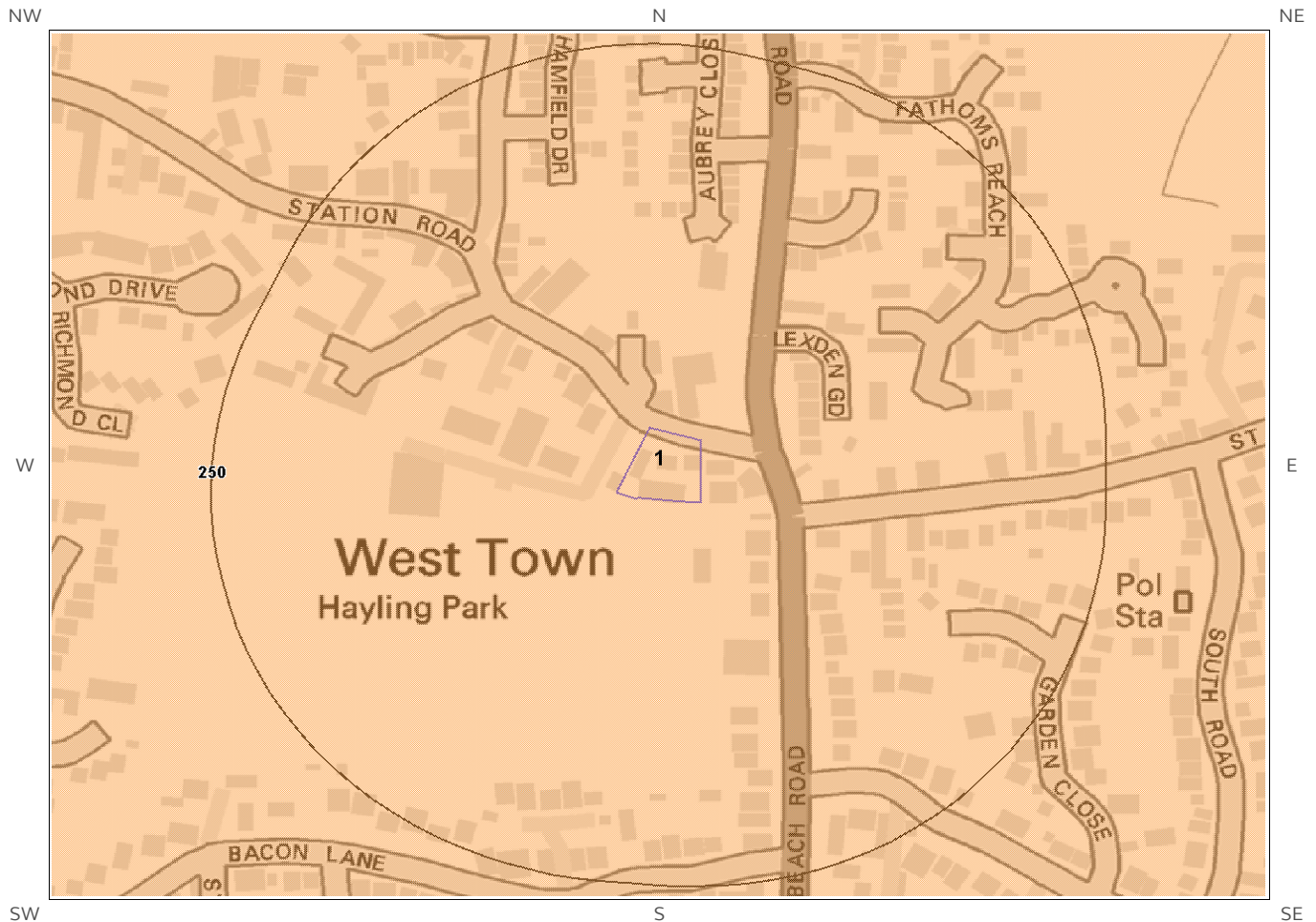


6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

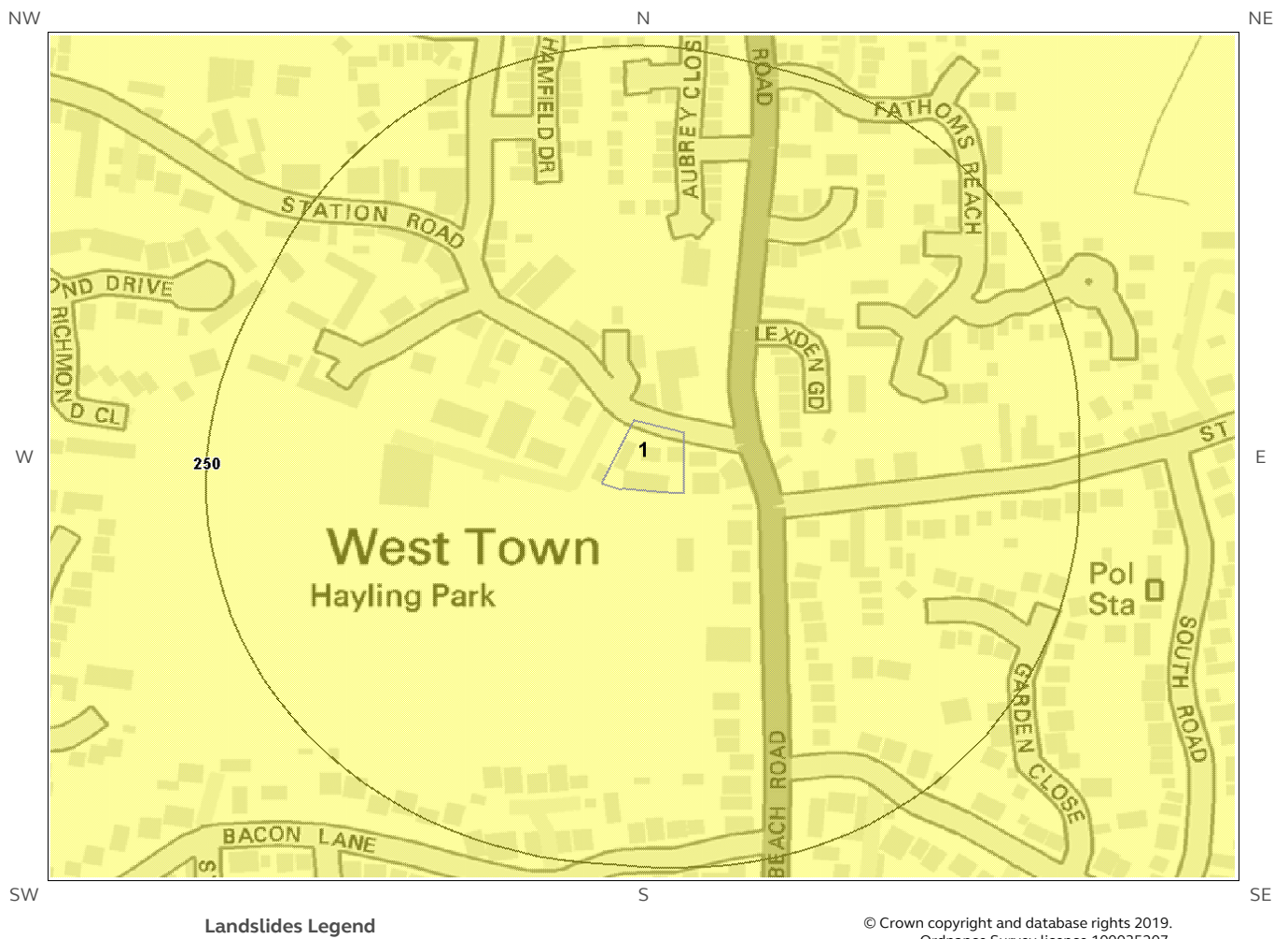


Shrink Swell Clay Legend

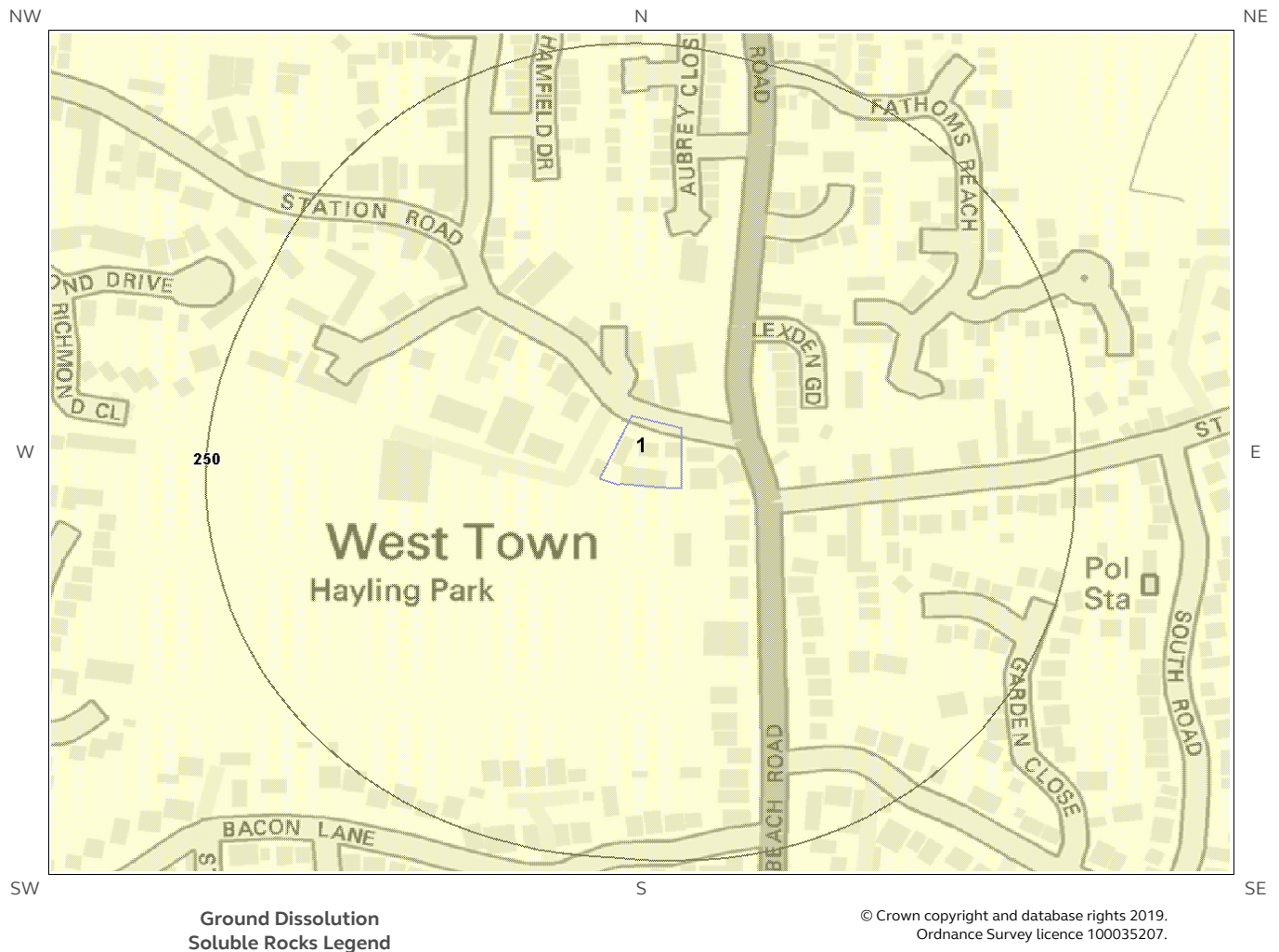
© Crown copyright and database rights 2019.
Ordnance Survey licence 100035207.



