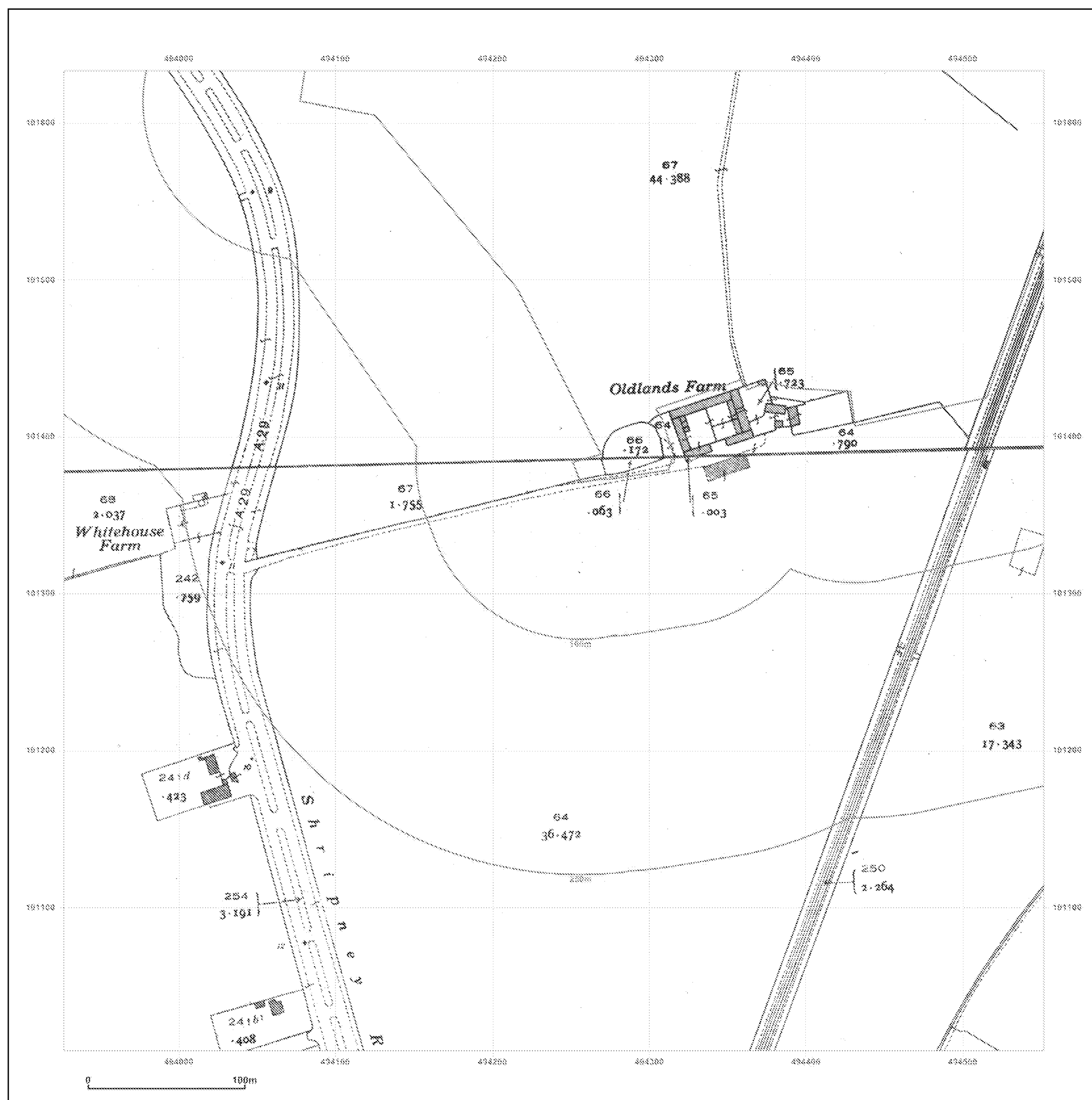




Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A2
Grid Ref: 494239, 101321

Map Name: County Series

Map date: 1939

Scale: 1:2,500

Printed at: 1:2,500

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

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

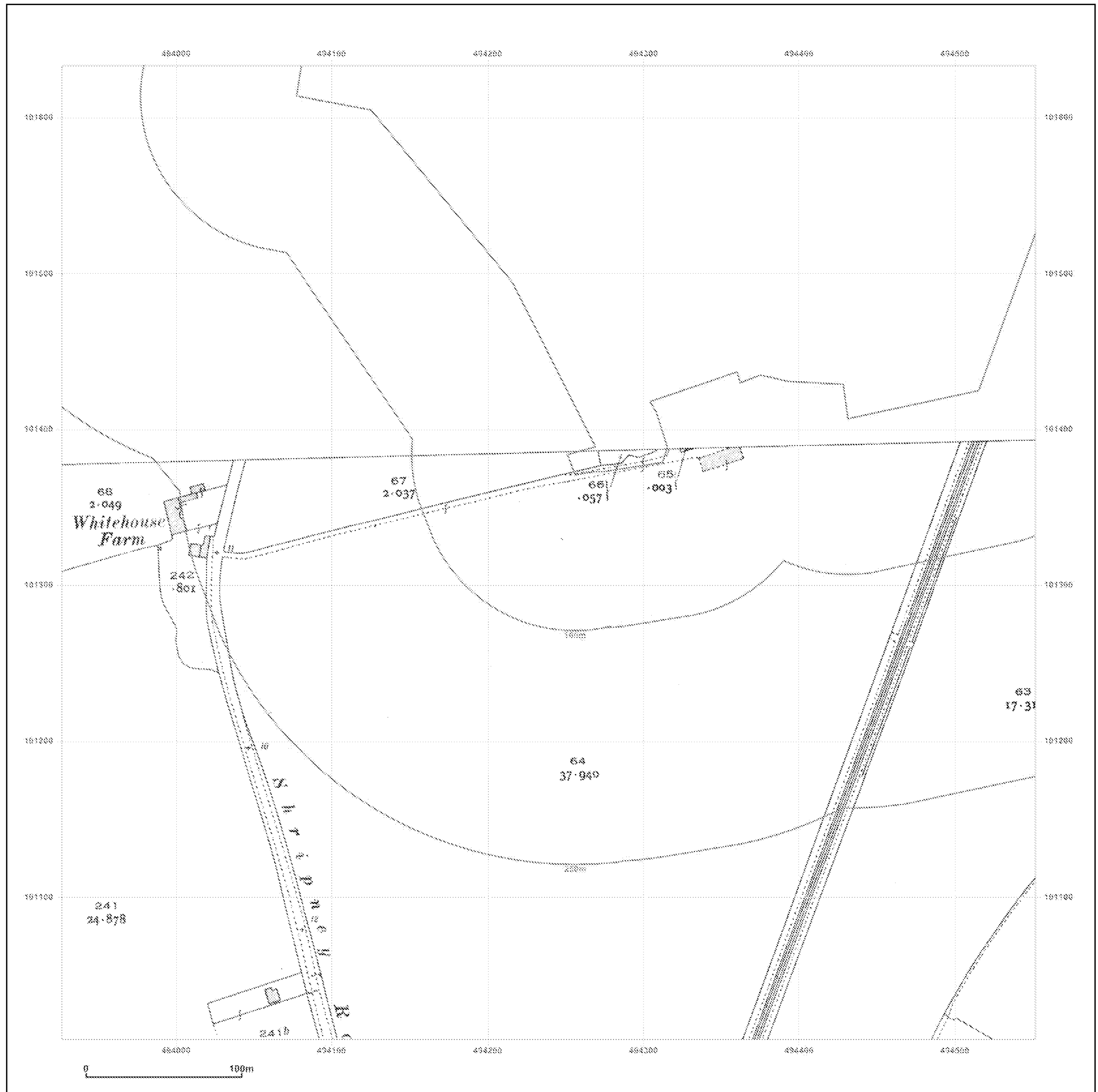
Ordnance Survey
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

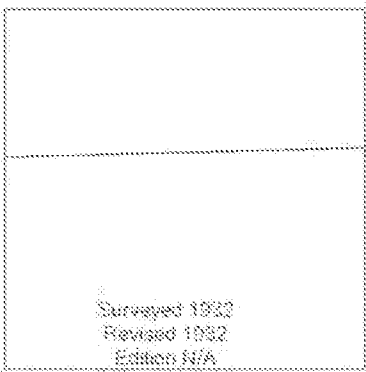
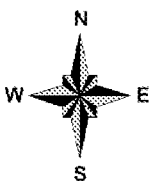
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A2
Grid Ref: 494239, 101321

