utilising at least two elements from Table 6 above.

It should be noted that the current development proposals currently include the installation of a basement. As such, should at least Grade 2 waterproofing be installed, this would mean that the only other requirement would be 1) a good passive sub-floor dispersal layer **or** 2) a gas resistant membrane. Indeed, with option 1), a total score of 3.5 would be achieved. Rather with option 2), a total score of 4.0 would be achieved.

It should be noted that for further robustness, a total score of 4.5 would be in line with Characteristic Situation Level 3. However, this is not deemed necessary.

References

- British Standards Institution (2013), BS 8576 Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds.
- British Standards Institution (2015 +A1:2019) BS8485: *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*, B.S.I., London.
- CIRIA Report C665, *Assessing risks posed by ground gasses to building*.

We trust that this information is of interest and should you have any other requirements do not hesitate to contact us.

For Rogers Geotechnical Services Ltd,
Yours Faithfully



Rob Palmer MSc, FGS, ACIEH
Senior Geo-environmental Engineer



Notes:

Red circle has a 250m radius.

Site is red square.

X and Y axis at base are not to scale.

Green areas represent known sandstone outcrops.

Grey/blue are undifferentiated strata i.e. mudstone, siltstone and sandstone.

Dashed black lines are coal seam outcrops.

Hashed polygon defines an area of infilled ground.

Data obtained from a 1:50000 BGS Map overlay on Google Earth. KML file freely available on BGS website.

Environmental
Geotechnical
Specialists



Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe
Business Park,
Near Bank,
Shelley,
Huddersfield,
HD8 8LU

Telephone: 0843 50 66 87
www.rogersgeotech.co.uk

Client:

Adrian Mosley

Job Number:

C377/21/E/3443

Project Details:

Stile Common Rd

Scale: Not to scale - reference only



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

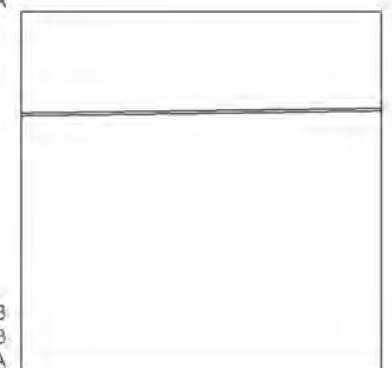
Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1906-1907

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1913-1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
Revised 1918
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1913
Revised 1913
Edition N/A
Copyright N/A
Levelled N/A

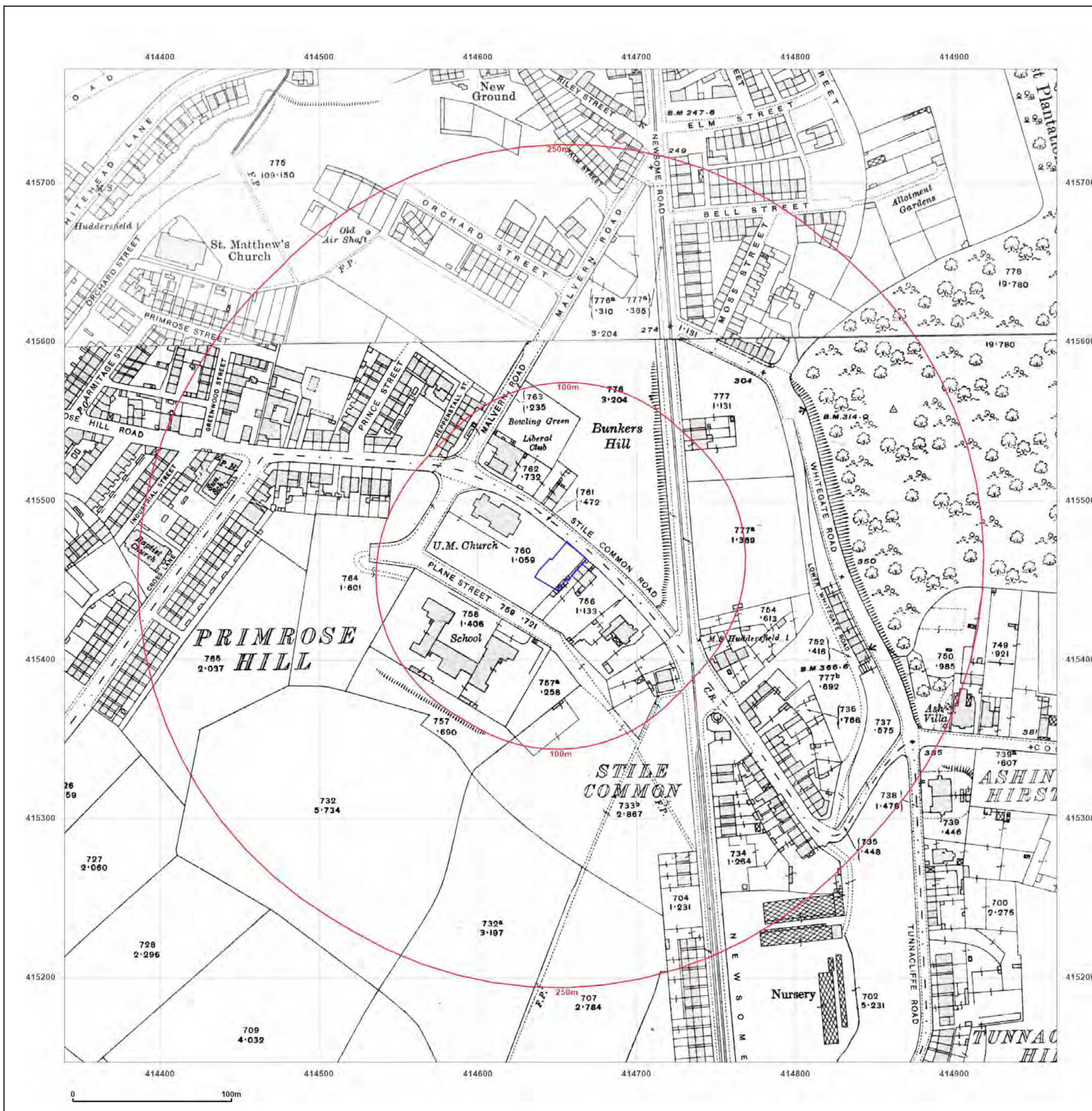


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

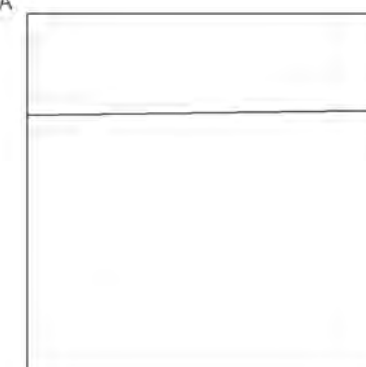
Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

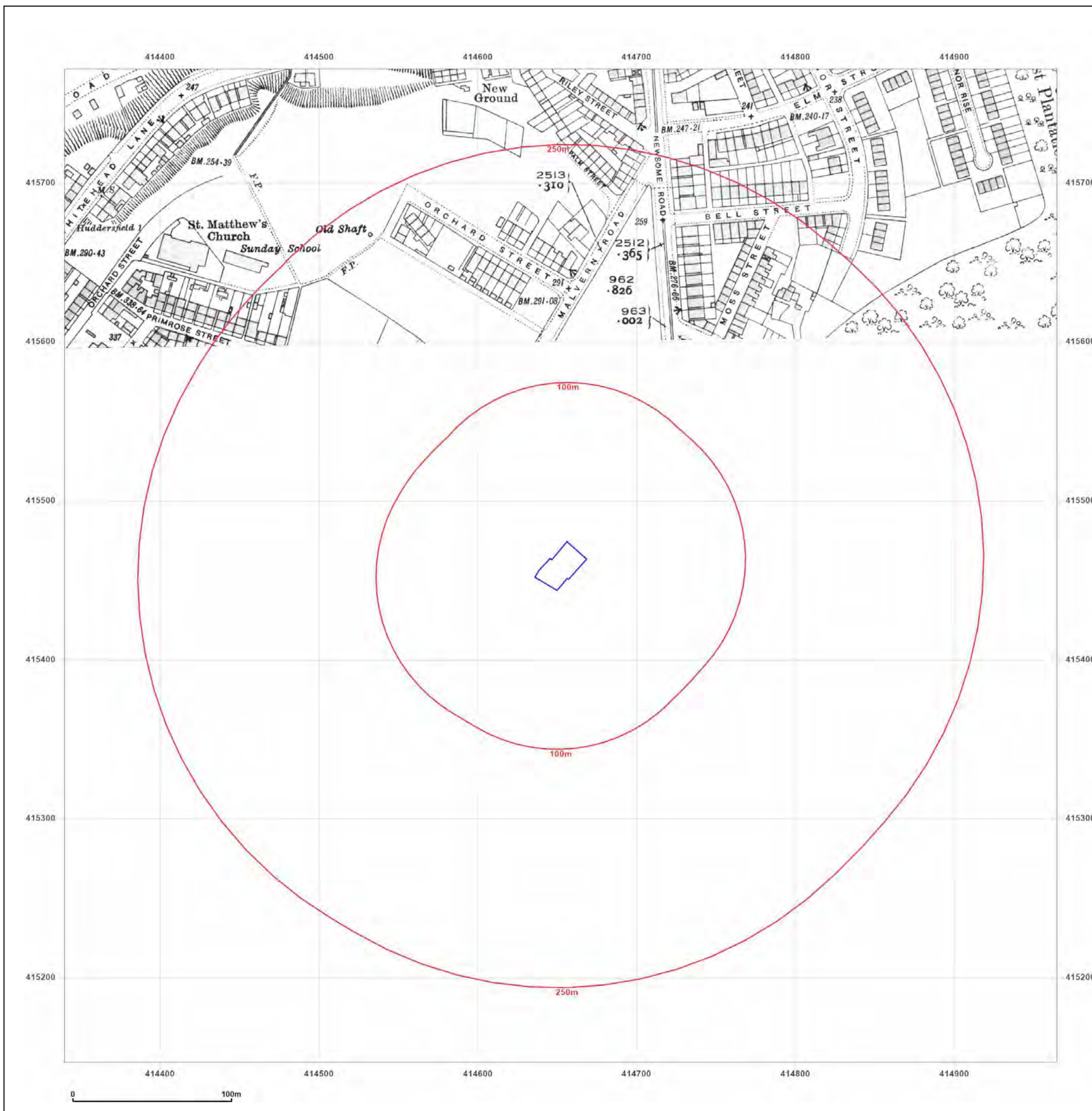


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1959

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1958
Edition N/A
Copyright 1959
Levelled 1931

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1958
Revised 1958
Edition N/A
Copyright 1959
Levelled 1931