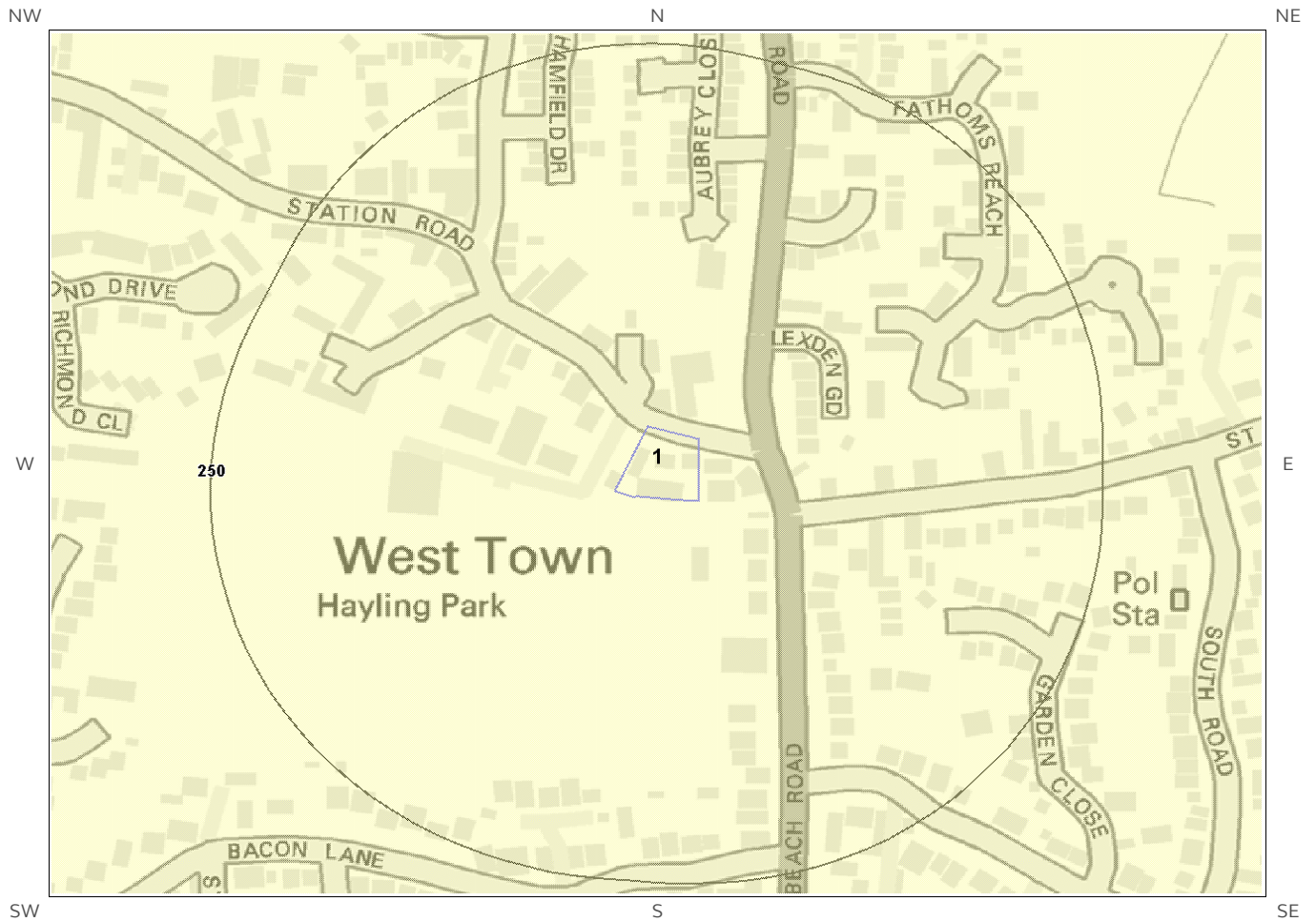
6.2 Landslides map



6.3 Ground Dissolution of Soluble Rocks map



6.4 Compressible Deposits map

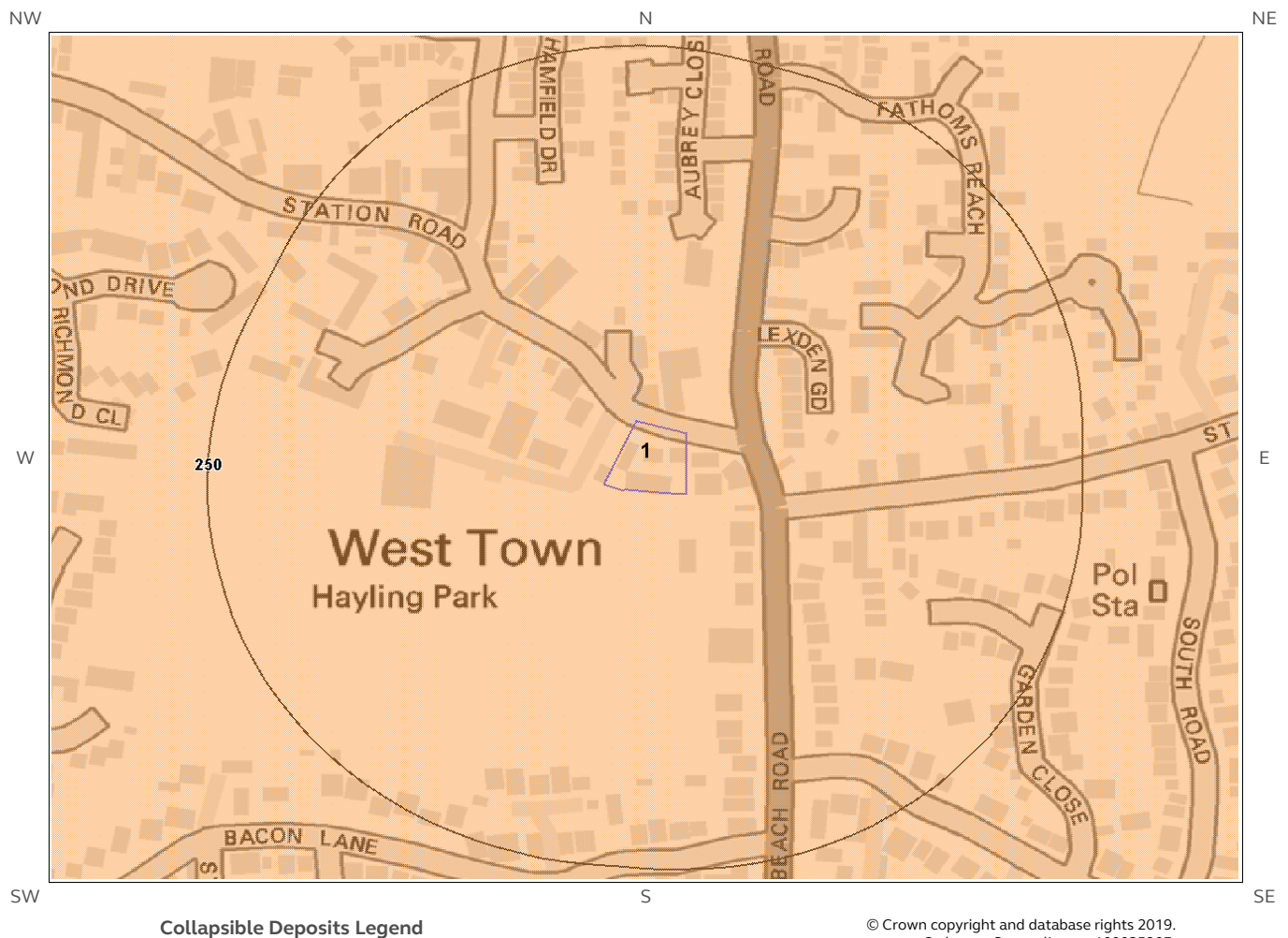


Compressible Deposits Legend

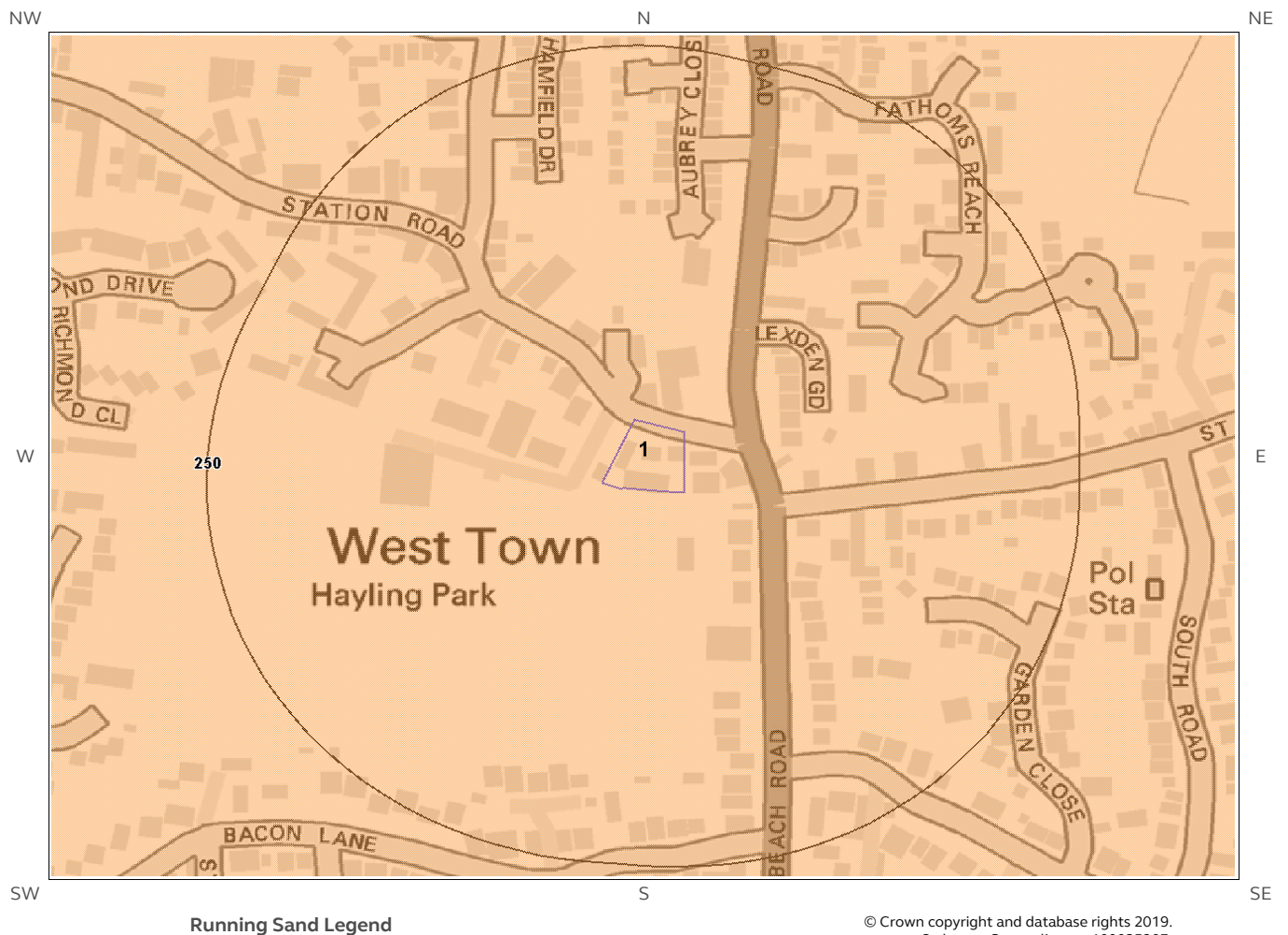
© Crown copyright and database rights 2019.
Ordnance Survey licence 100035207.



6.5 Collapsible Deposits map



6.6 Running Sand map



6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? Low

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

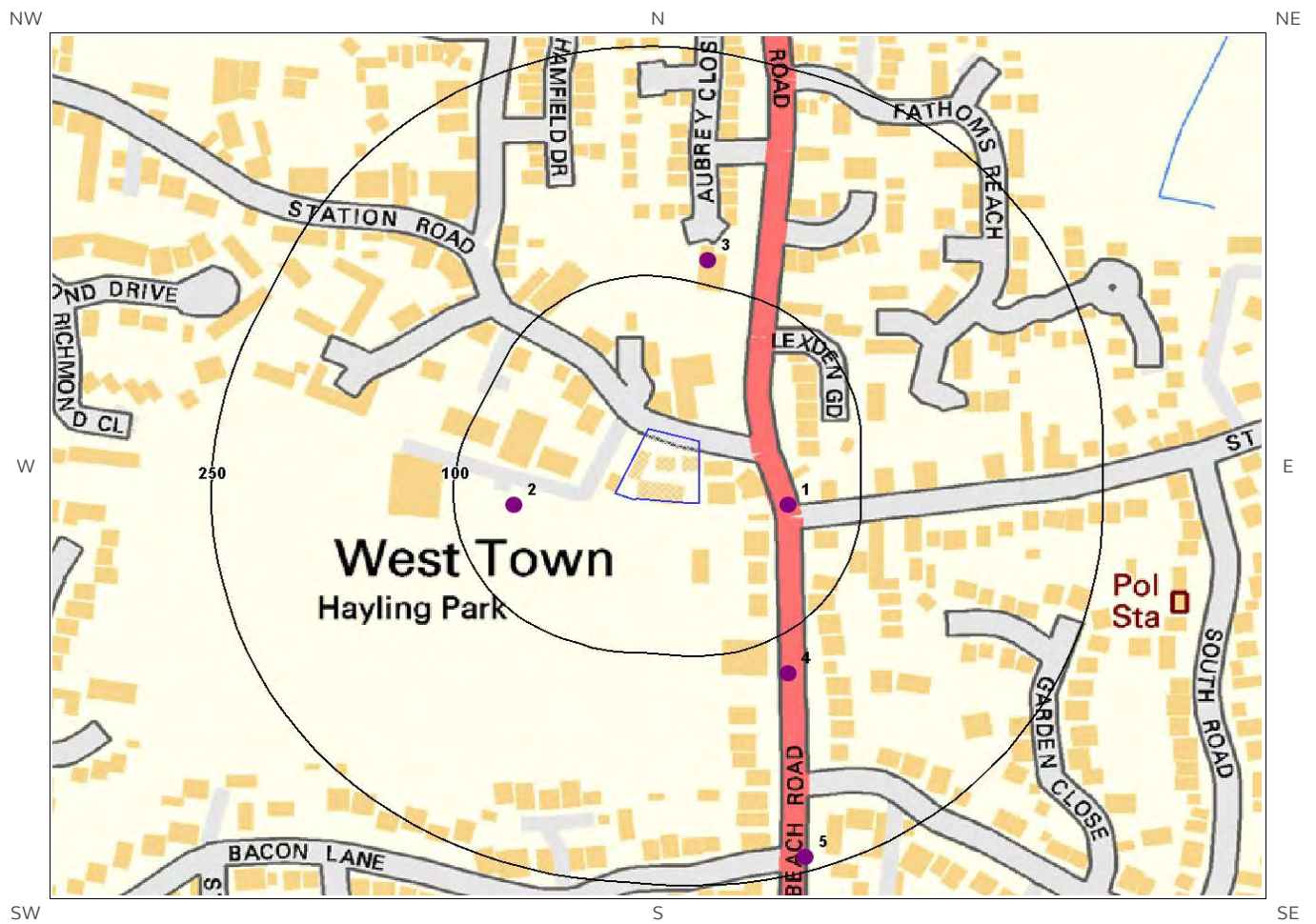
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soak-aways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation. For existing property, no significant increase in insurance risk from collapsible deposits is likely.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

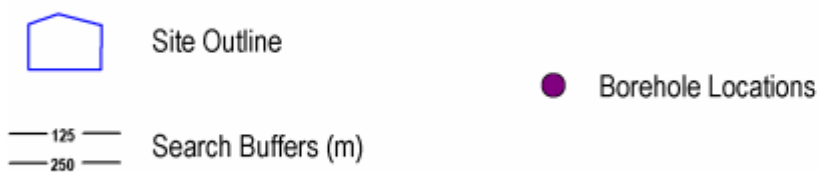
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.

7 Borehole Records map



Borehole Records Legend

© Crown copyright and database rights 2019.
 Ordnance Survey licence 100035207.