Map Name: County Series

Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1932
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

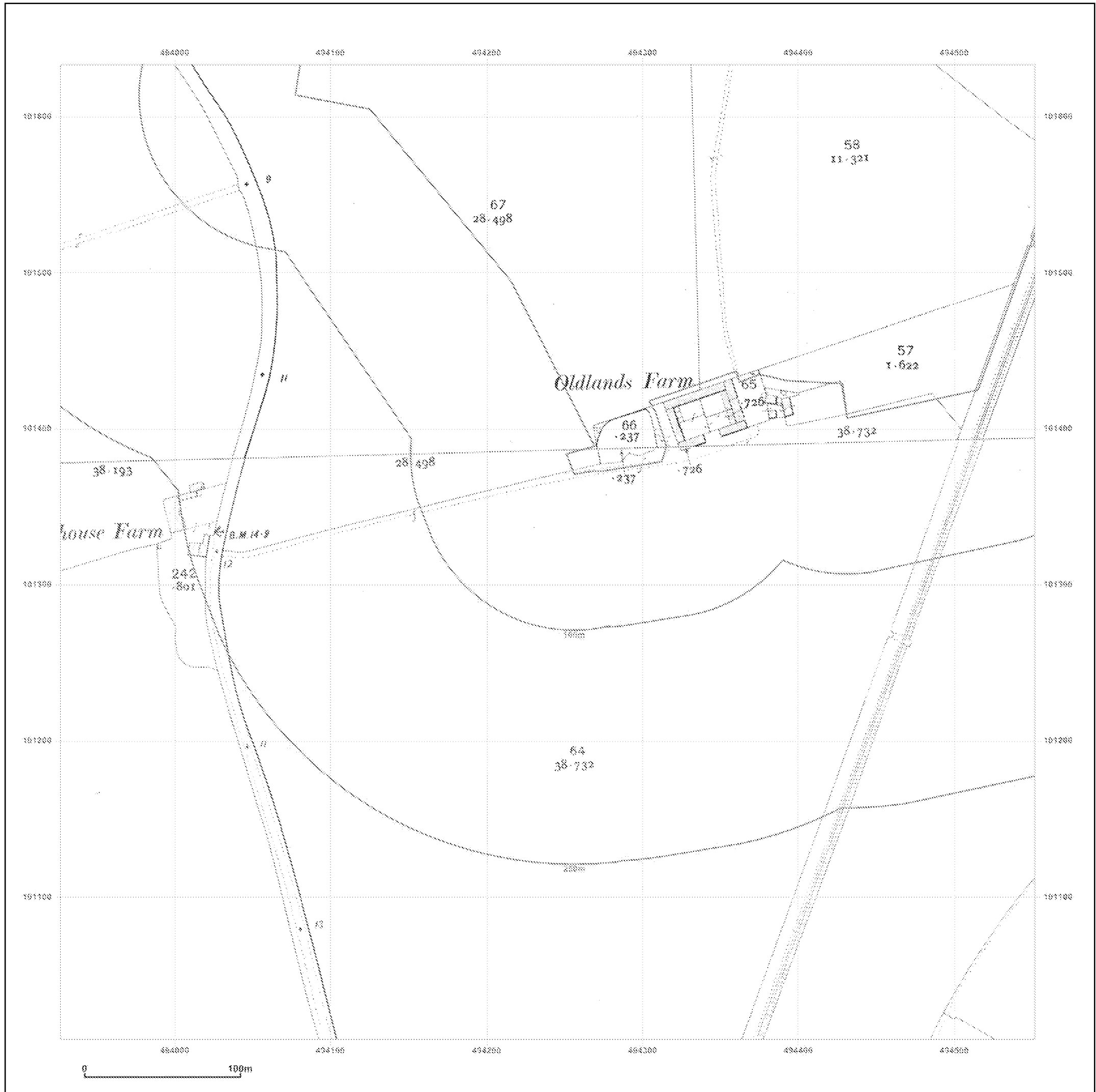


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A2
Grid Ref: 494239, 101321

Map Name: County Series

Map date: 1912

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

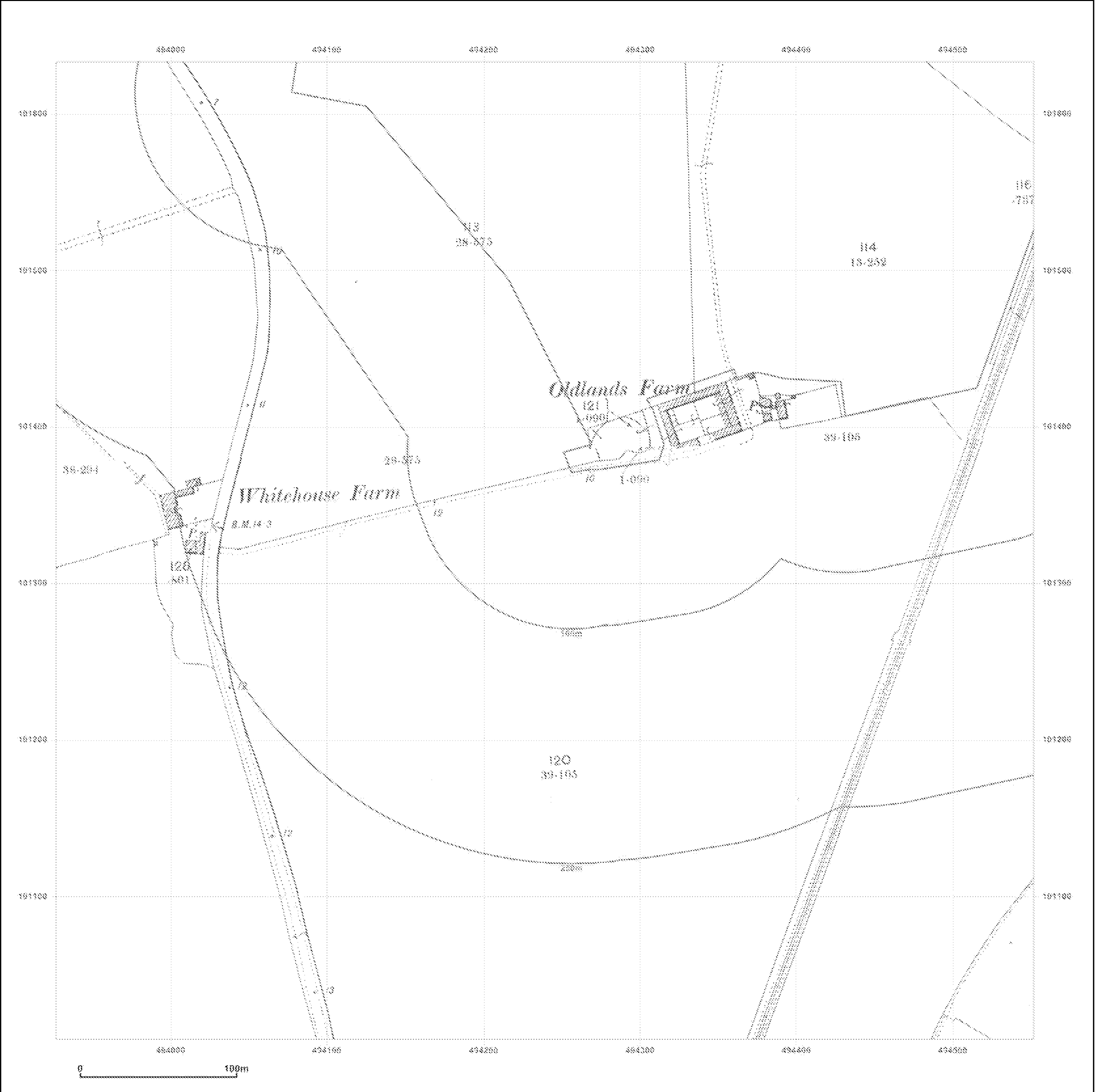
Ordnance Survey
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A2
Grid Ref: 494239, 101321