Surveyed 1958
Revised 1958
Edition N/A
Copyright 1959
Levelled 1931

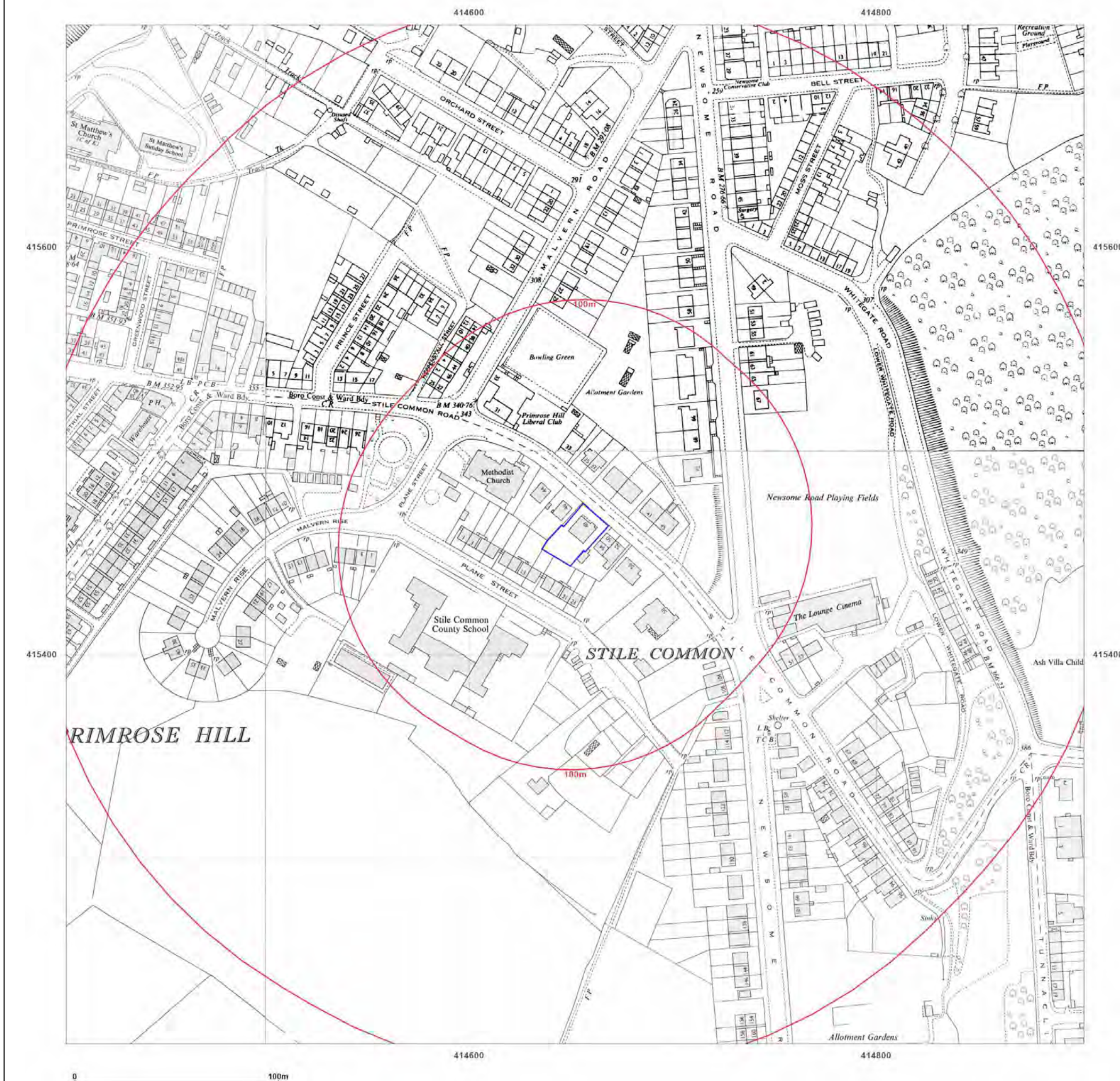


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

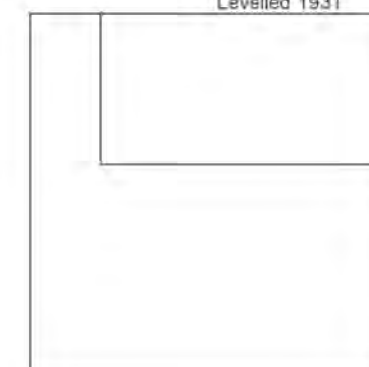
Map date: 1959

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1958
Edition N/A
Copyright 1959
Levelled 1931

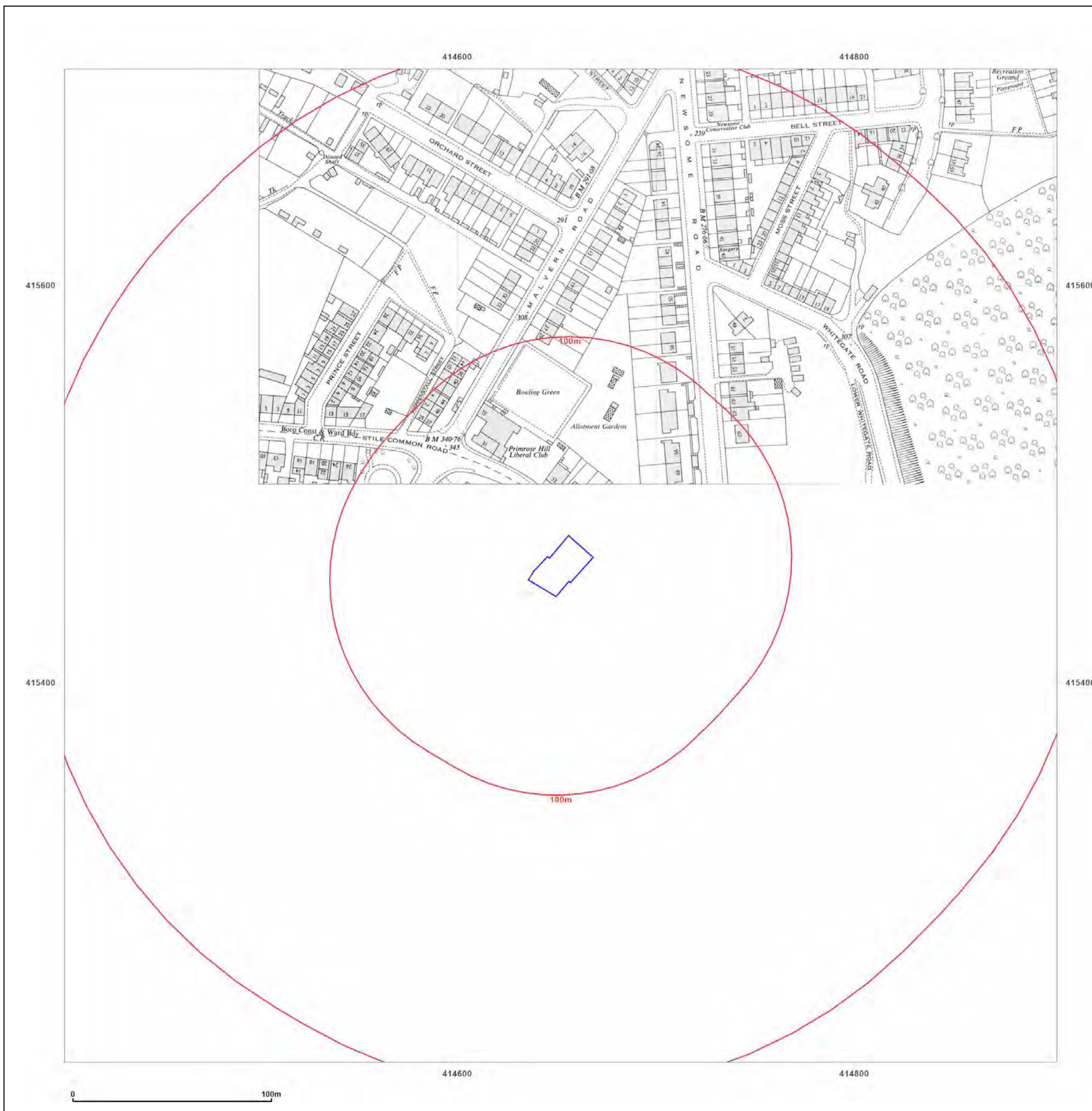


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

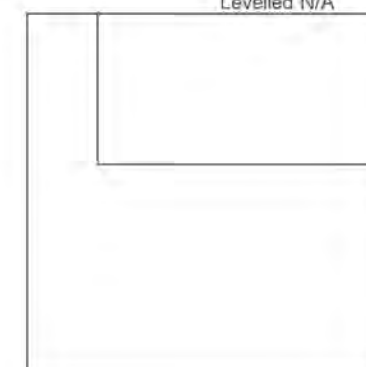
Map date: 1959

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled N/A

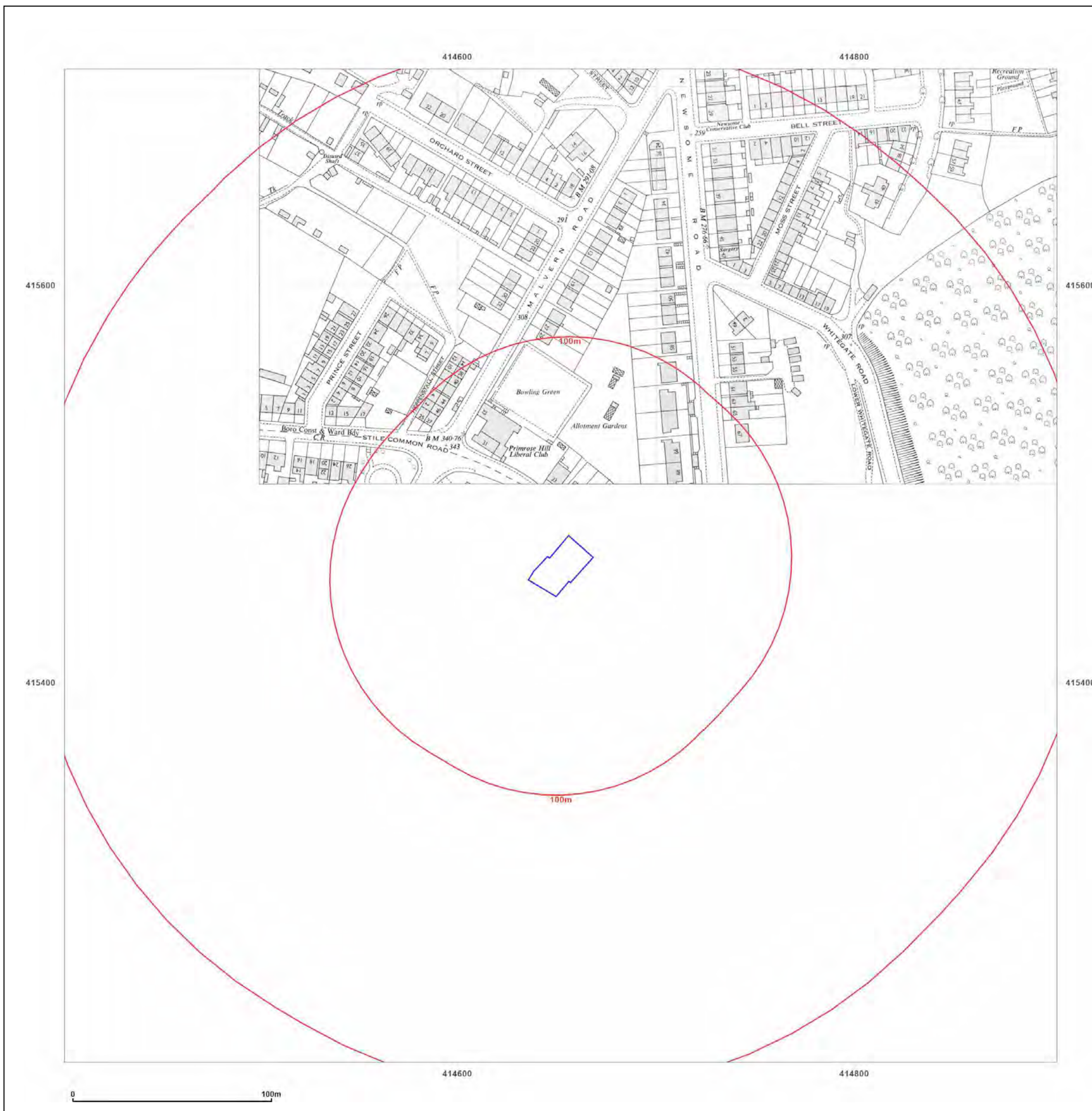


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

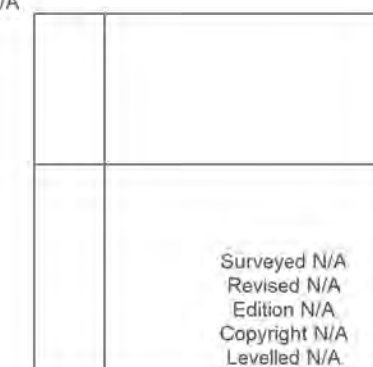
Map date: 1967-1972

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1966
Edition N/A
Copyright 1967
Levelled N/A