7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

5

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	55.0	E	471460 99430	SZ79NW56	3.0	SOUTH HAYLING SURFACE WATER DRAINAGE 1/1A
2	63.0	W	471290 99430	SZ79NW9	1.52	HAYLING ISLAND MAIN DRAINAGE NO.104
3	116.0	N	471410 99590	SZ79NW10	1.82	HAYLING ISLAND MAIN DRAINAGE NO.103
4	124.0	SE	471460 99320	SZ79NW57	3.0	SOUTH HAYLING SURFACE WATER DRAINAGE 1/2A
5	241.0	S	471470 99200	SZ79NW58	3.0	SOUTH HAYLING SURFACE WATER DRAINAGE 1/3

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/456015

#2: scans.bgs.ac.uk/sobi_scans/boreholes/455968

#3: scans.bgs.ac.uk/sobi_scans/boreholes/455969

#4: scans.bgs.ac.uk/sobi_scans/boreholes/456016

#5: scans.bgs.ac.uk/sobi_scans/boreholes/456017

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

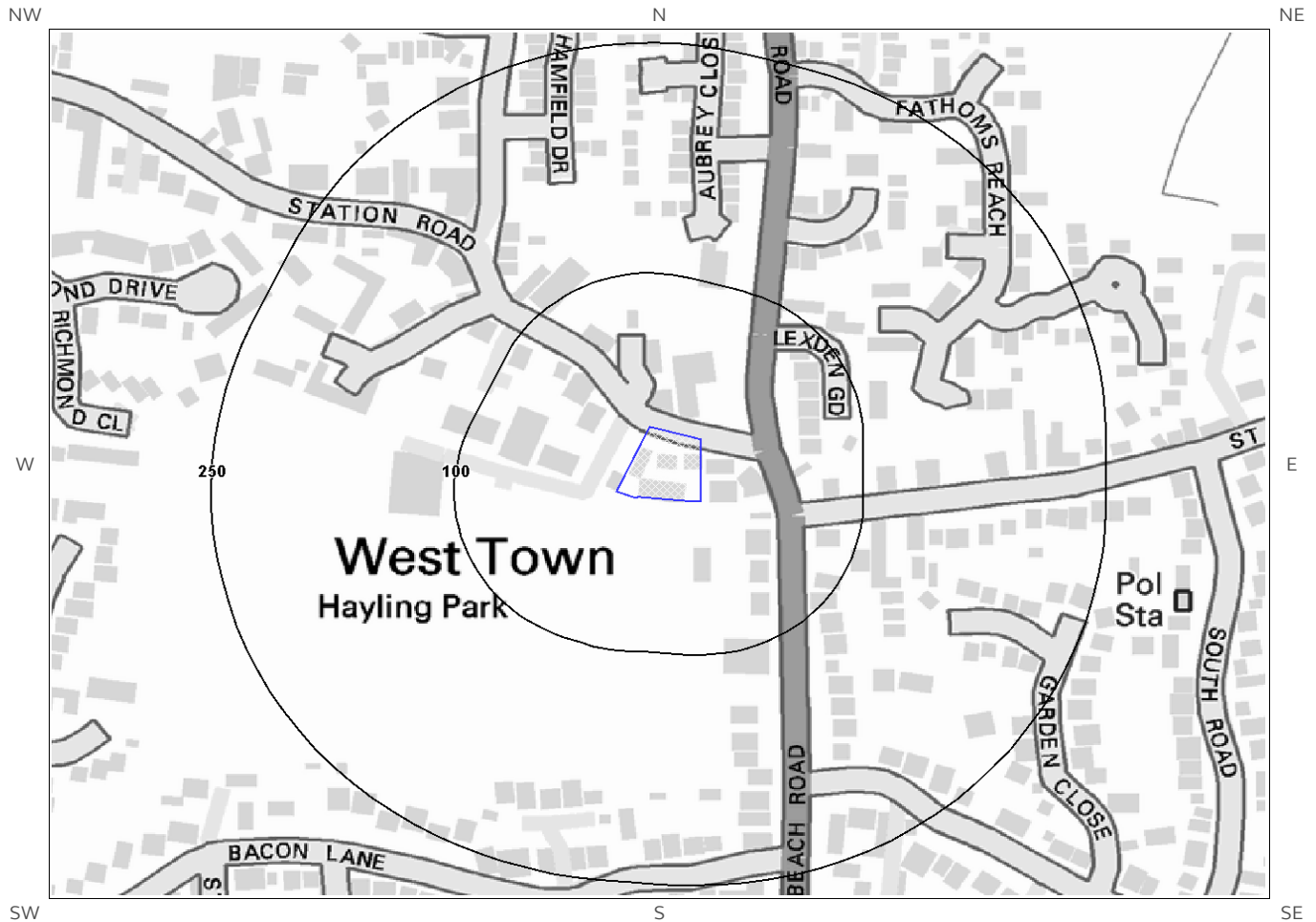
2

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
20.0	N	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

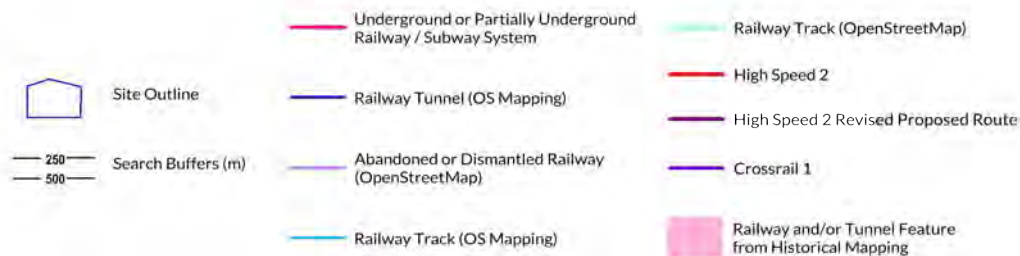
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

© Crown copyright and database rights 2019.
Ordnance Survey licence 100035207.
© OpenStreetMapContributors



9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

British Gypsum

British Gypsum Ltd
East Leake
Loughborough
Leicestershire
LE12 6HX



The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettell Lane
Brierley Hill, West Midlands
DY5 3LH
Tel: +44 (0) 1384 262 000
Email: enquiries.gs@jpb.co.uk
Website: www.jpb.co.uk



Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505
Website: <http://www.ordnancesurvey.co.uk/>



Getmapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444
Website: <http://www1.getmapping.com/>



Peter Brett Associates
Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN
Tel: +44 (0)118 950 0761 E-mail: reading@pba.co.uk
Website: <http://www.peterbrett.com/home>



Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].
This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-may25-2018>

Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1867

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1867
Revised 1867
Edition N/A
Copyright N/A
Levelled N/A

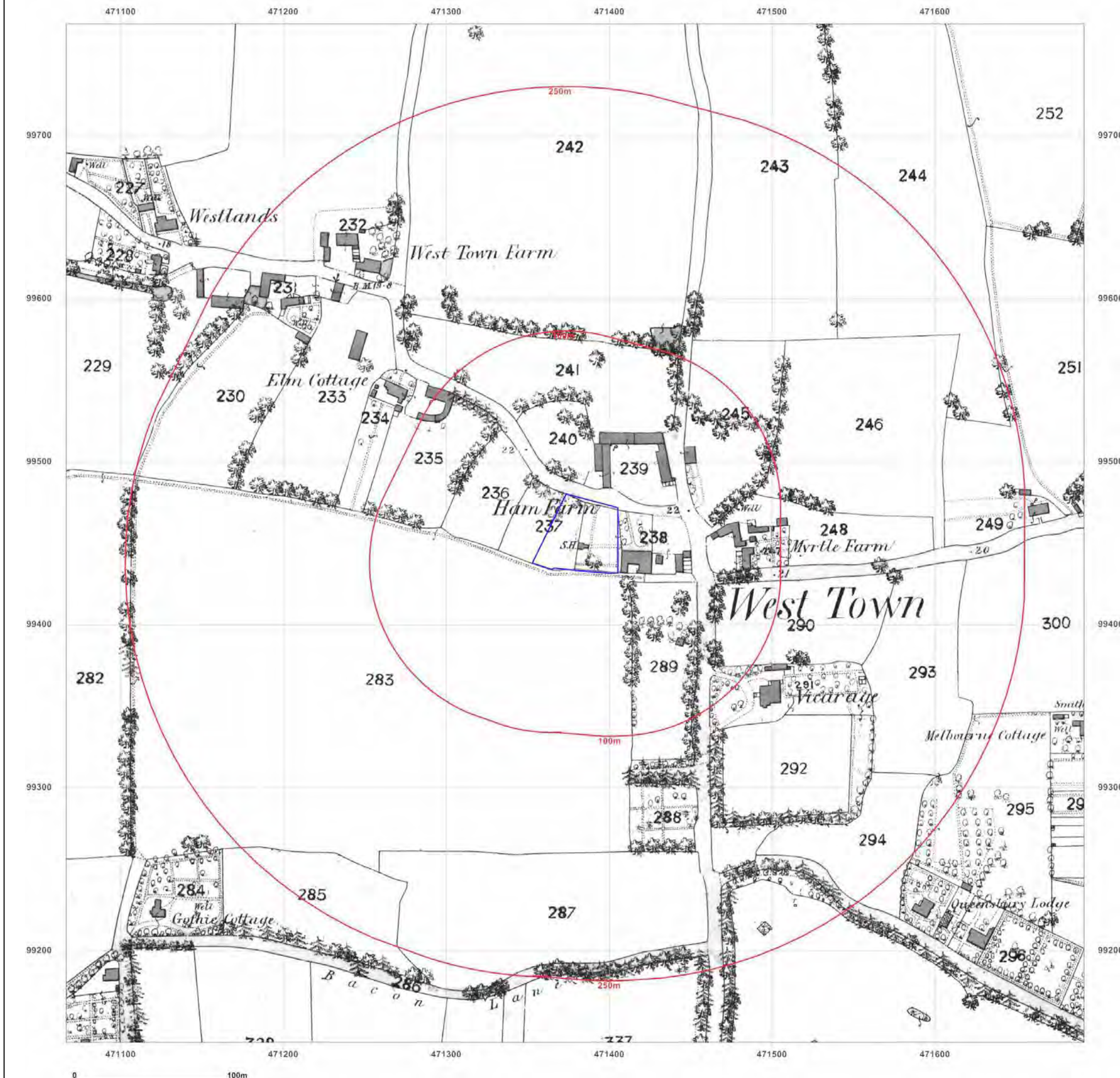


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

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



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: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1908