Map Name: County Series

Map date: 1898

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

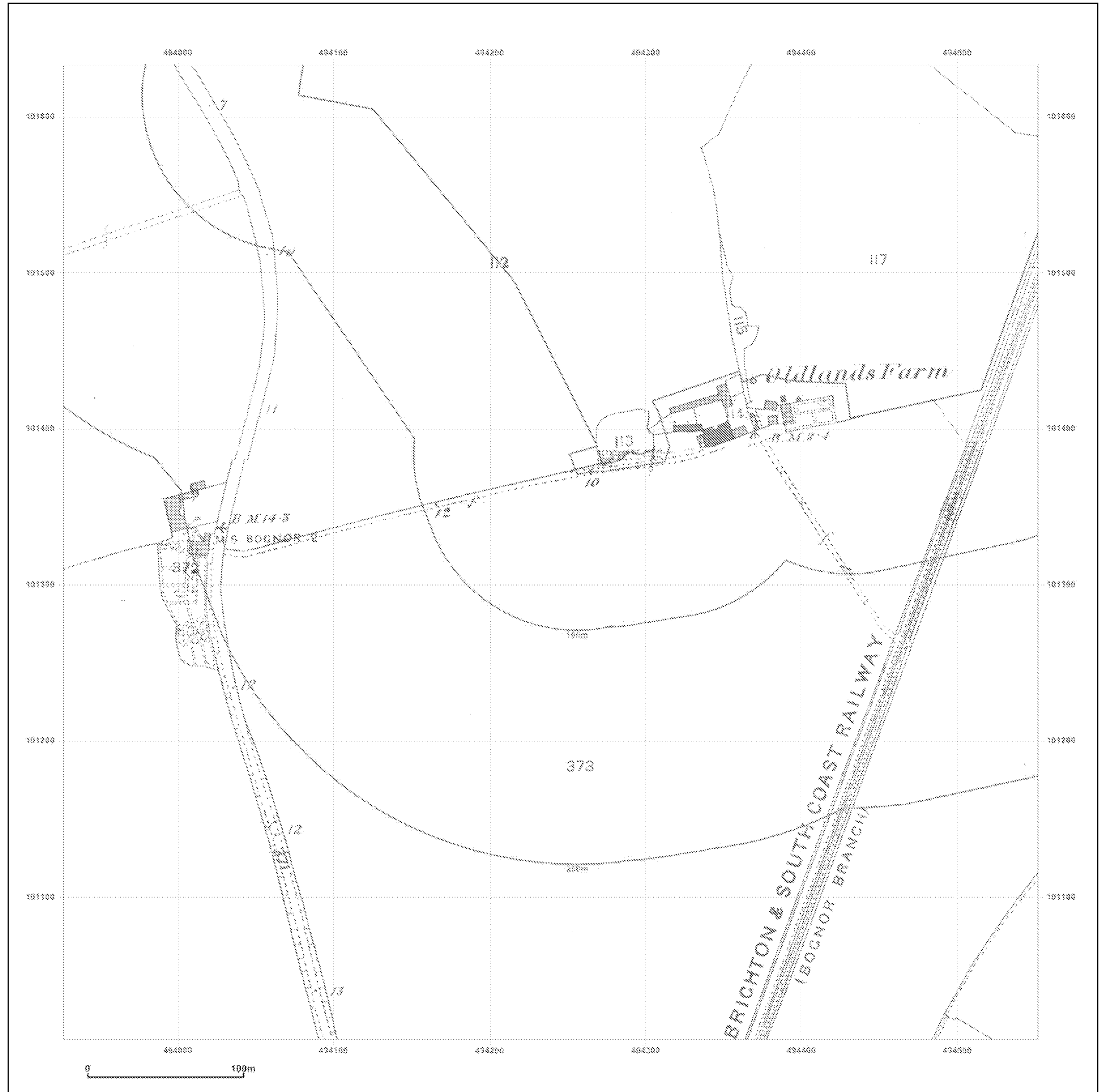
Ordnance Survey
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A2
Grid Ref: 494239, 101321

Map Name: County Series

Map date: 1876

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A

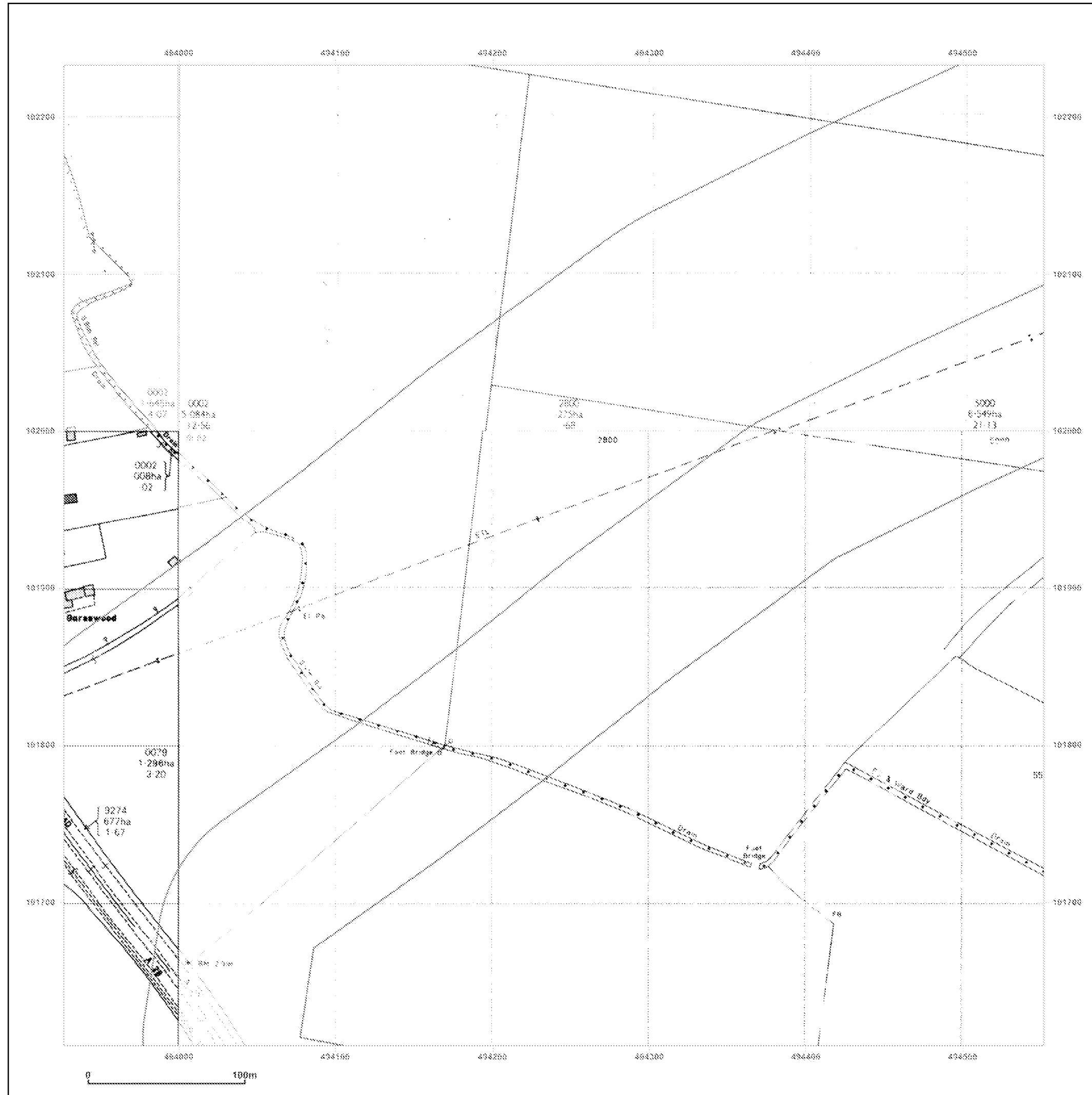
Ordnance Survey
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: National Grid

Map date: 1989-1994

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1992 Revised 1992 Edition N/A Copyright 1992 Levelled N/A	Surveyed 1992 Revised 1992 Edition N/A Copyright 1992 Levelled 1992
Surveyed 1975 Revised 1985 Edition N/A Copyright 1989 Levelled 1975	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