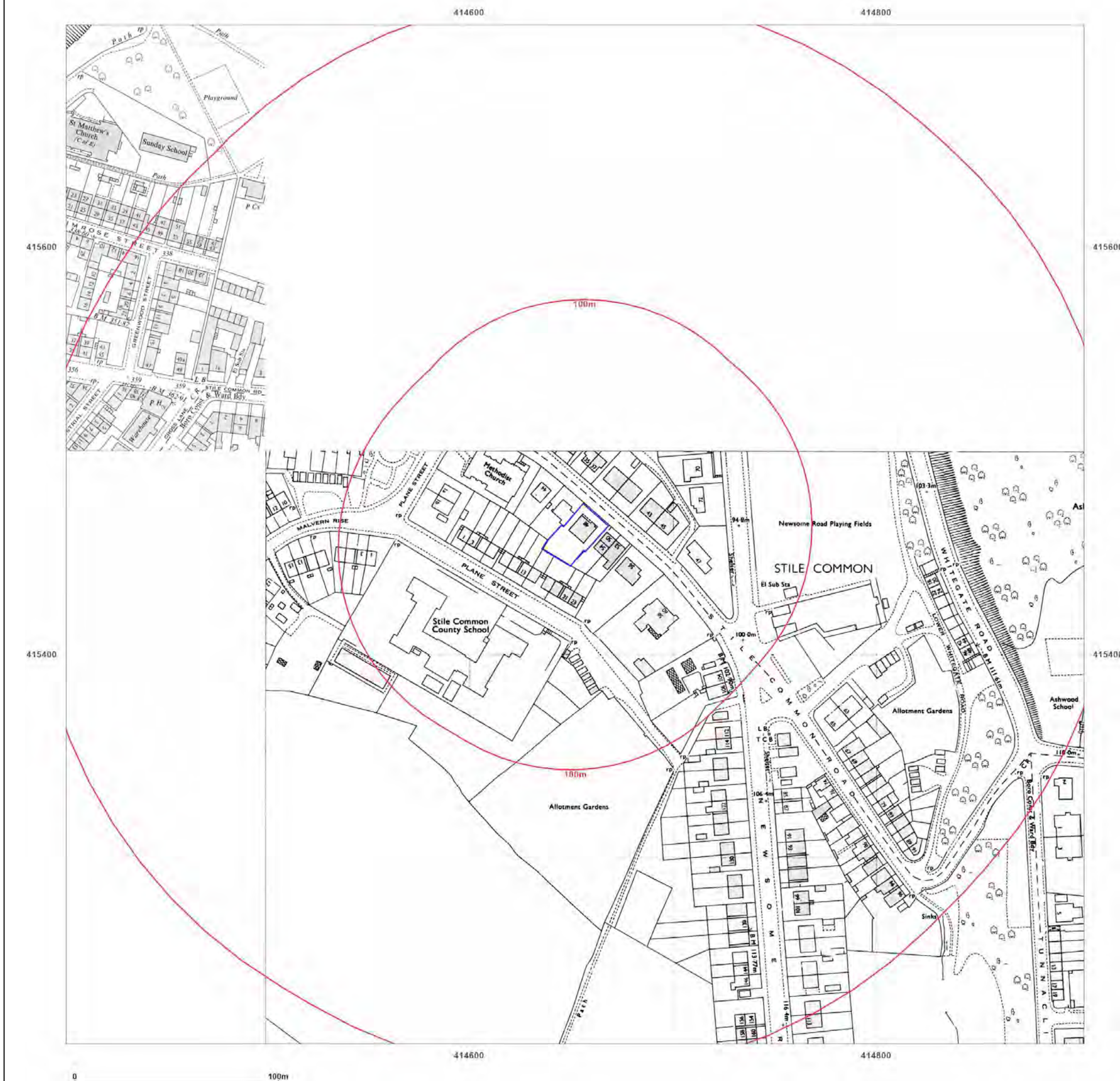


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised 1975
Edition N/A
Copyright 1959
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

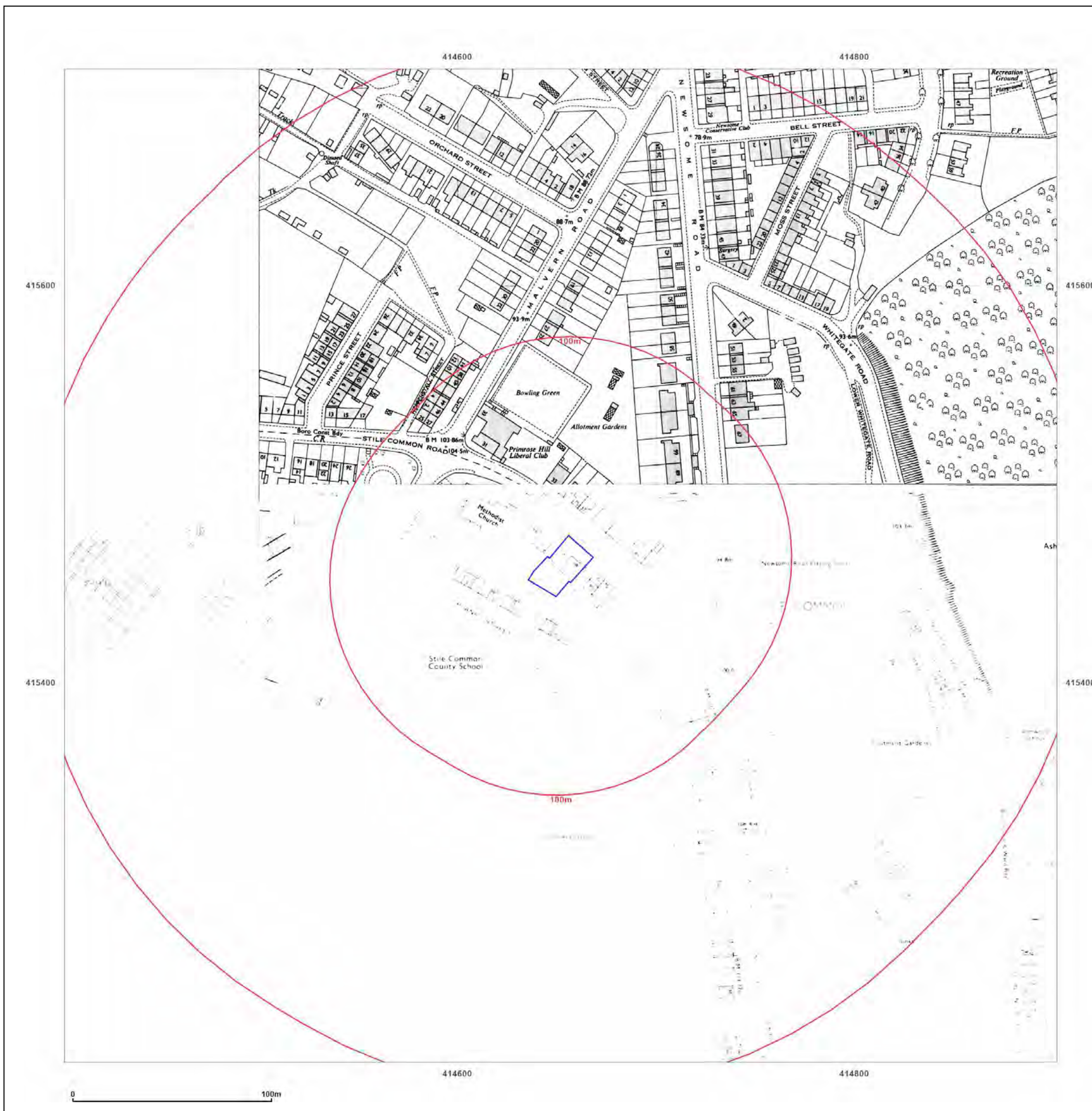


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1973-1978

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1958
Revised 1972
Edition N/A
Copyright 1973
Levelled 1959