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1908
Revised 1908
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: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1969
Levelled 1957



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: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1969

Scale: 1:2,500

Printed at: 1:2,500



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



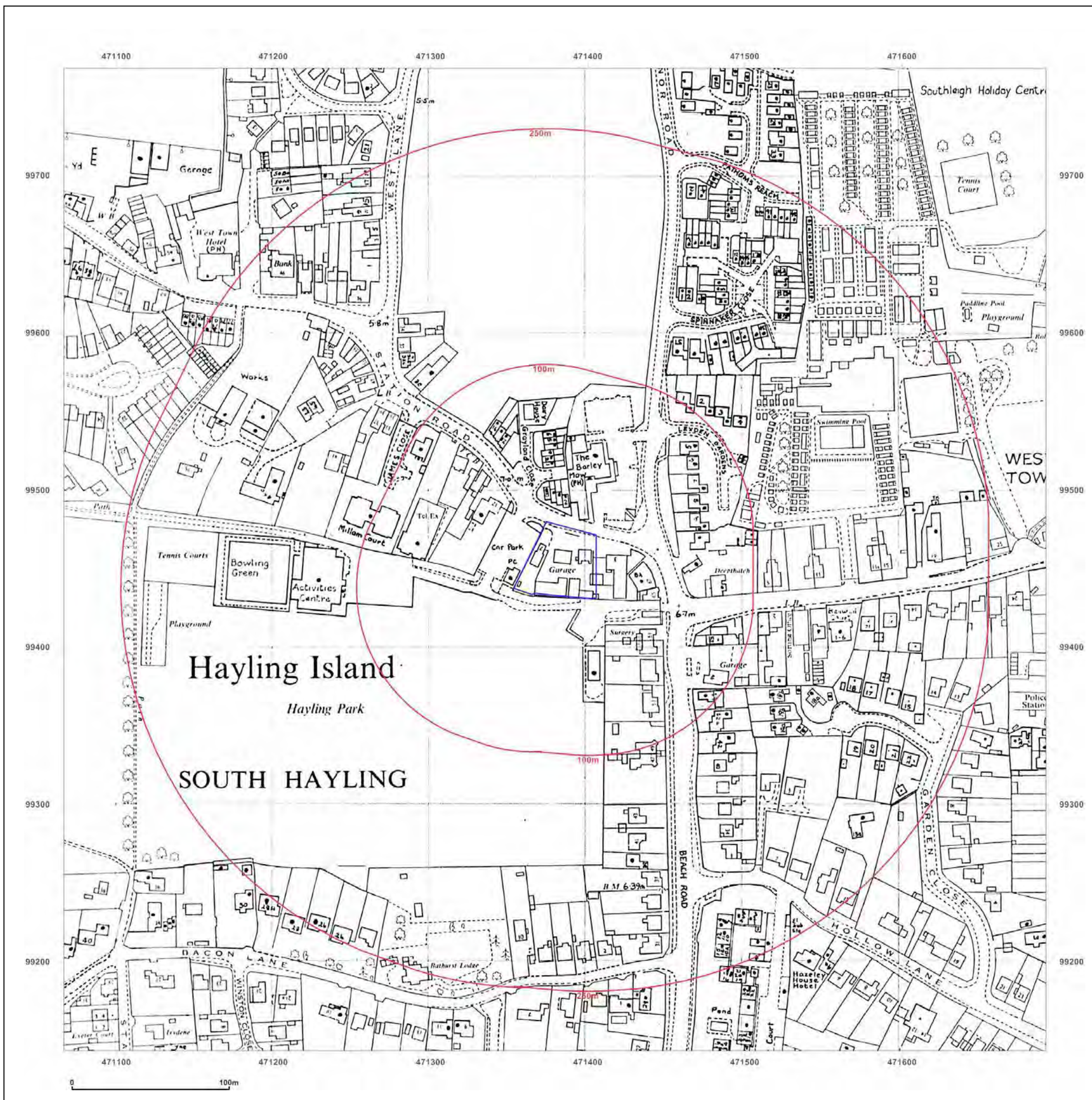
Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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





Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name:	National Grid
------------------	---------------

Map date: 1987

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957
Revised 1987
Edition N/A
Copyright 1987
Levelled 1957



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: 24 January 2019

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

Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1987

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1987
Levelled N/A

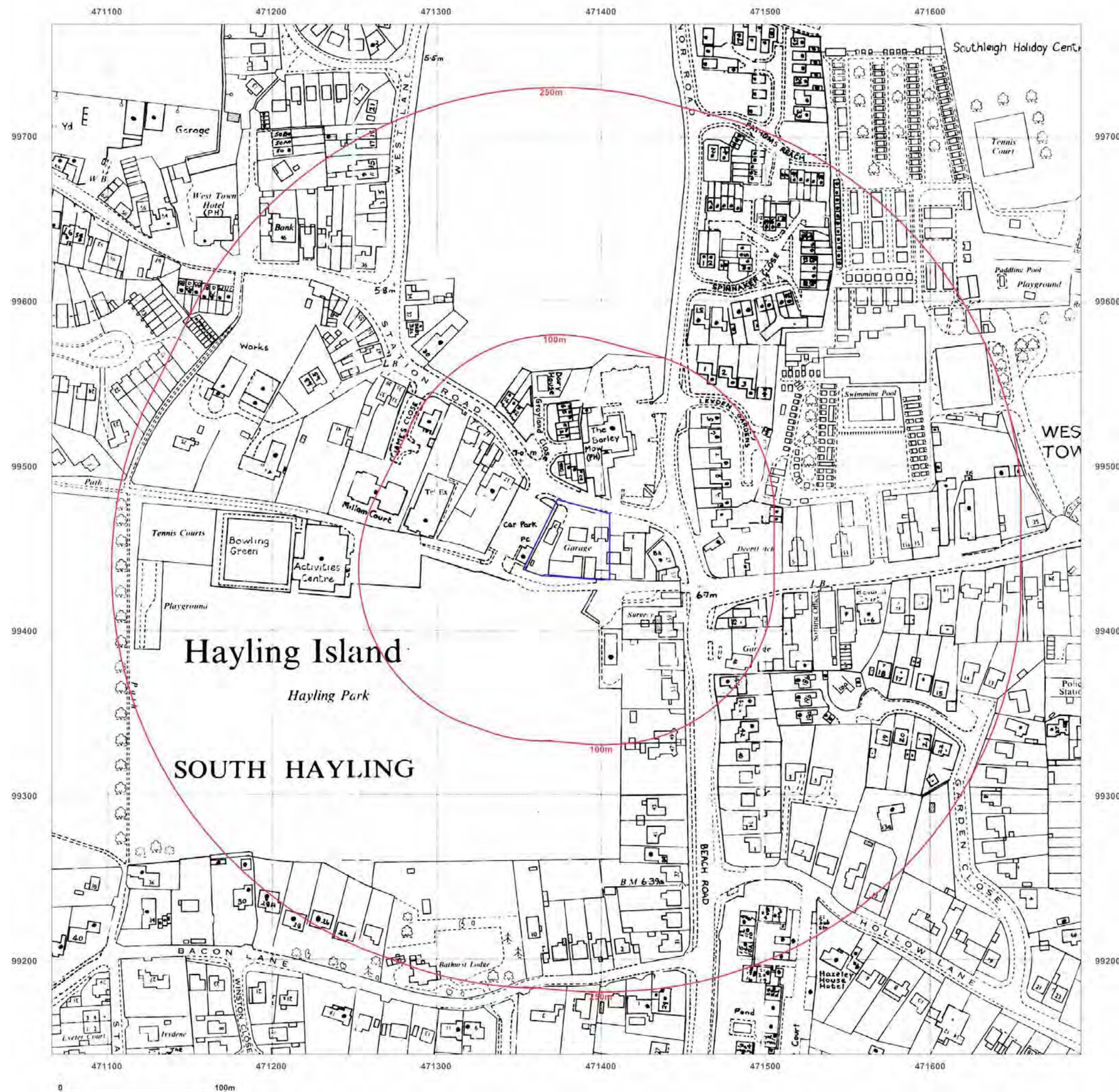


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1989

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1989
Revised 1989
Edition N/A
Copyright 1990
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: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1990

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1989
Edition N/A
Copyright 1990
Levelled N/A