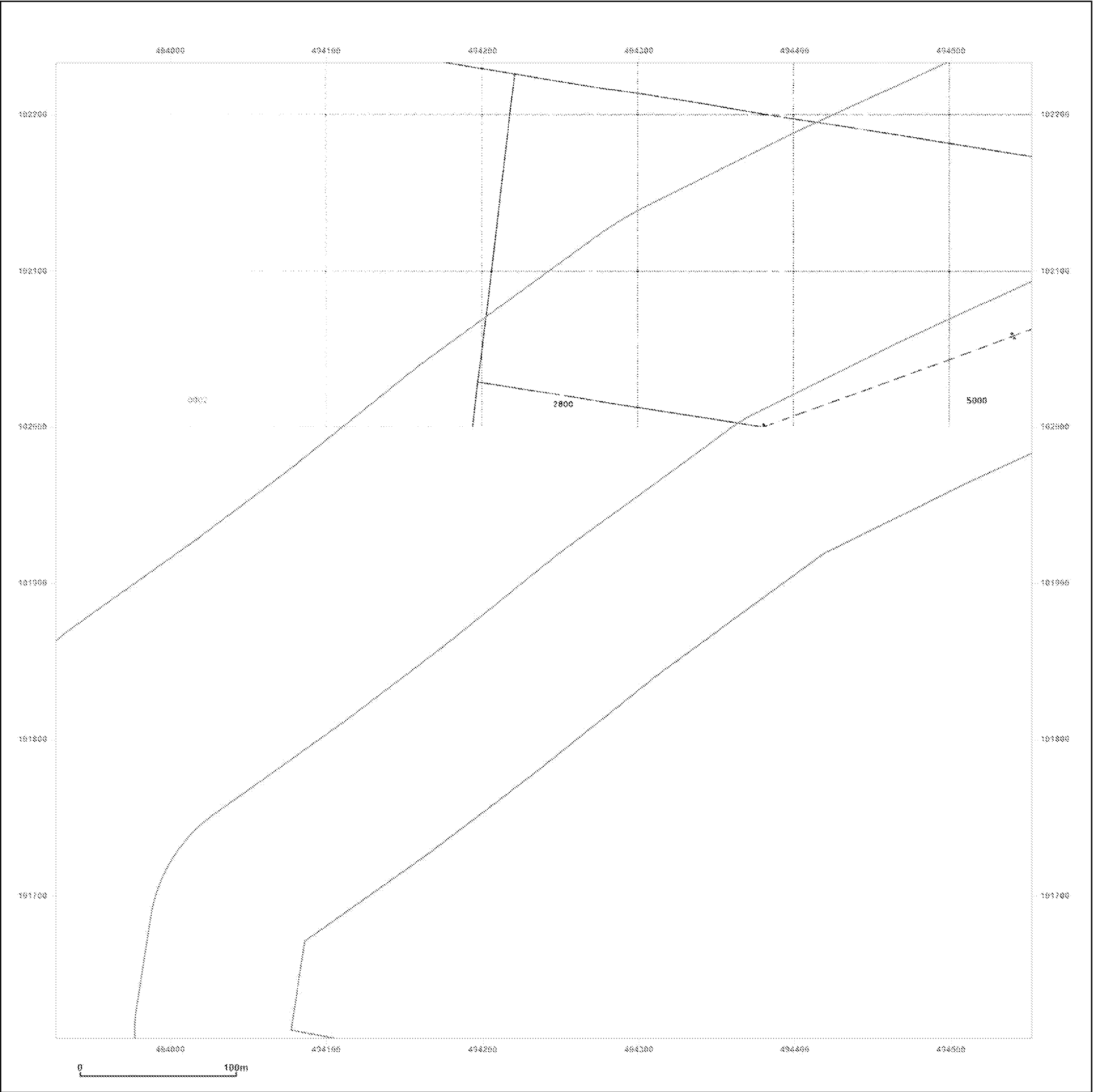
Ordnance Survey
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

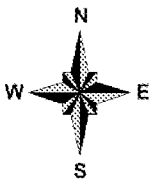
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: National Grid

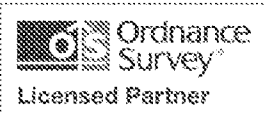
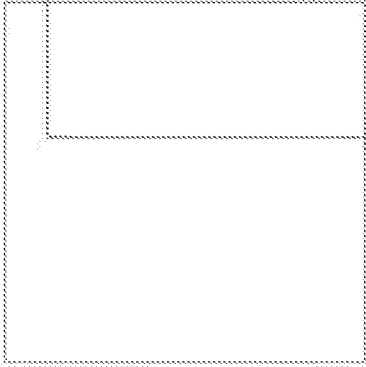
Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



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

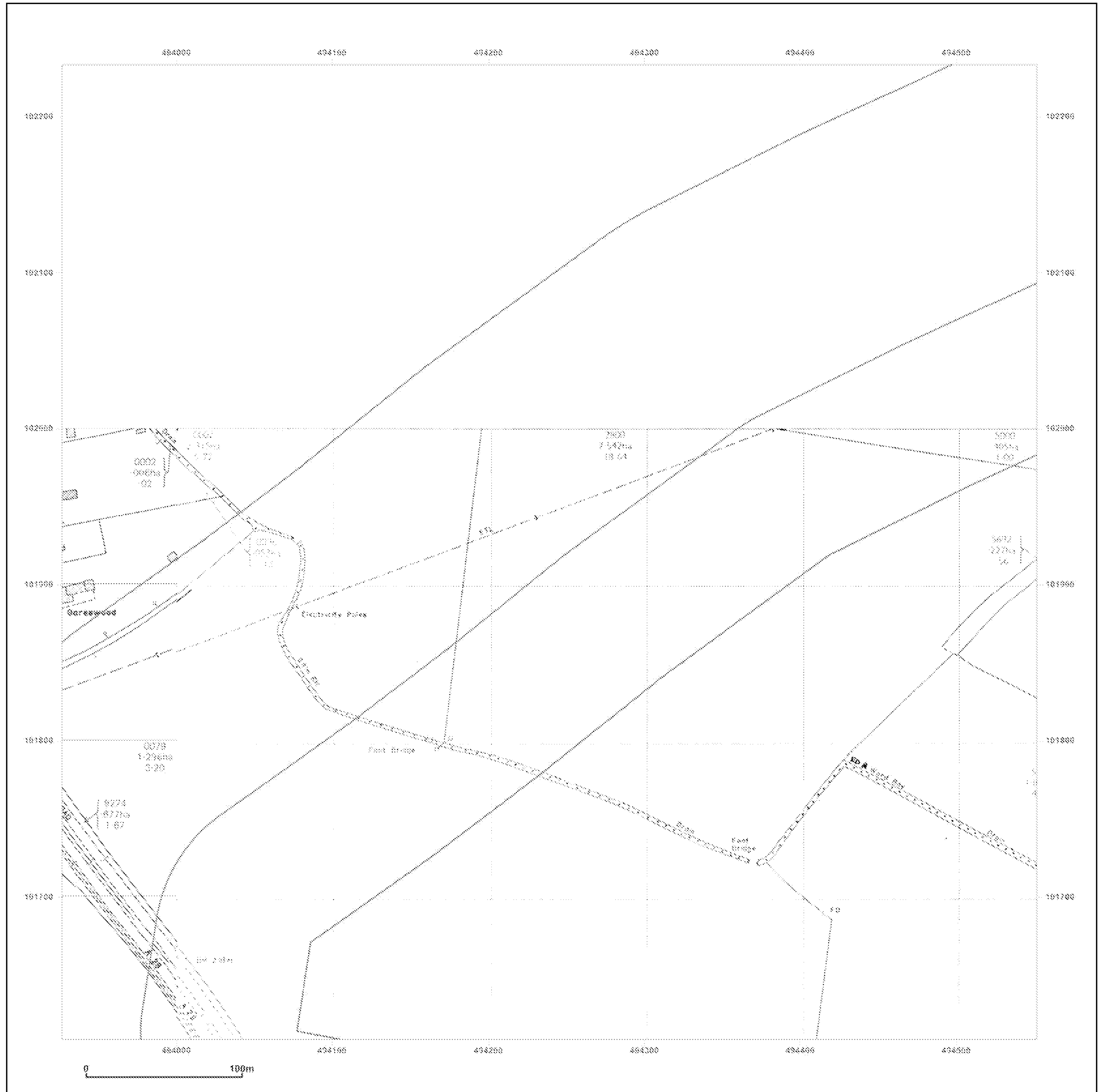


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

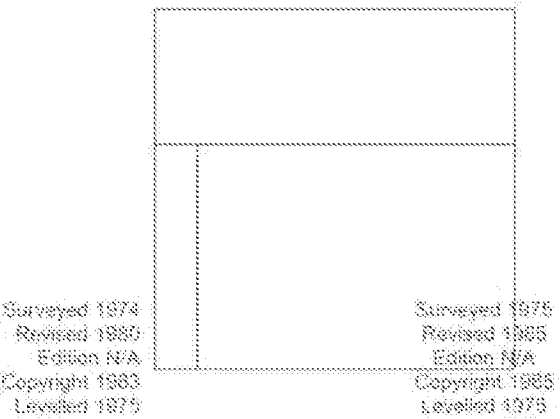
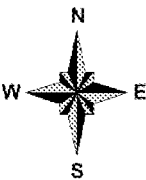
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: National Grid