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

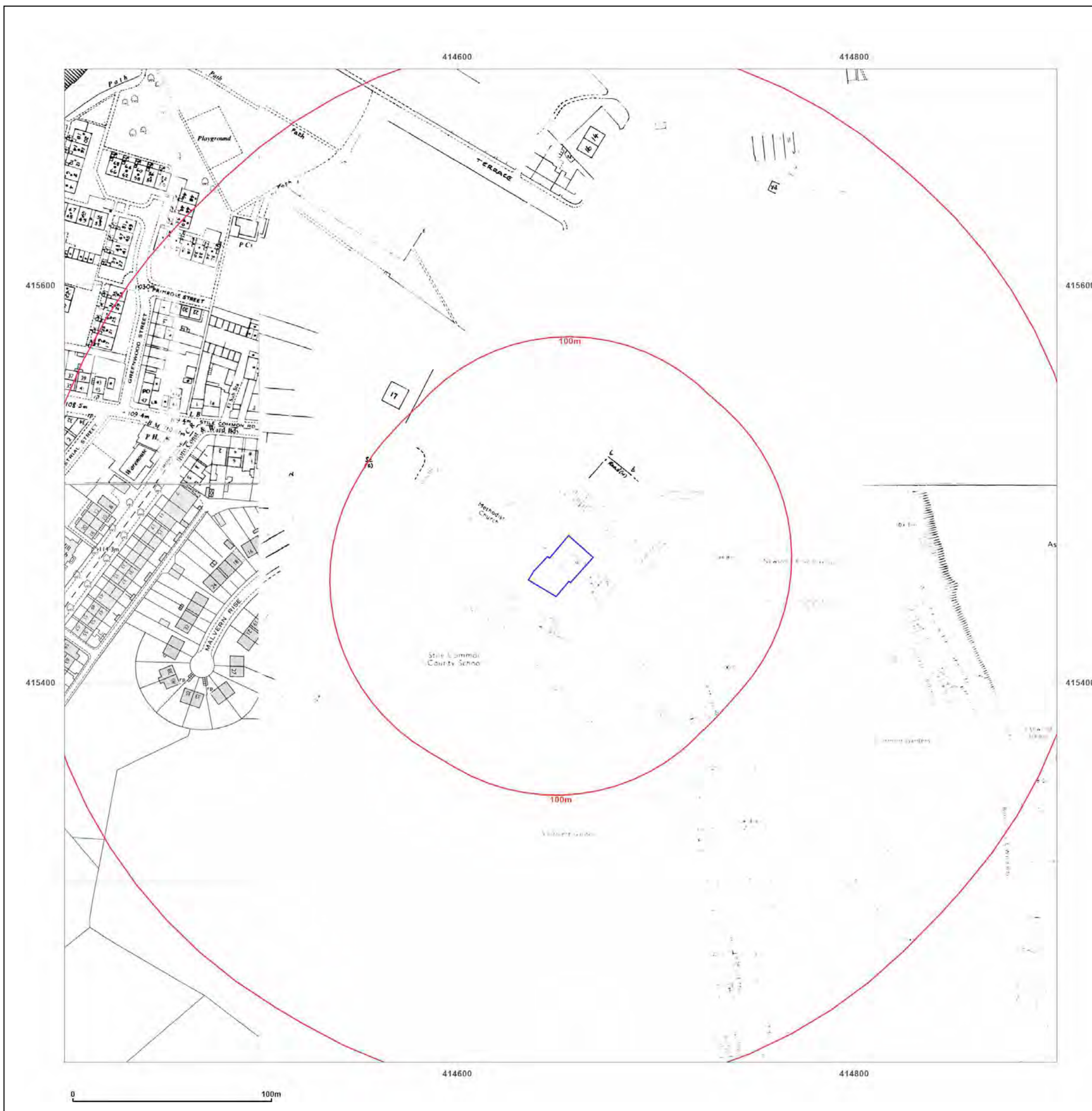


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1985-1990

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1987
Edition N/A
Copyright 1988
Levelled 1959

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1985
Levelled 1959

Surveyed 1965
Revised 1985
Edition N/A
Copyright 1985
Levelled 1965

Surveyed 1959
Revised 1990
Edition N/A
Copyright 1990
Levelled 1959

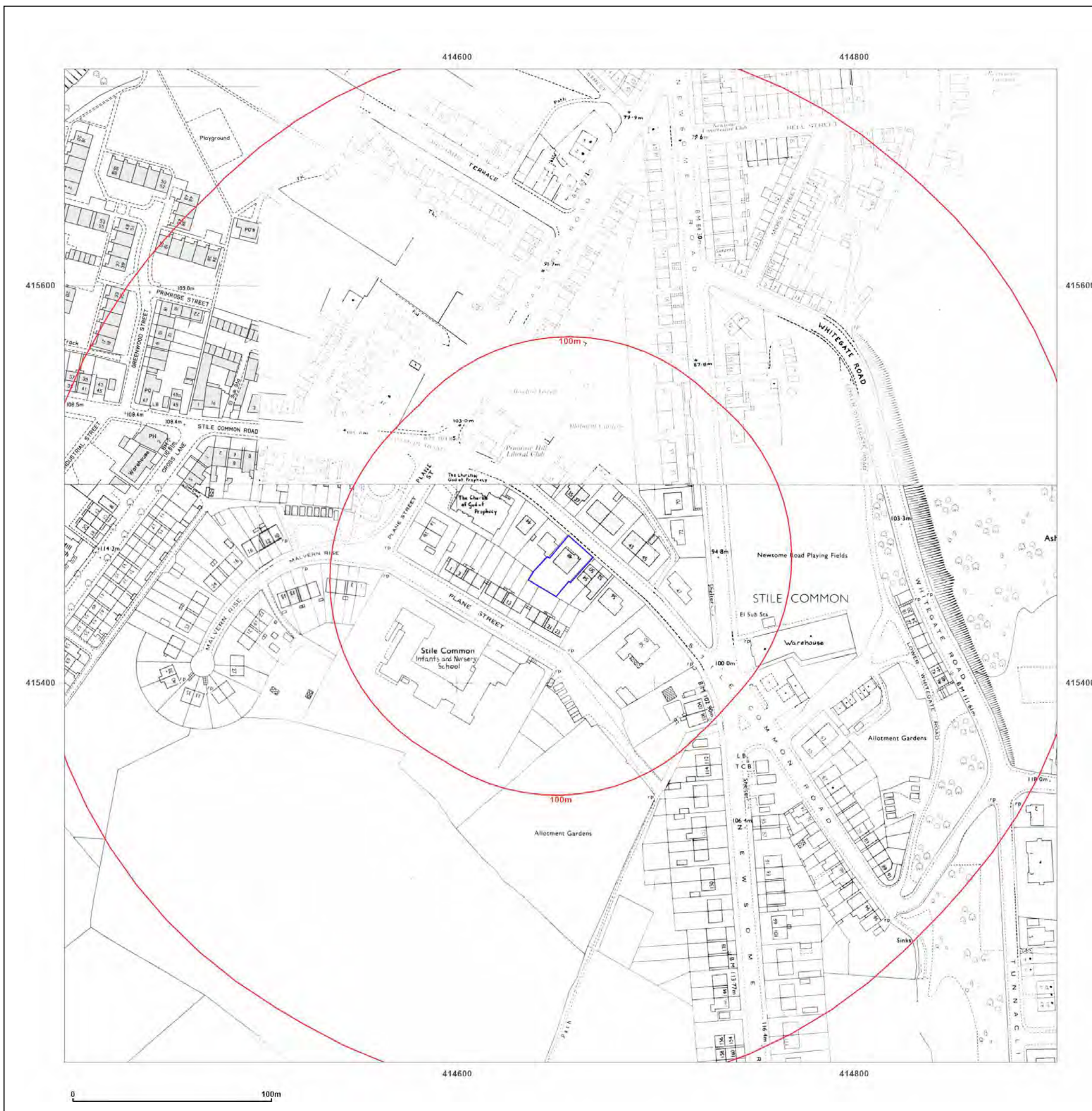


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1990-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1959
Revised 1990
Edition N/A
Copyright 1990
Levelled 1959

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

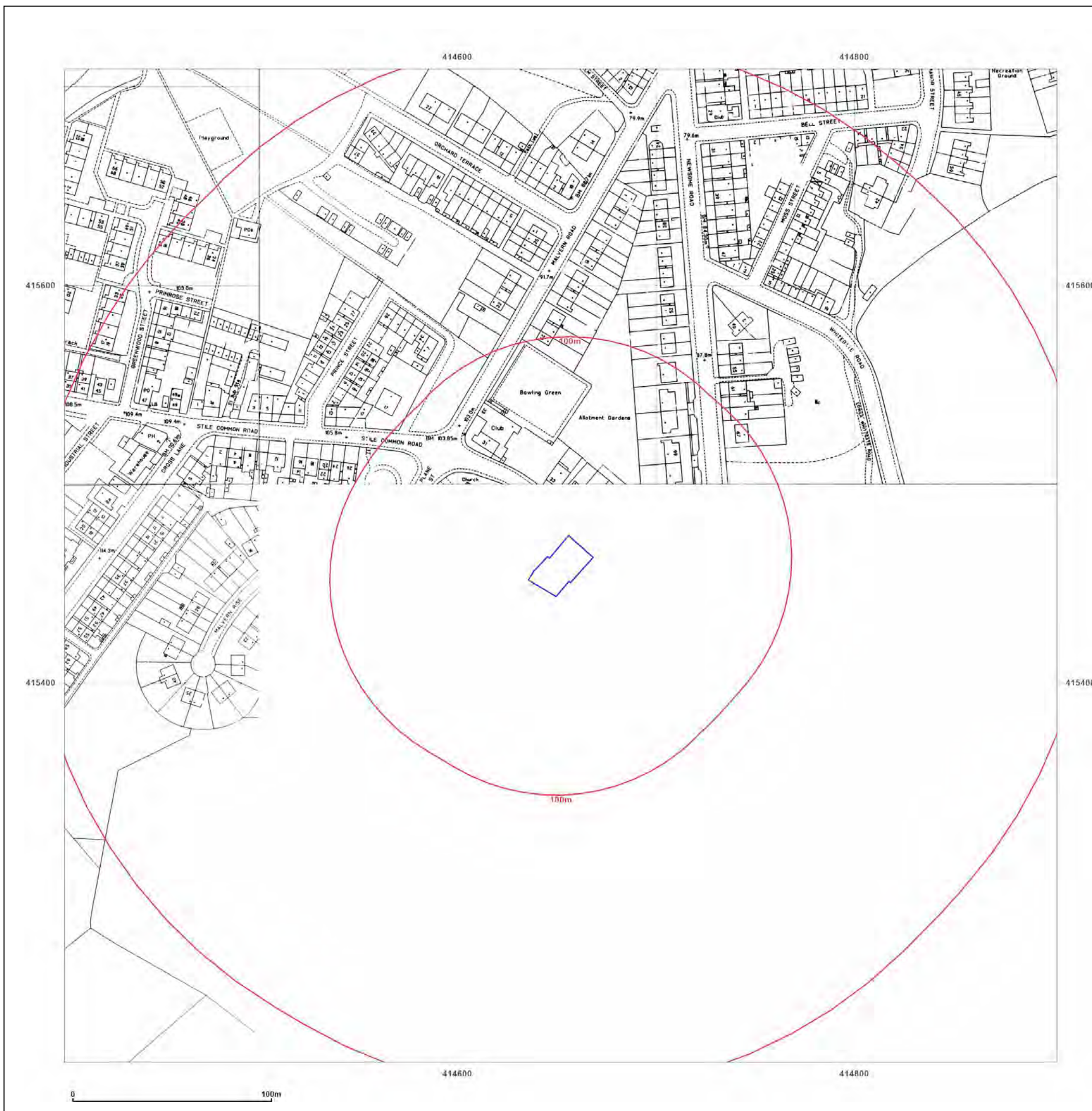


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1993-1995

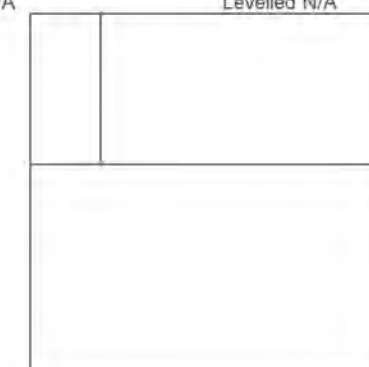
Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1995

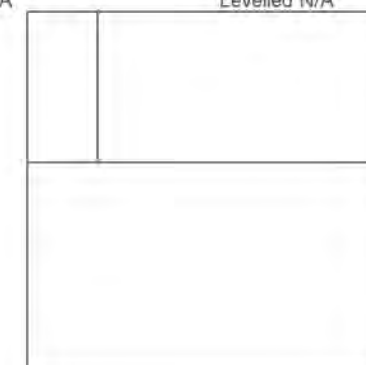
Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