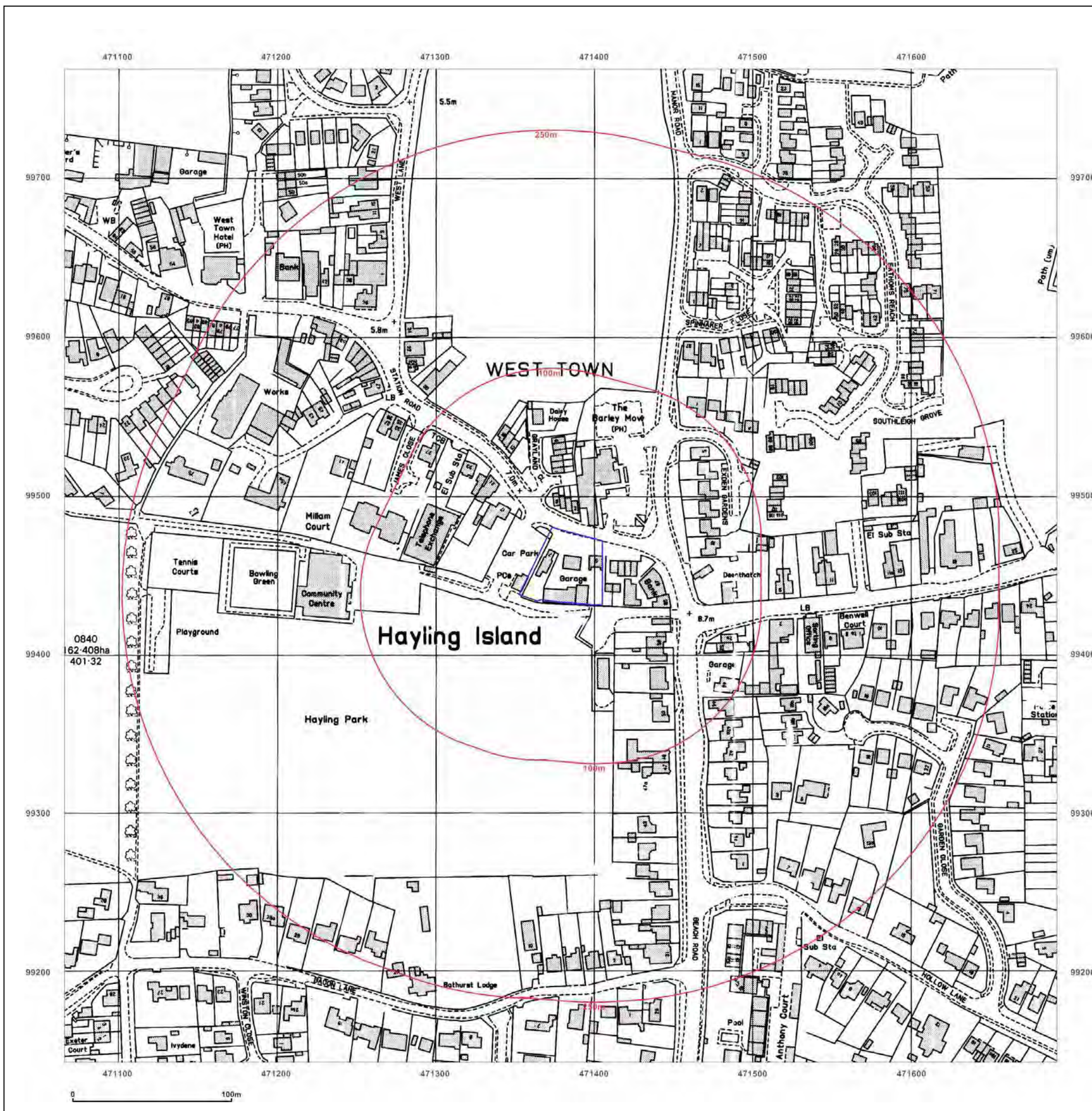


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1990

Scale: 1:2,500

Printed at: 1:2,500



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

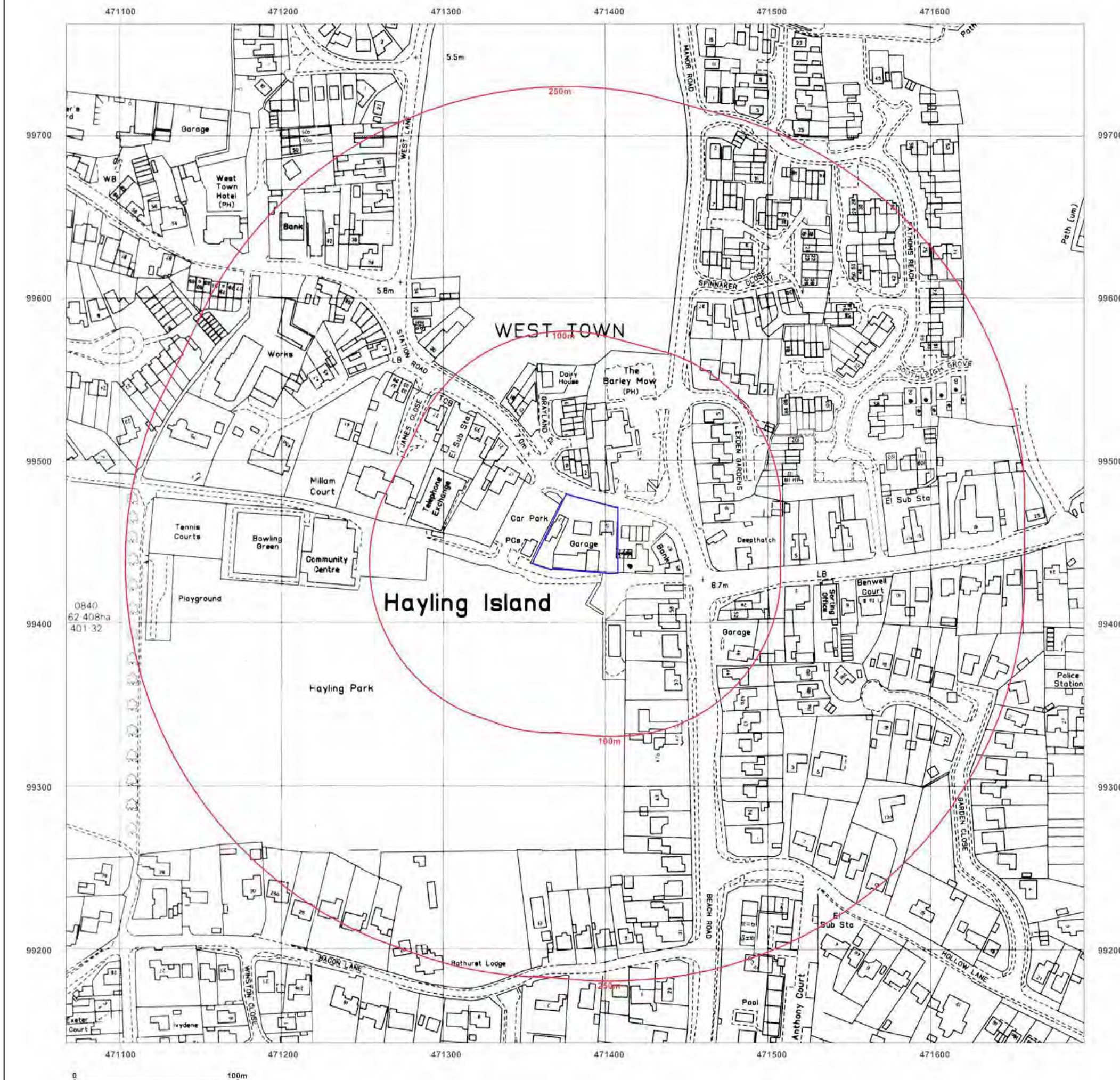


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1991

Scale: 1:2,500

Printed at: 1:2,500



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

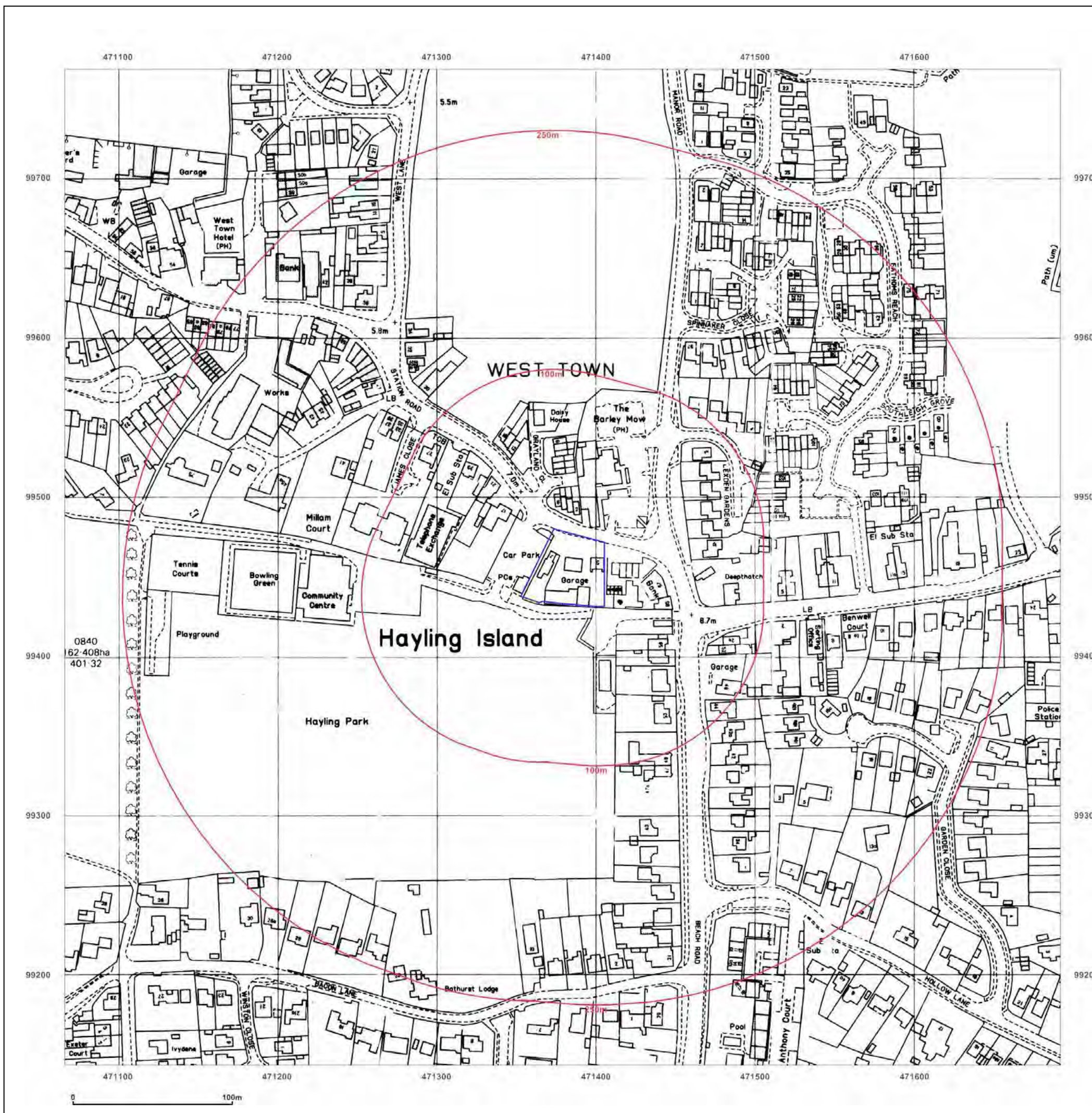


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