Map date: 1982-1985

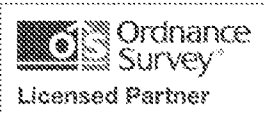
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1974
Revised 1985
Edition N/A
Copyright 1983
Levelled 1975

Surveyed 1975
Revised 1985
Edition N/A
Copyright 1985
Levelled 1975



Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Land at Oldlands Farm, Bognor
Regis, PO22 9ST

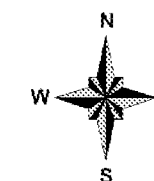
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: National Grid

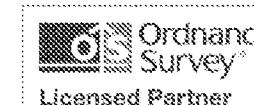
Map date: 1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1980
Revised 1980
Edition N/A
Copyright 1980
Levelled N/A

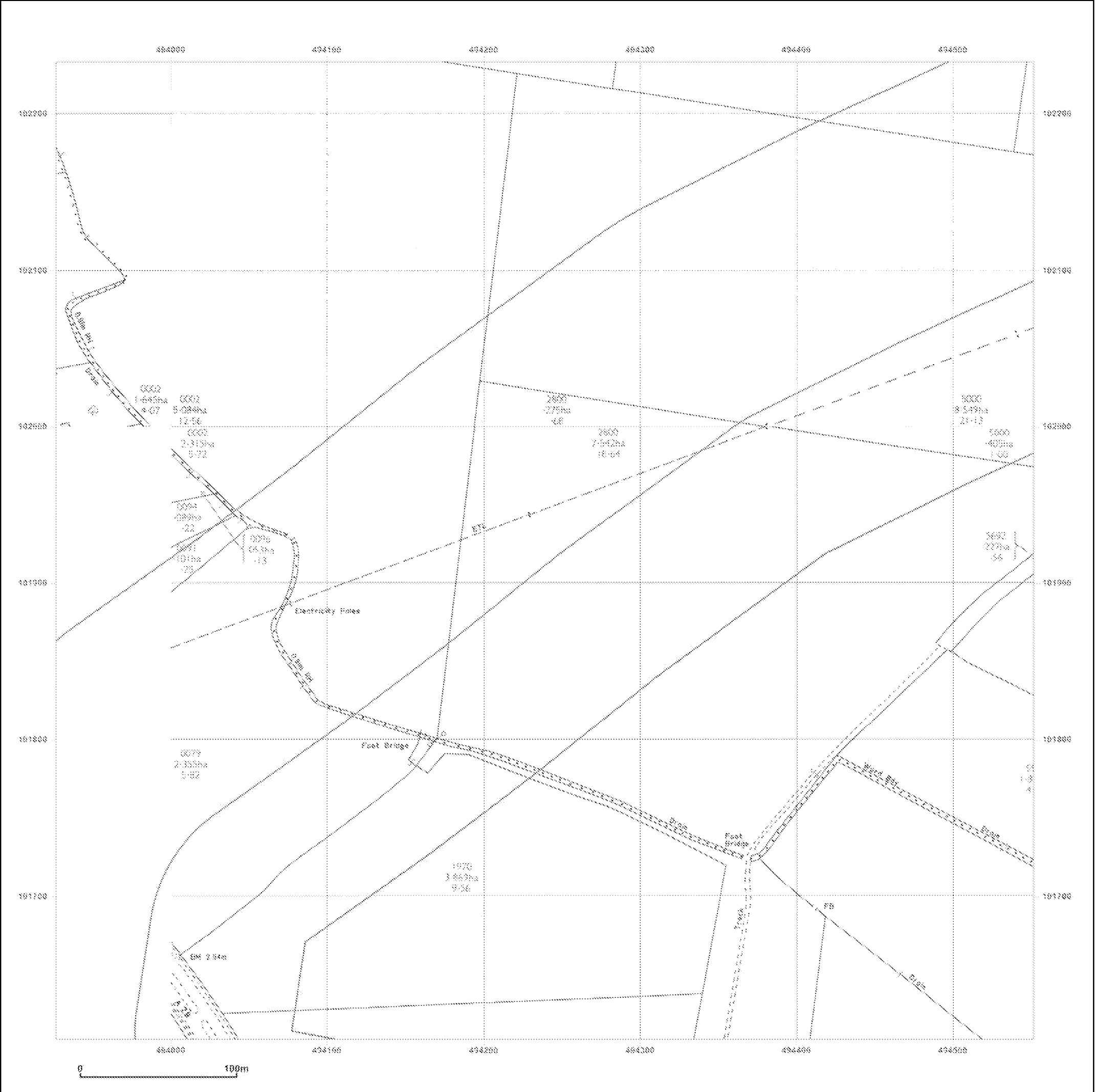


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

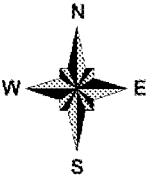
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: National Grid

Map date: 1974

Scale: 1:2,500

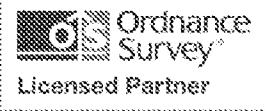
Printed at: 1:2,500



Surveyed 1974
Revised 1974
Edition N/A
Copyright 1976
Levelled 1950

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1974
Levelled 1950

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1976
Levelled 1950

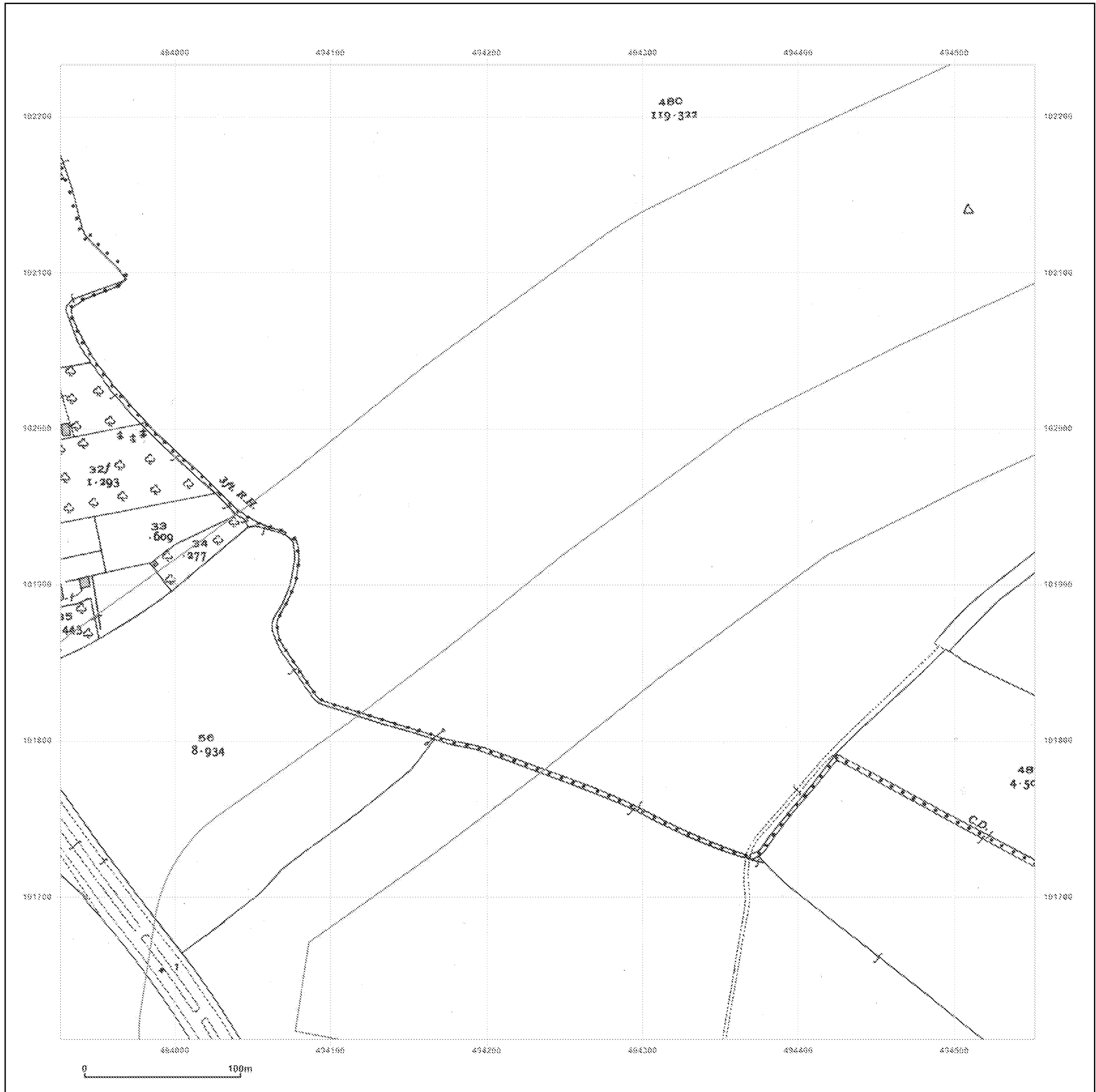


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: County Series

Map date: 1939

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1938
Revised 1939
Edition N/A
Copyright N/A
Levelled N/A