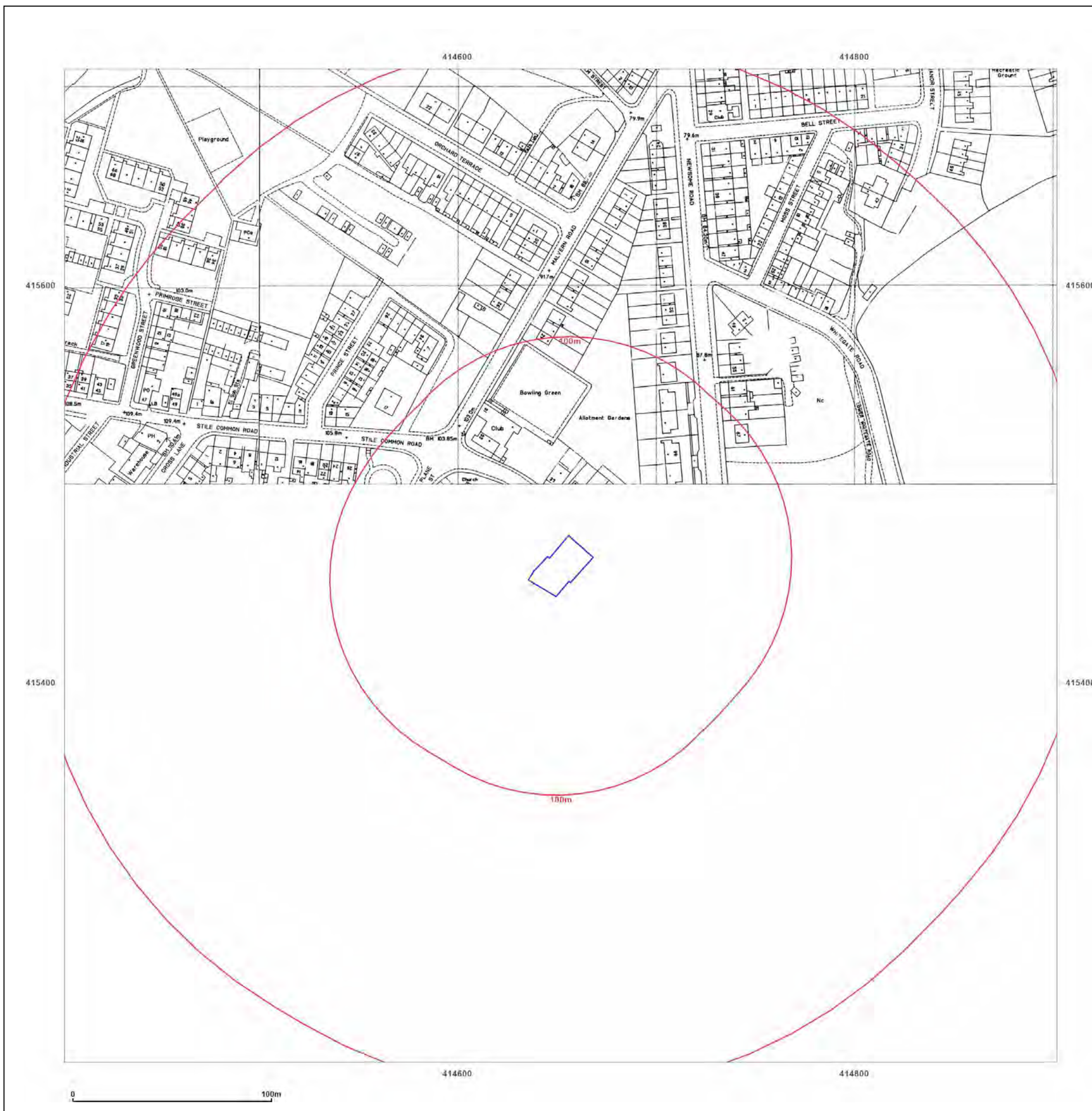


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

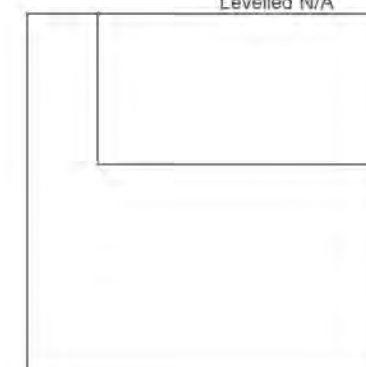
Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1854

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled 1853

Surveyed 1851
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

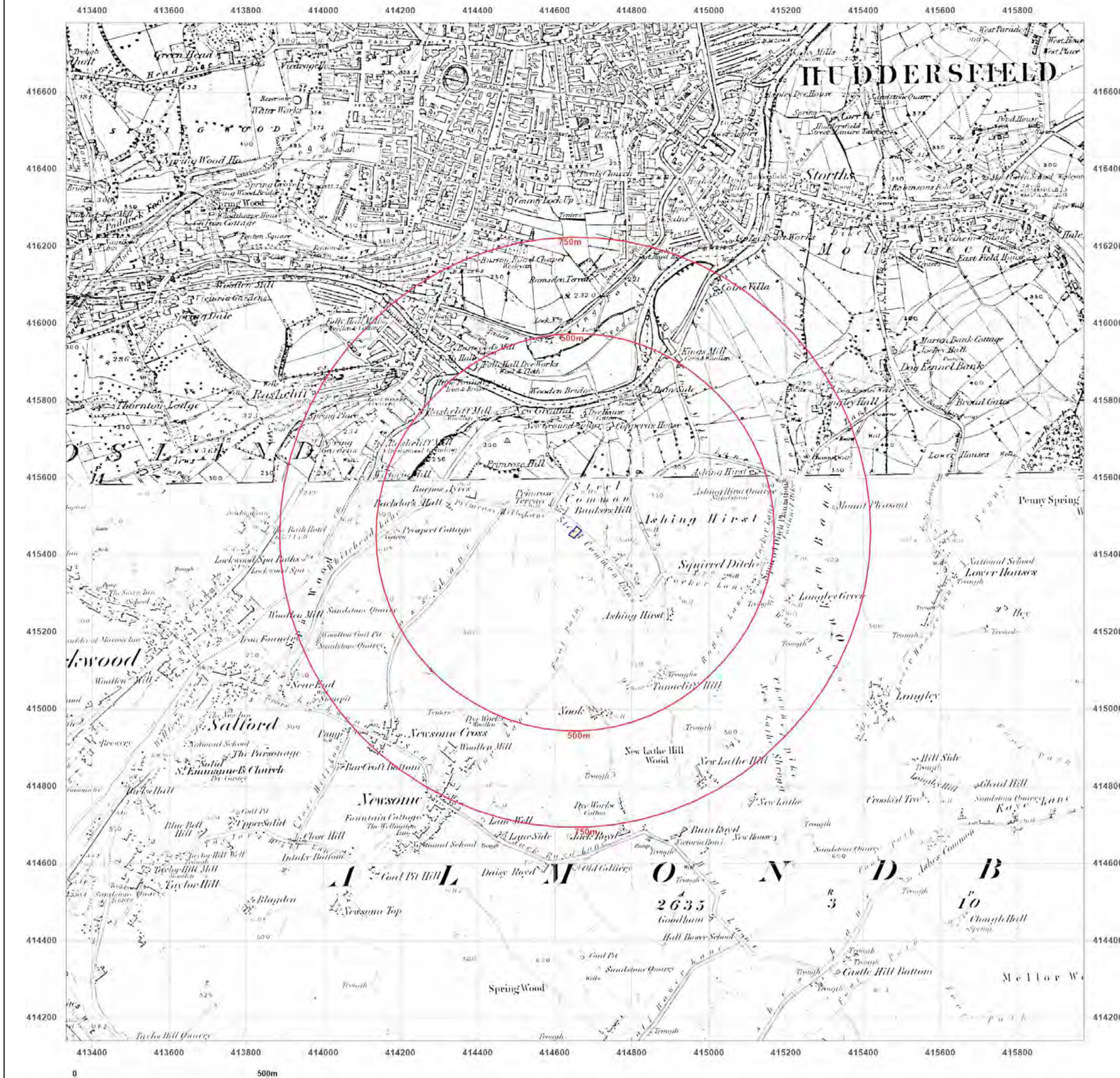


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1888-1889

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
Revised 1889
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1888
Revised 1888
Edition N/A
Copyright N/A
Levelled N/A

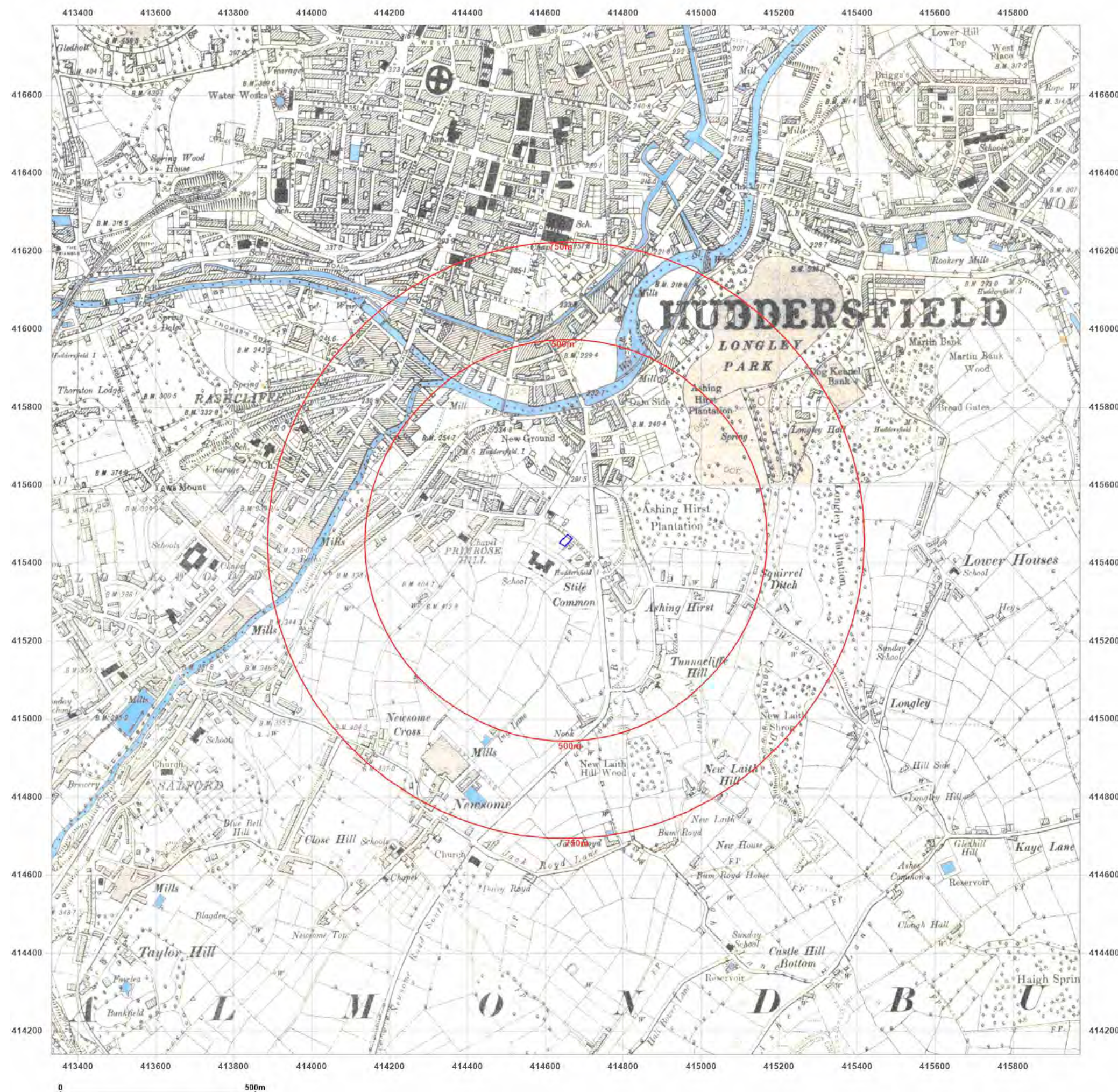


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1889
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