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

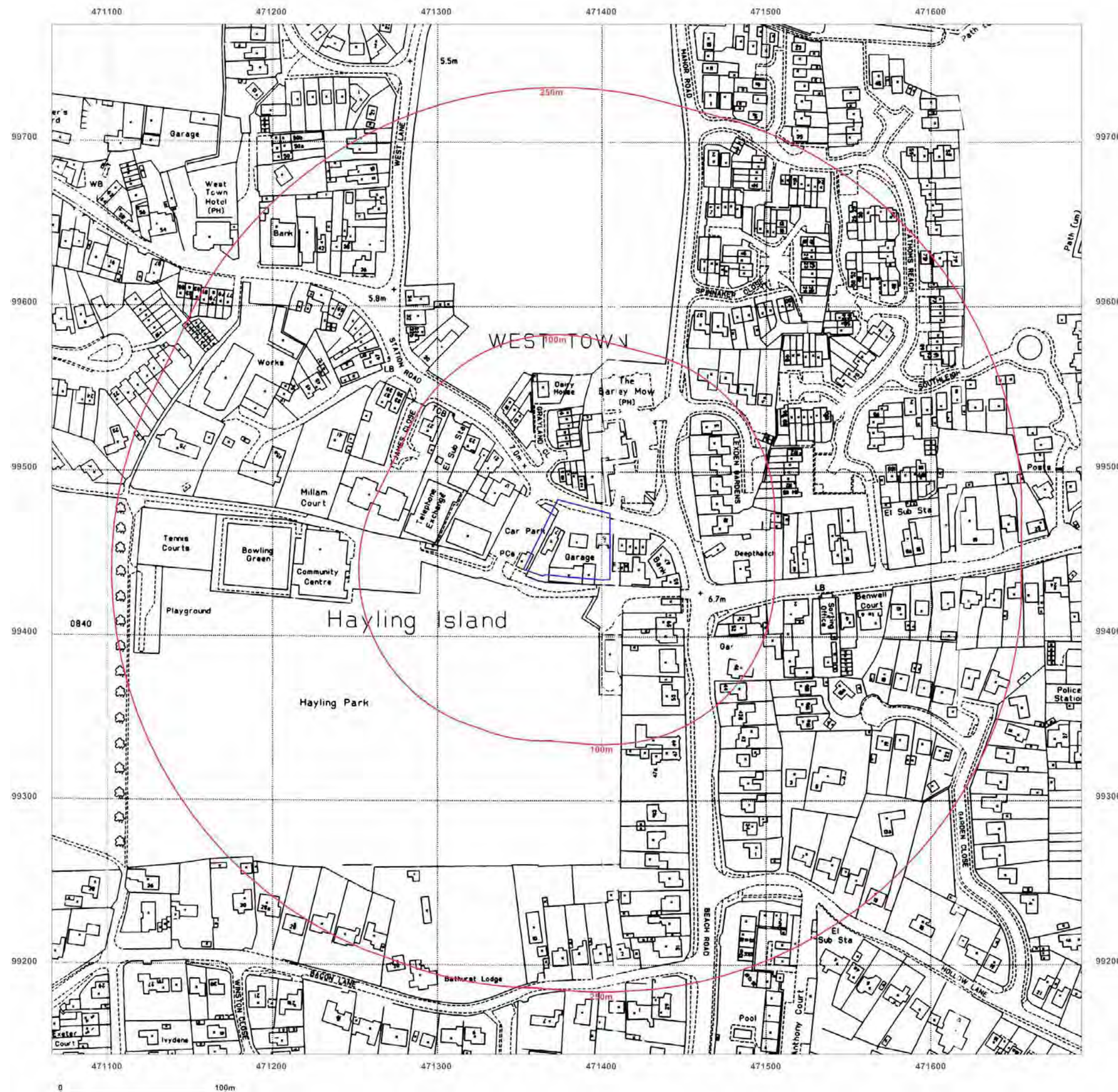


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1866

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1866
Revised 1866
Edition N/A
Copyright N/A
Levelled N/A

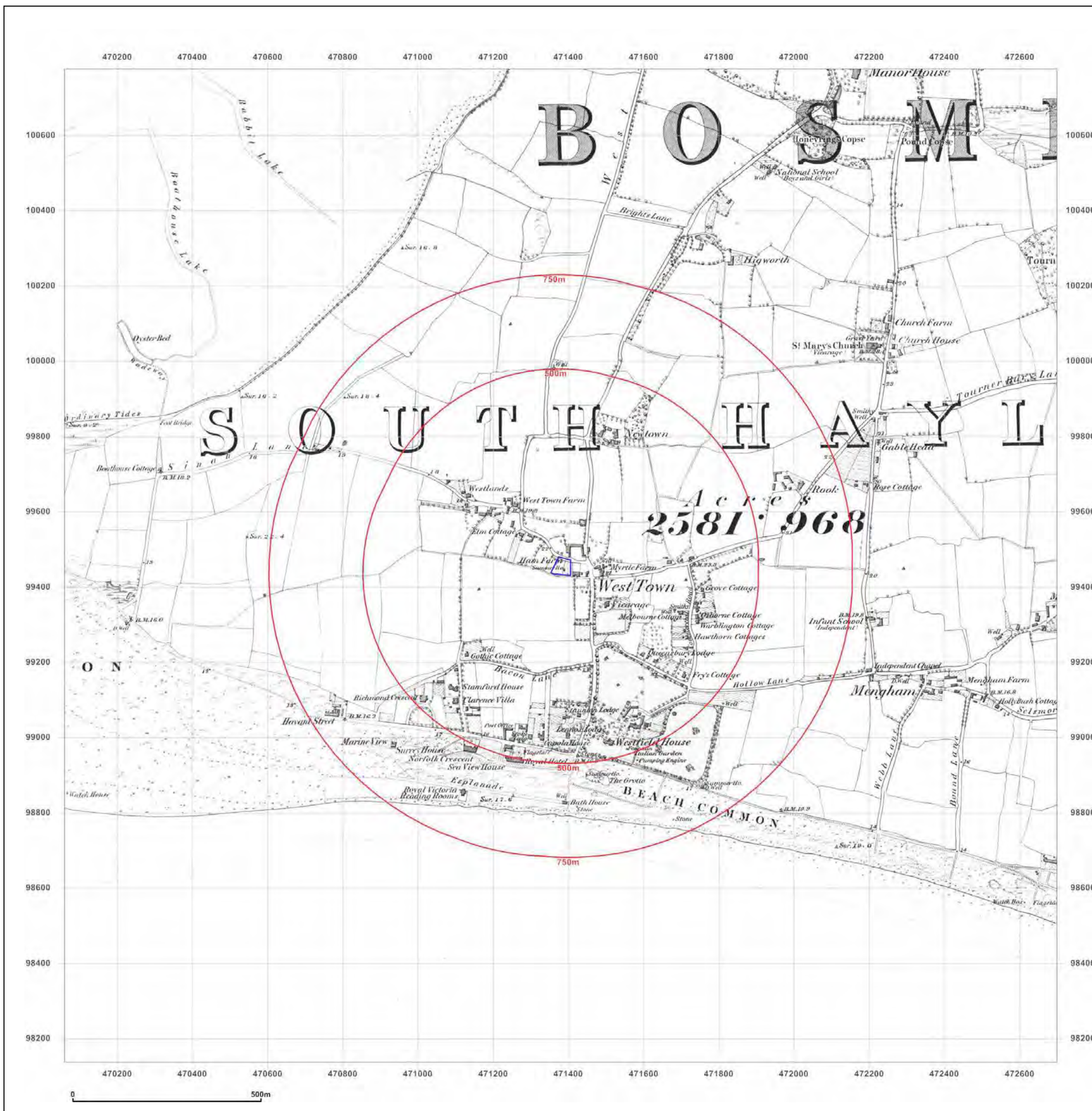


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

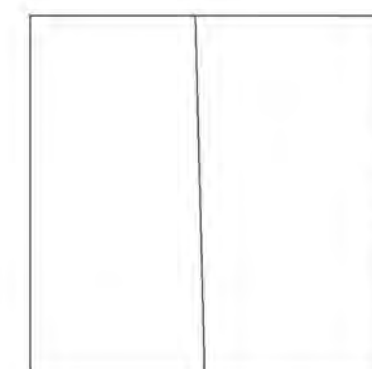
Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