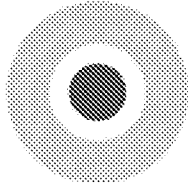
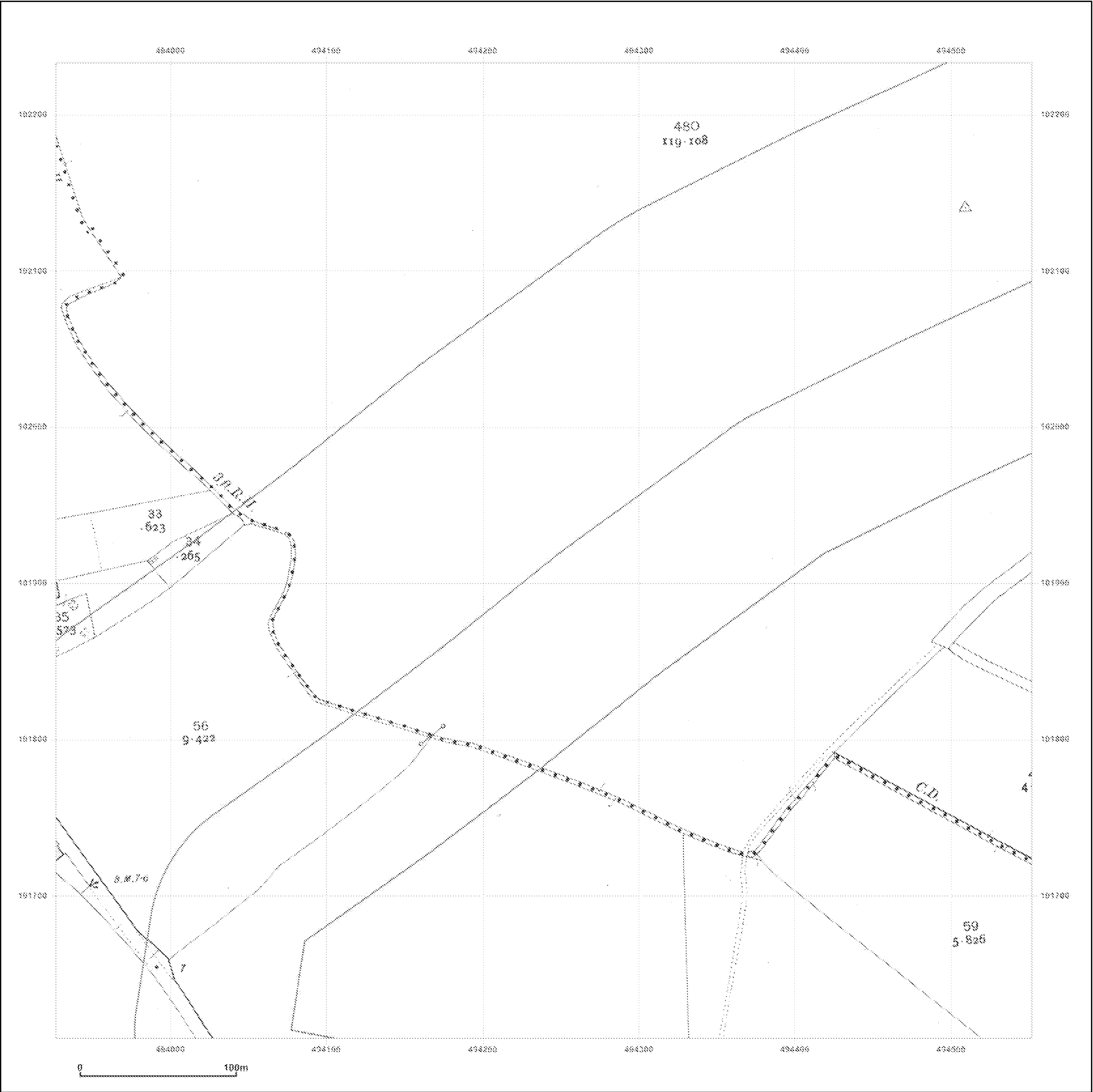
 **Ordnance Survey**
Licensed Partner

Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: County Series

Map date: 1912

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

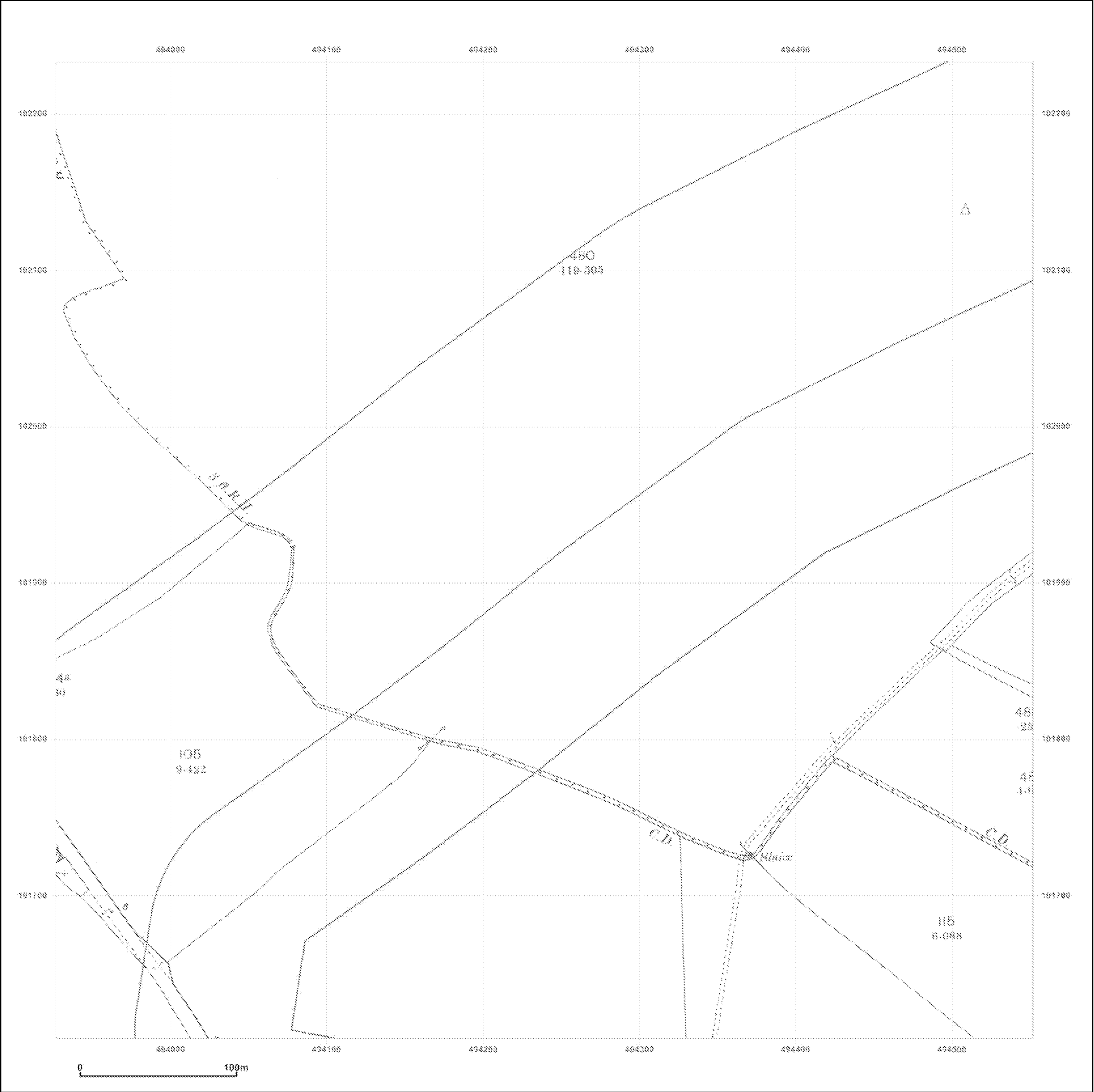


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)