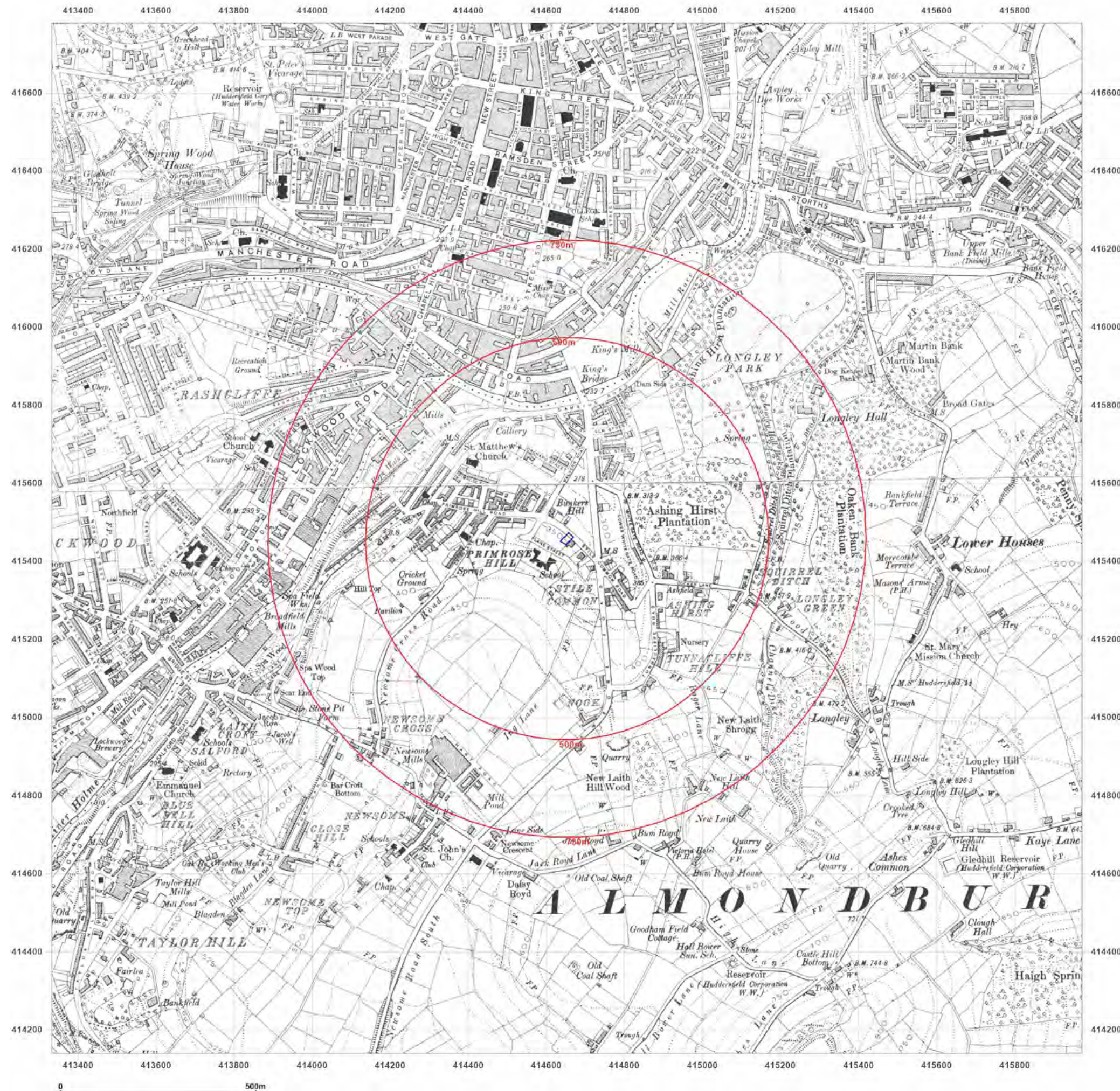


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1930-1931

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1930
Edition 1930
Copyright N/A
Levelled 1931

Surveyed 1851
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

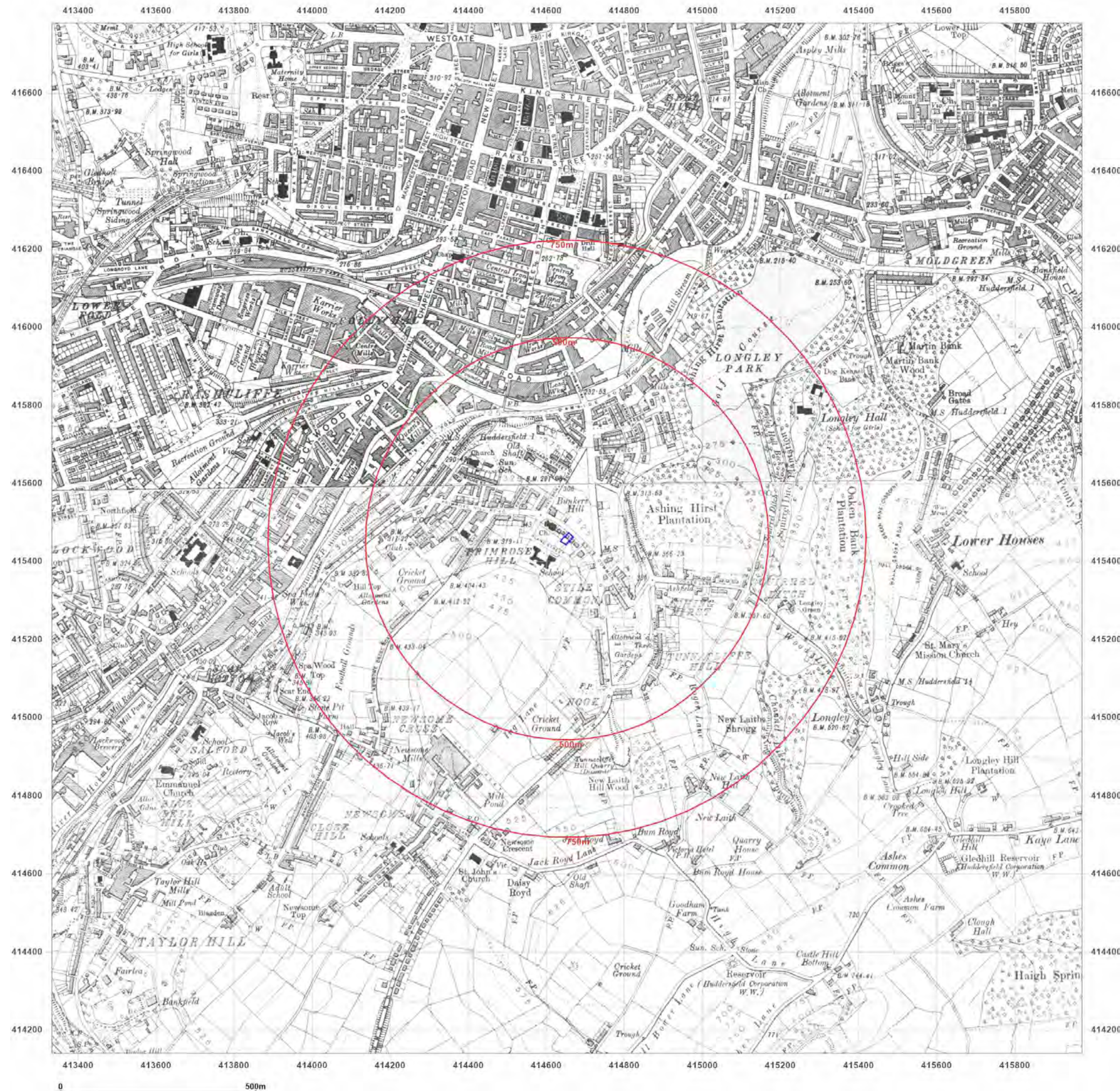


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

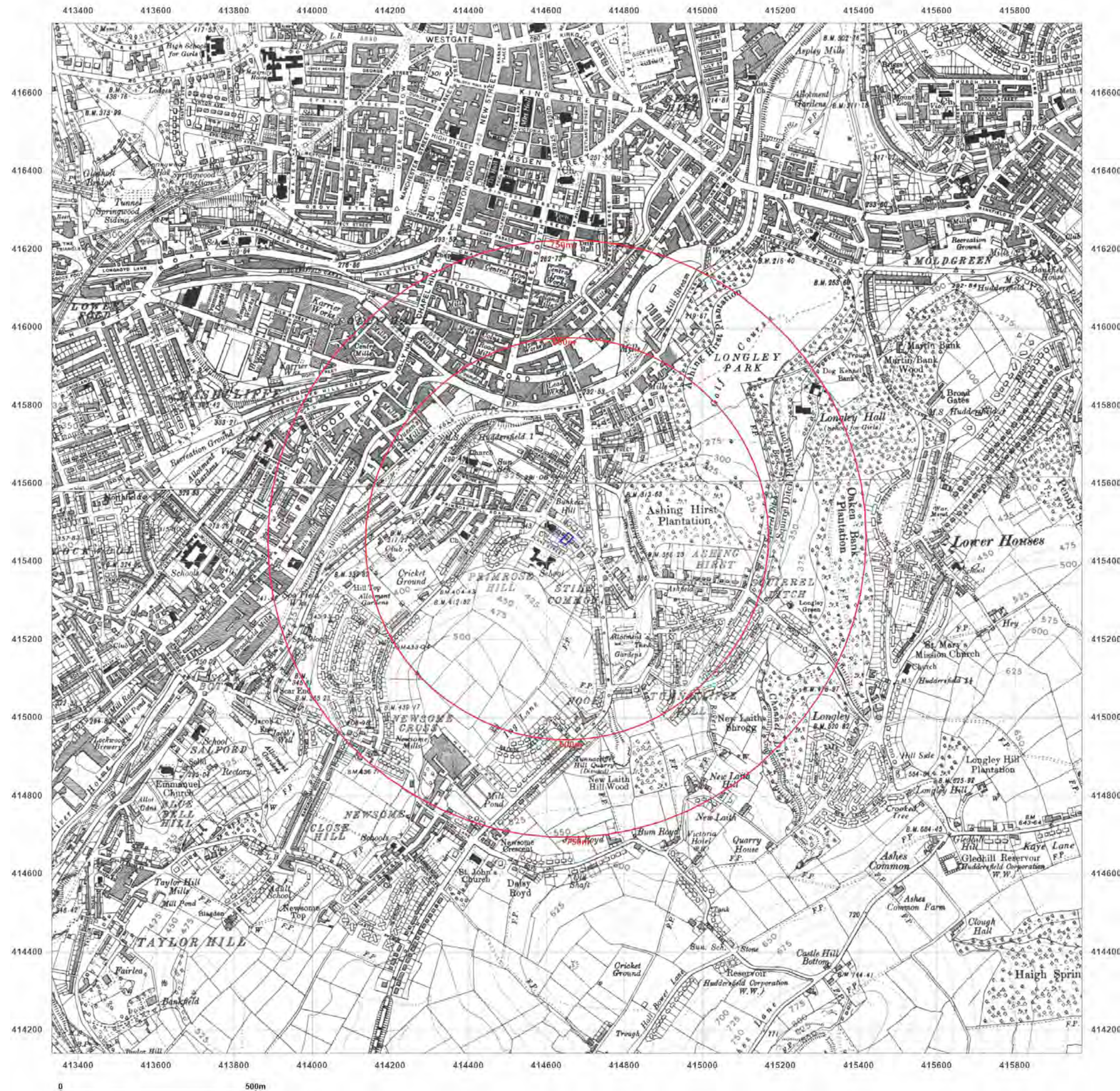


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: Provisional

Map date: 1955-1956

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1951
Revised 1951
Edition N/A
Copyright 1956
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright 1956
Levelled N/A