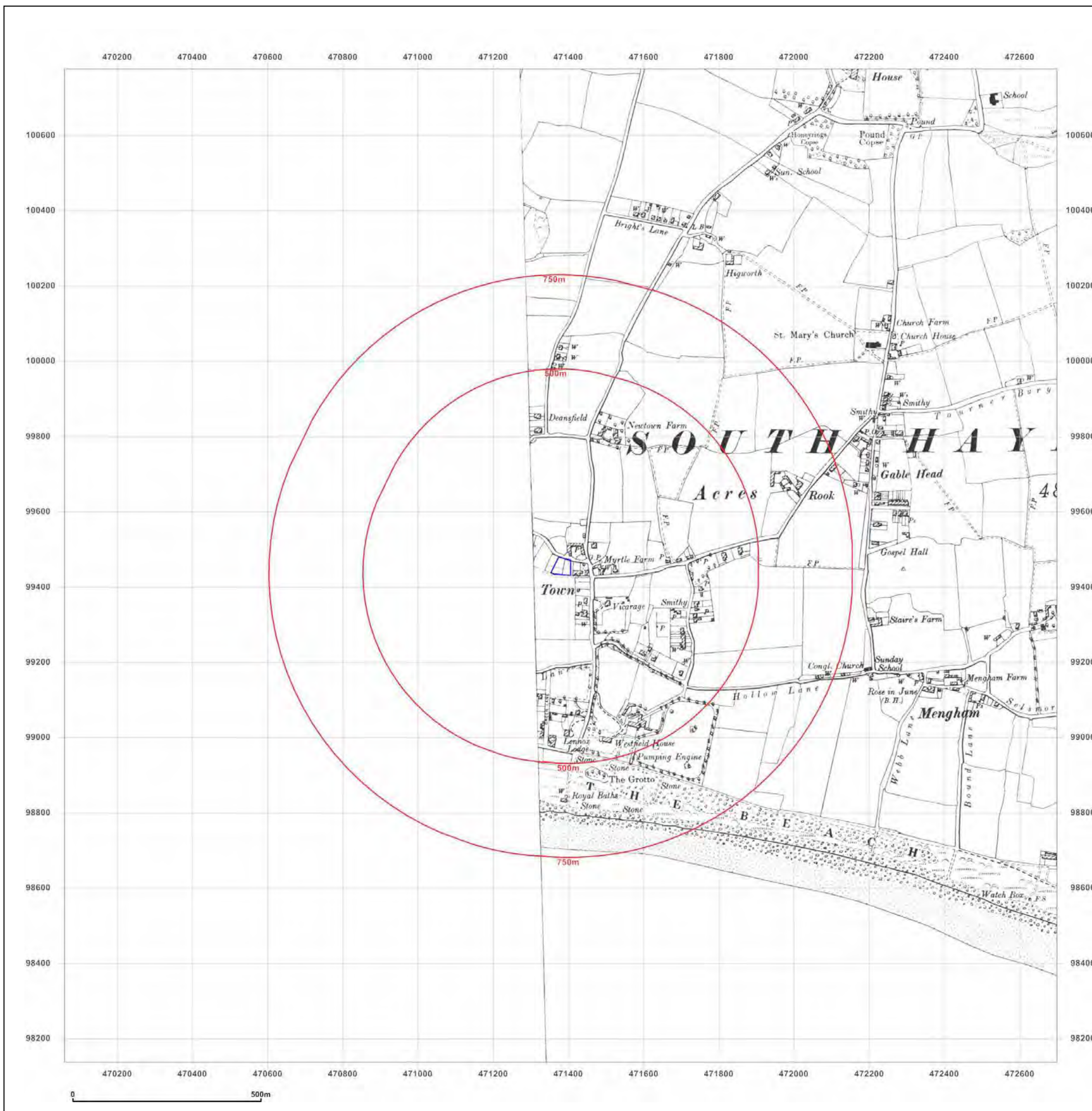


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1896-1898

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1868
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1873
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1866
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

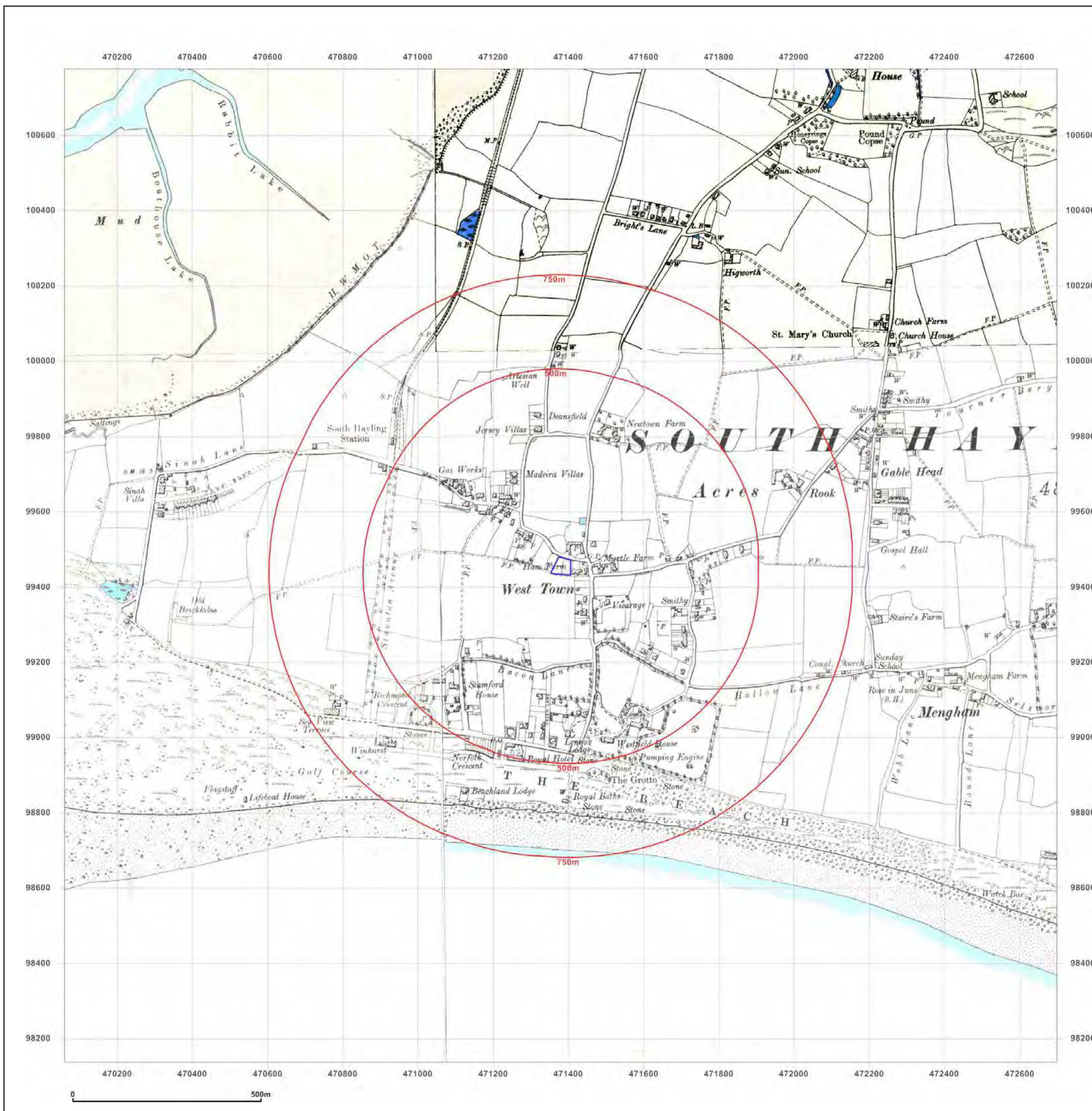


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 24 January 2019

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



Site Details:

5-7, STATION ROAD, HAYLING
ISLAND, PO11 0EA

Client Ref: J19-005
Report Ref: GS-5773755
Grid Ref: 471379, 99456

Map Name: County Series

Map date: 1896-1898

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1868
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1866
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1866
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
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: 24 January 2019

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