Site Details:

Land at Oldlands Farm, Bognor
Regis, PO22 9ST

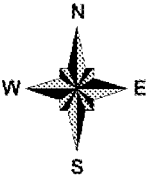
Client Ref: N5752 / C14459
Report Ref: HYD-1466353_LS_A1
Grid Ref: 494239, 101921

Map Name: County Series

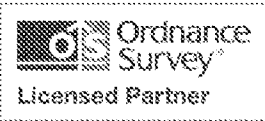
Map date: 1898

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1898
Revised 1998
Edition N/A
Copyright N/A
Levelled N/A

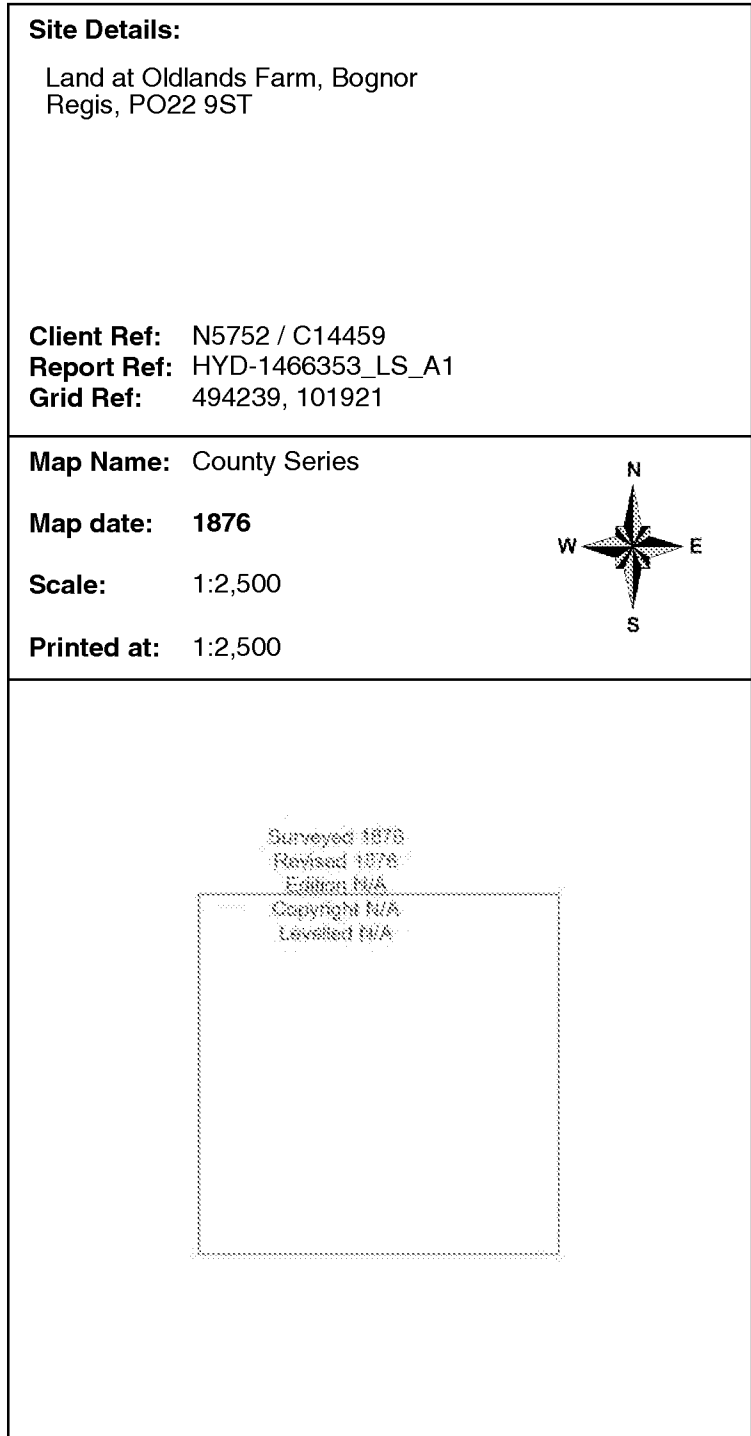


Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsurre.com
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 23 May 2014

To view map legend click here [Legend](#)





Appendix D

Desk Study Research Information



Hydrock Consultants Ltd

2-4 Hawthorn Park, Holdenby Road,
Northampton, NN6 8LD

Report Reference: HYD-1466355

Your Reference: N5752 / C14459

Report Date 23 May 2014

Report Delivery Email - pdf
Method:

GroundSure Geoinsight

Address: Land at Oldlands Farm, Bognor Regis, PO22 9ST

Dear Sir/ Madam,

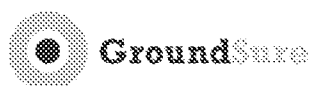
Thank you for placing your order with GroundSure. Please find enclosed the GroundSure GeoInsight as requested.

If you need any further assistance, please do not hesitate to contact our helpline on [REDACTED] quoting the above report reference number.

Yours faithfully,

Hydrock

Enc.
GroundSure GeoInsight



GroundSure GeoInsight

Address: Land at Oldlands Farm, Bognor Regis, PO22 9ST

Date: 23 May 2014

Reference: HYD-1466355

Client: Hydrock Consultants Ltd



Aerial Photograph Capture date: 13-Sep-2012
Grid Reference: 494377,101684
Site Size: 22.03ha

Contents Page

Contents Page	3
Overview of Findings.....	4
1 Geology.....	6
1.1 Artificial Ground Map.....	6
1.1 Artificial Ground.....	7
1.1.1 Artificial/ Made Ground.....	7
1.1.2 Permeability of Artificial Ground.....	7
1.2 Superficial Deposits and Landslips Map.....	8
1.2 Superficial Deposits and Landslips.....	9
1.2.1 Superficial Deposits/ Drift Geology.....	9
1.2.2 Permeability of Superficial Ground.....	9
1.2.3 Landslip.....	9
1.2.4 Landslip Permeability.....	9
1.3 Bedrock and Faults Map.....	10
1.3 Bedrock, Solid Geology & Faults.....	11
1.3.1 Bedrock/ Solid Geology.....	11
1.3.2 Permeability of Bedrock Ground.....	11
1.3.3 Faults.....	11
1.4 Radon Data.....	12
1.4.1 Radon Affected Areas.....	12
1.4.2 Radon Protection.....	12
2 Ground Workings Map.....	13
2 Ground Workings.....	14
2.1 Historical Surface Ground Working Features derived from Historical Mapping.....	14
2.2 Historical Underground Working Features derived from Historical Mapping.....	14
2.3 Current Ground Workings.....	15
3 Mining, Extraction & Natural Cavities Map.....	16
3 Mining, Extraction & Natural Cavities.....	17
3.1 Historical Mining.....	17
3.2 Coal Mining.....	17
3.3 Johnson Poole and Bloomer.....	17
3.4 Non-Coal Mining.....	17
3.5 Non-Coal Mining Cavities.....	18
3.6 Natural Cavities.....	18
3.7 Brine Extraction.....	18
3.8 Gypsum Extraction.....	18
3.9 Tin Mining.....	18
3.10 Clay Mining.....	19
4 Natural Ground Subsidence.....	20
4.1 Shrink-Swell Clay Map.....	20
4.2 Landslides Map.....	21
4.3 Ground Dissolution Soluble Rocks Map.....	22
4.4 Compressible Deposits Map.....	23
4.5 Collapsible Deposits Map.....	24
4.6 Running Sand Map.....	25
4 Natural Ground Subsidence.....	26
4.1 Shrink-Swell Clays.....	26
4.2 Landslides.....	26
4.3 Ground Dissolution of Soluble Rocks.....	27
4.4 Compressible Deposits.....	27
4.5 Collapsible Deposits.....	27
4.6 Running Sands.....	27
5 Borehole Records Map.....	29
5 Borehole Records.....	30
6 Estimated Background Soil Chemistry.....	31