Surveyed N/A
Revised 1955
Edition 1956
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright 1955
Levelled N/A

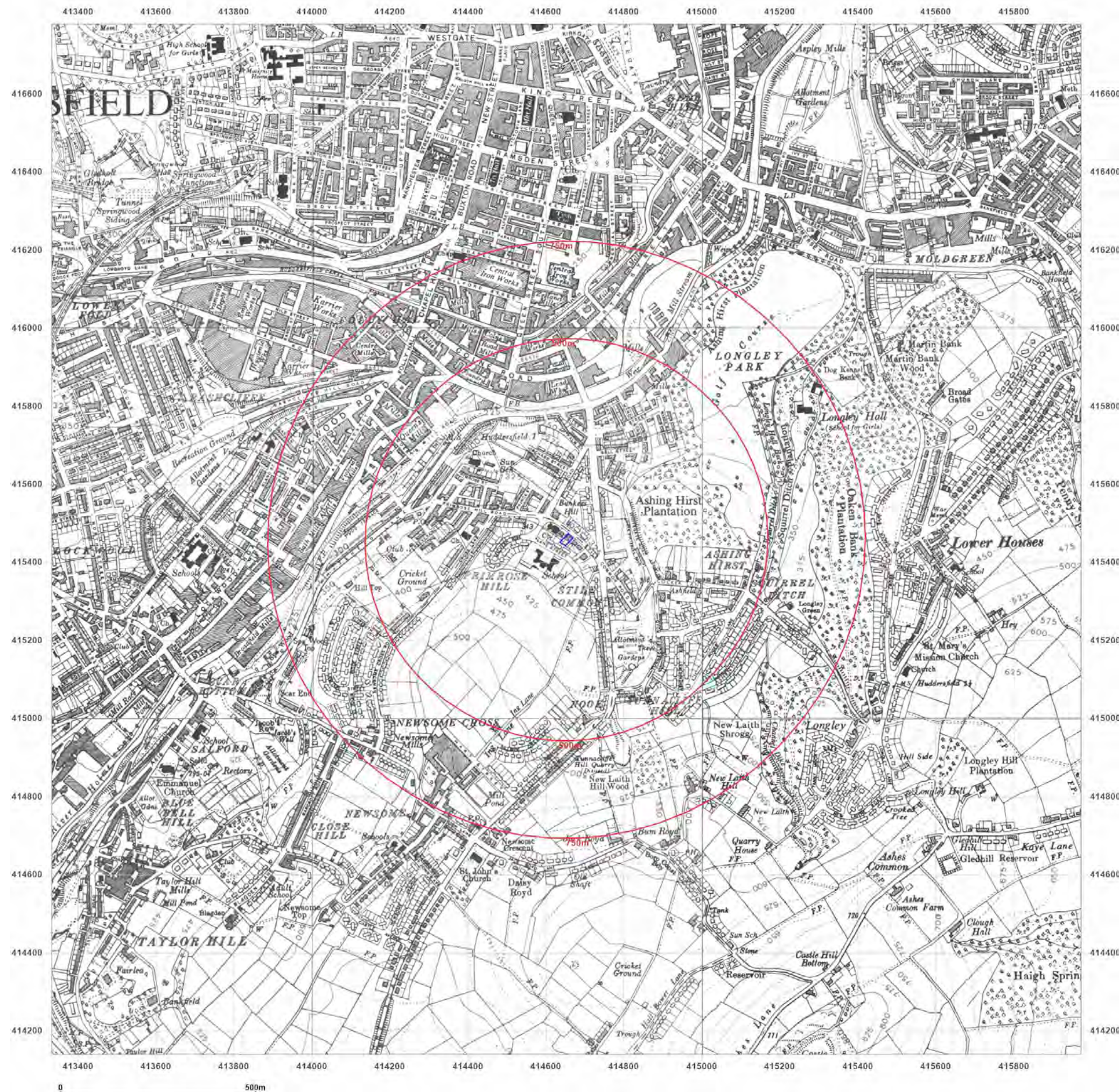


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: Provisional

Map date: 1965-1969

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1969
Revised 1969
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
Levelled N/A

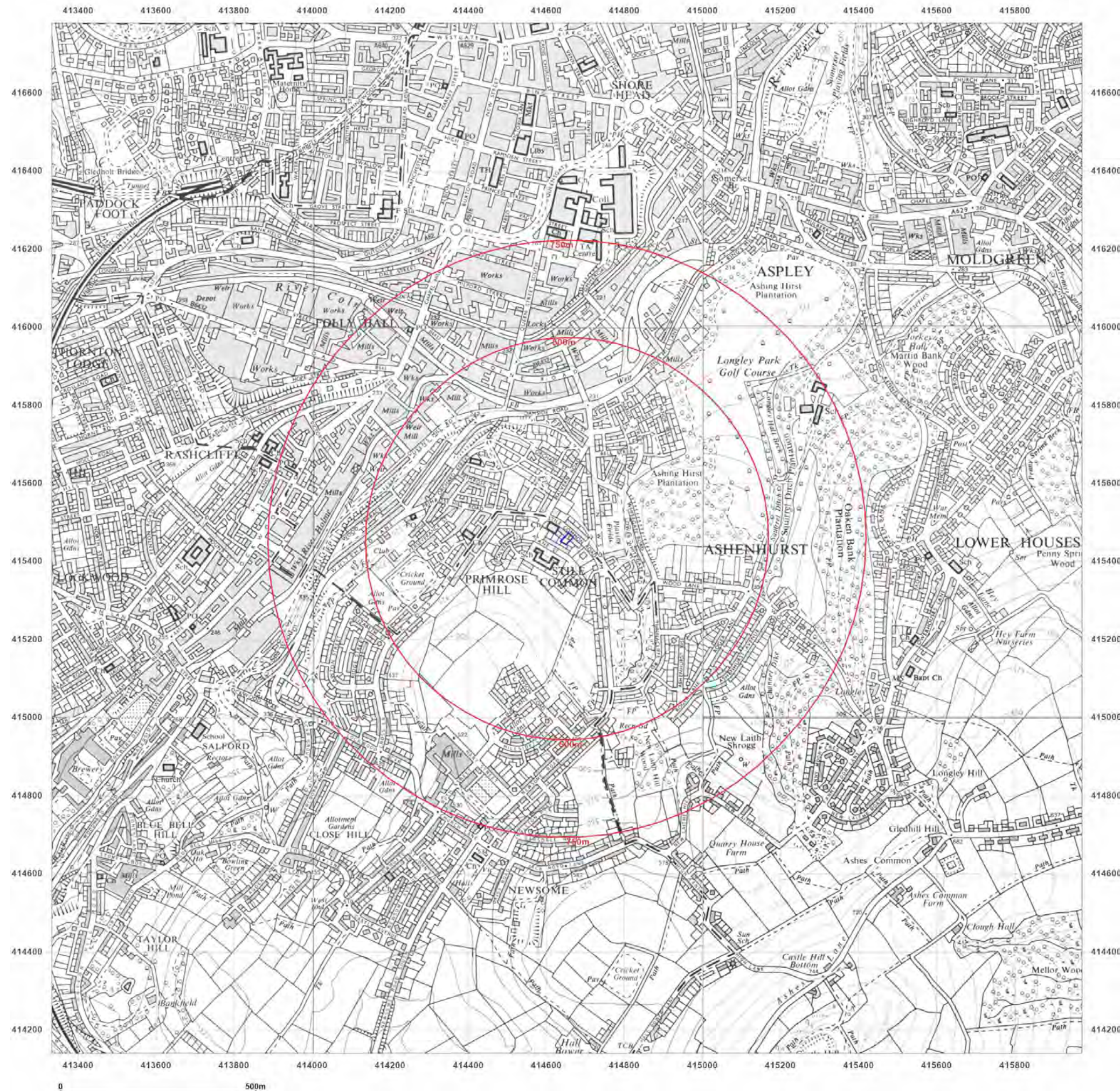


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1975-1977

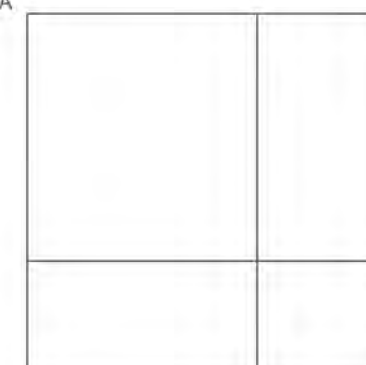
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1977
Revised 1977
Edition N/A
Copyright N/A
Levelled N/A