Report Reference: HYD-1466355

Client Reference: N5752 / C14459

Overview of Findings

The GroundSure GeoInsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

Section 2: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	9	0	0	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0

Section 3 Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	0	1	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

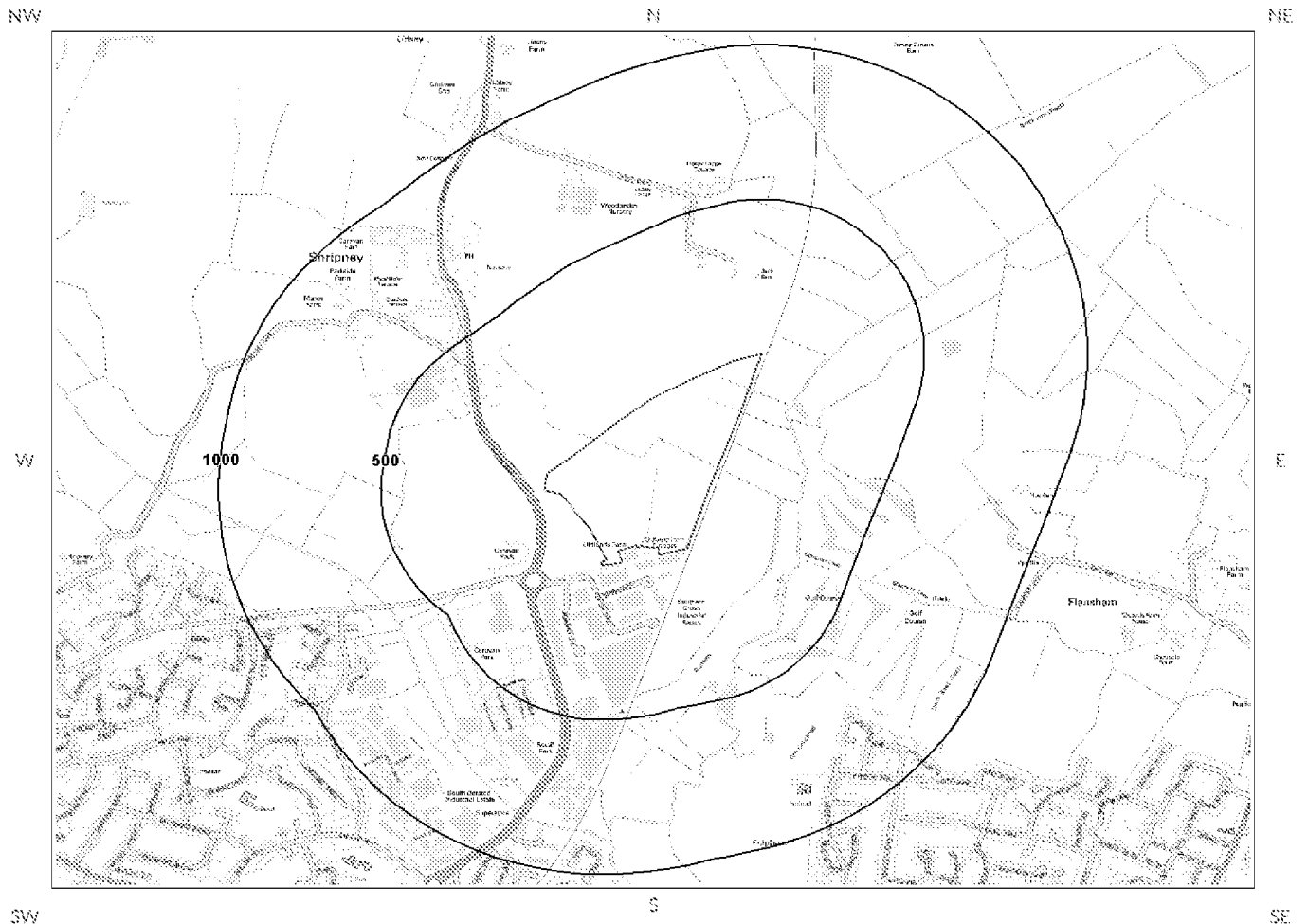
Section 4 Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Very Low
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Low
4.6 Running Sand	Low

Section 5 Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	1	0	0

Section 6 Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	4	0	2

1 Geology

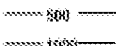
1.1 Artificial Ground Map



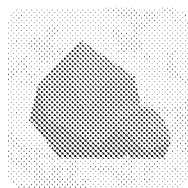
Artificial Ground Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

Report Reference: HYD-1466355
Client Reference: N5752 / C14459



1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:332

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

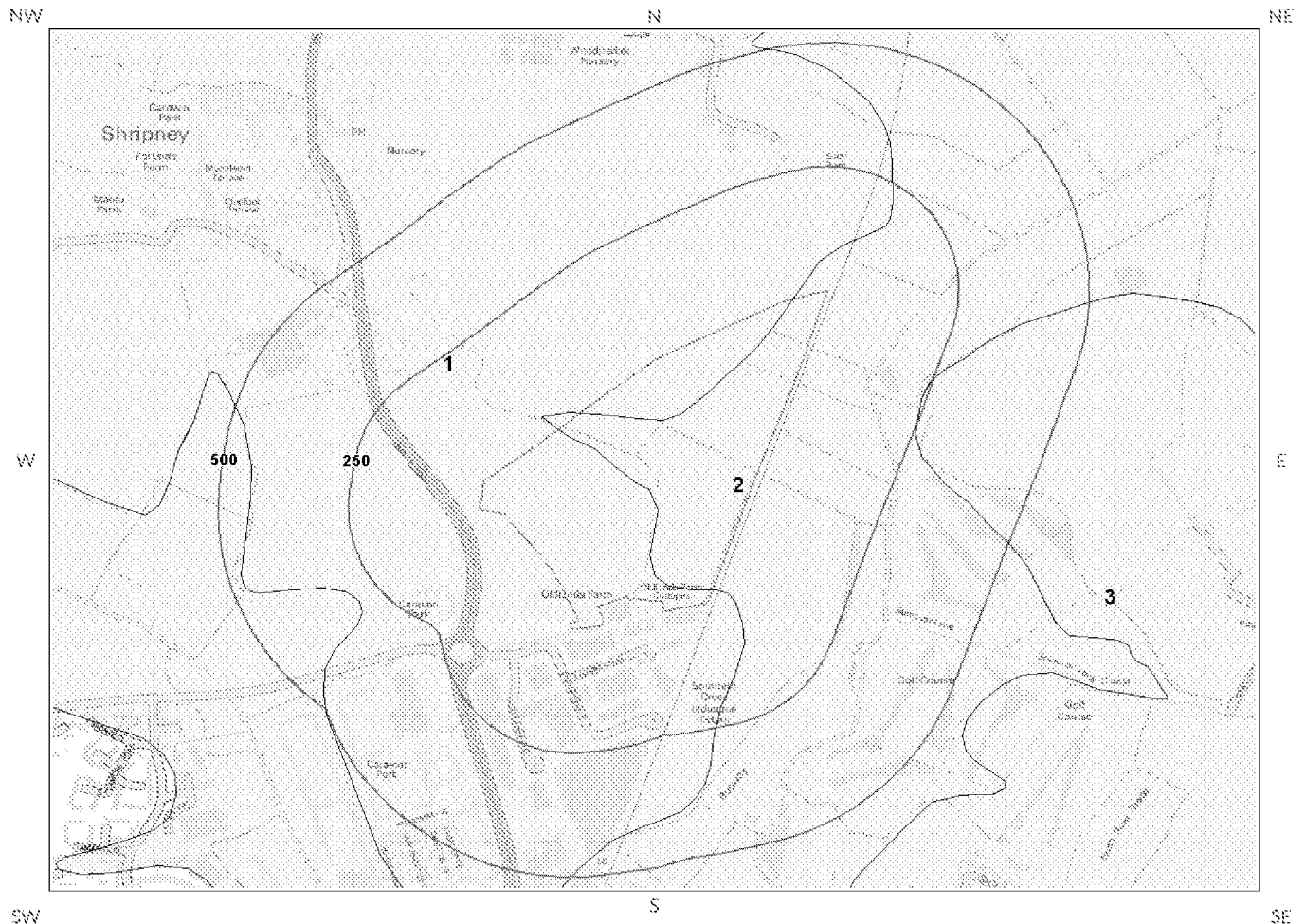
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



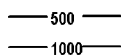
Superficial Deposits and Landslips
Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



Site Outline



Search Buffers (m)