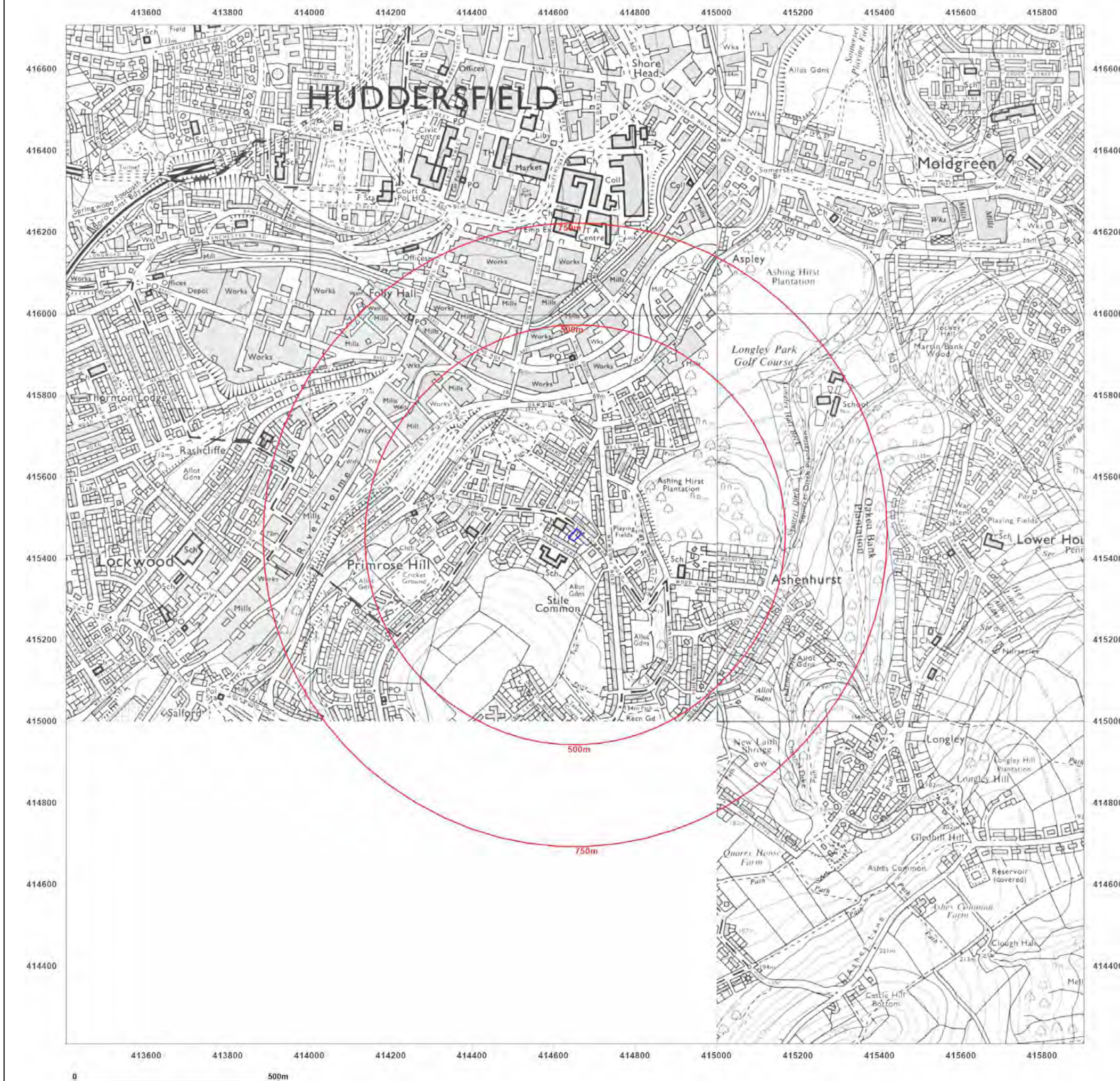


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1984-1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1984
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1984
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1983
Revised 1984
Edition N/A
Copyright N/A
Levelled N/A

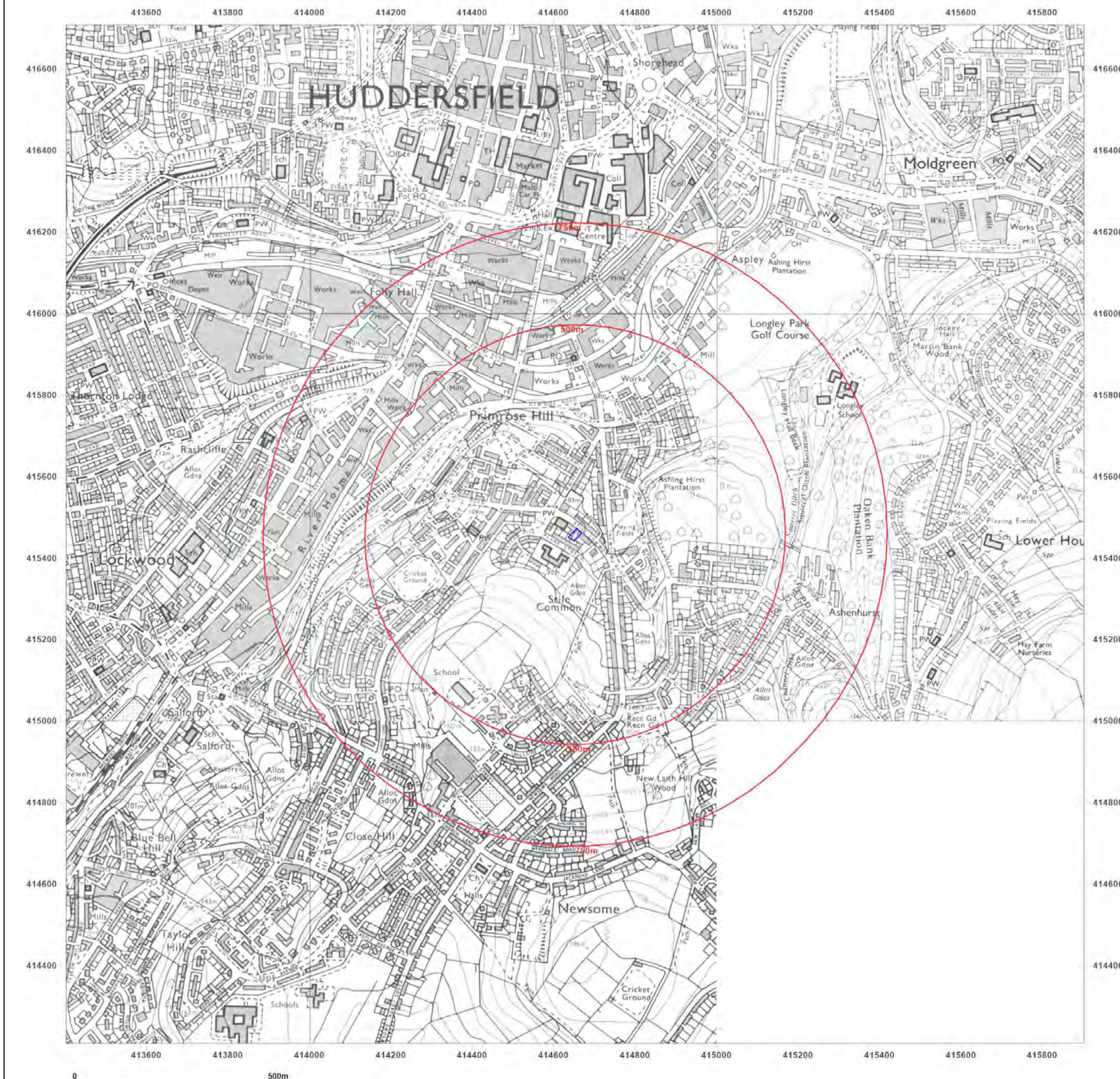


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

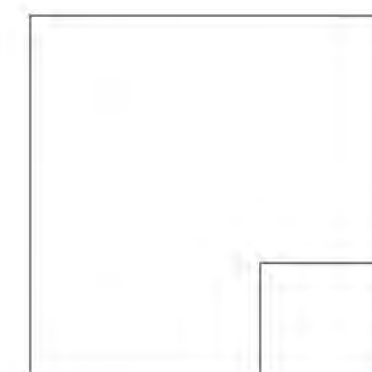
Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 1990

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1984
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

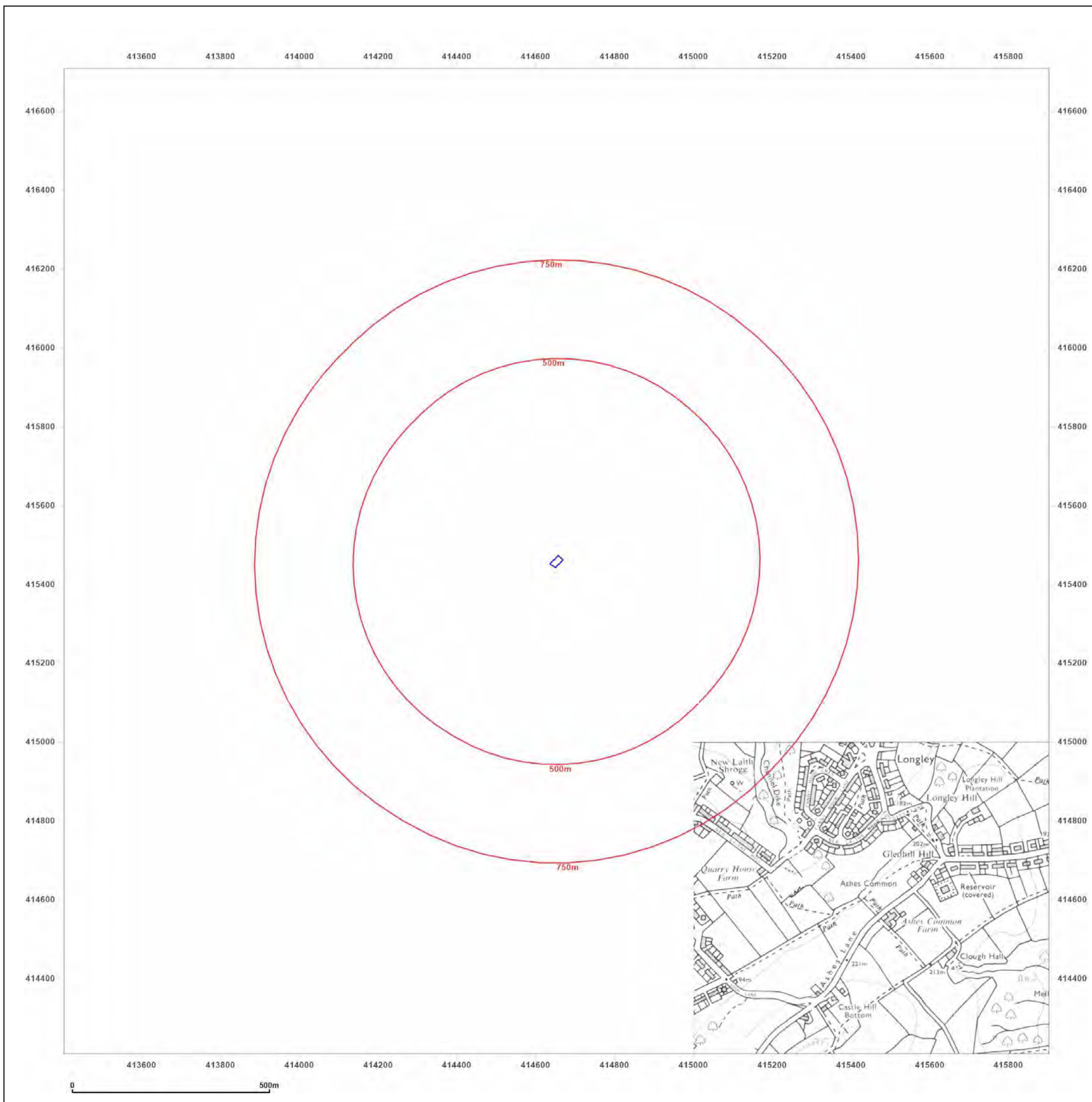


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

48, STILE COMMON ROAD,
PRIMROSE HILL,
HUDDERSFIELD, HD4 6DE

Client Ref: C337_21_E_3443_PO-1886
Report Ref: GS-8342448
Grid Ref: 414652, 415459

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 17 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

