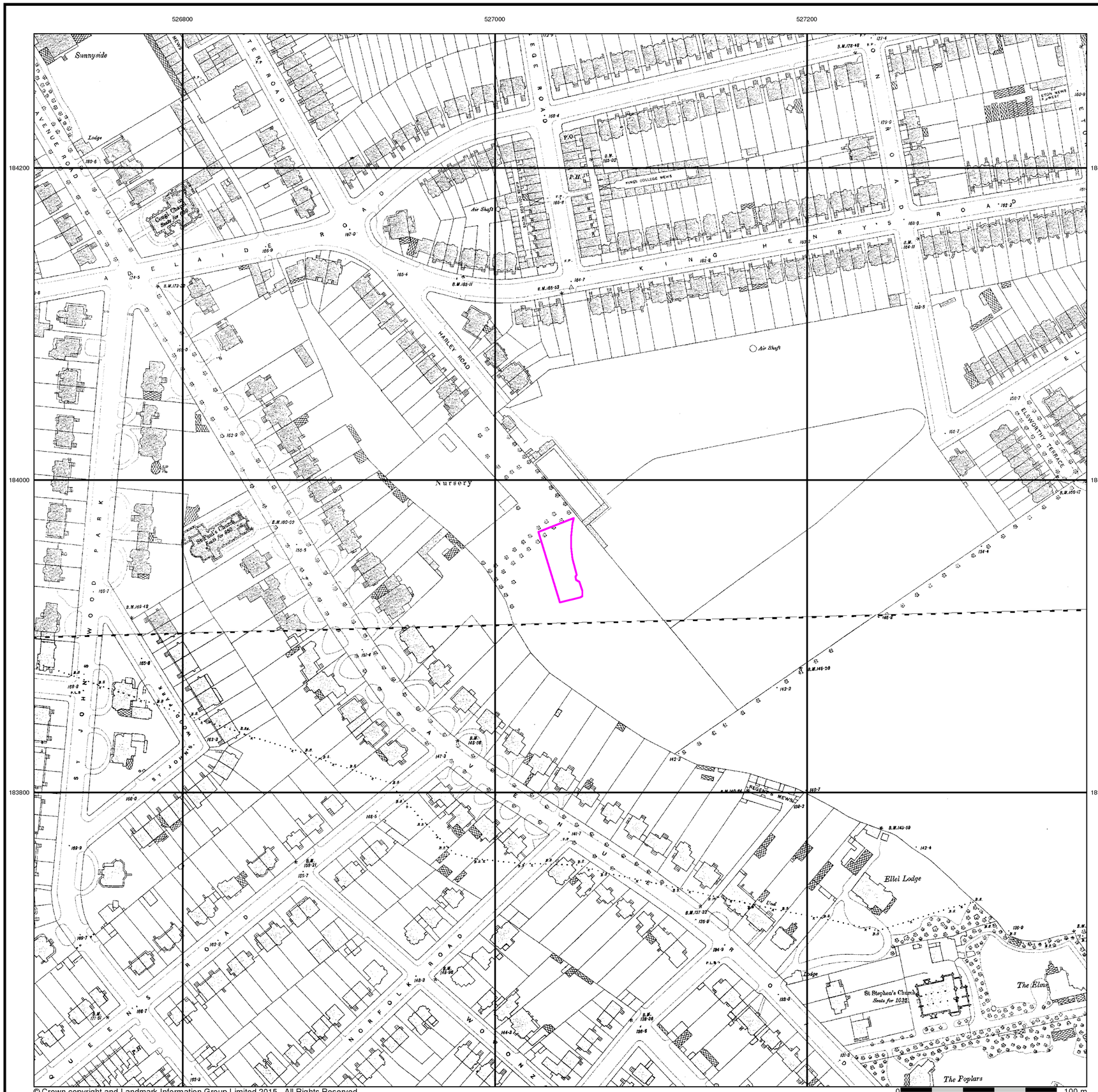

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Geo-Environmental
London
Published 1895
Source map scale - 1:1,056

The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the Ordnance Survey and a 'skeleton' survey of the capital, showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

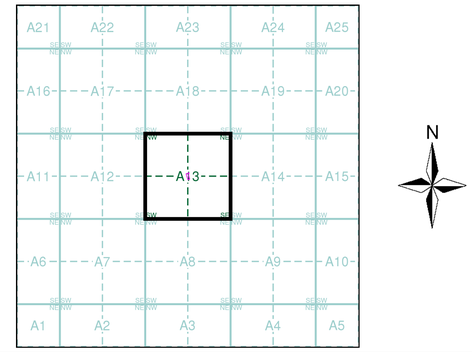
Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

006_00_020
1895
1:1,056

006_00_030
1895
1:1,056

Historical Town Plan - Segment A13



Order Details

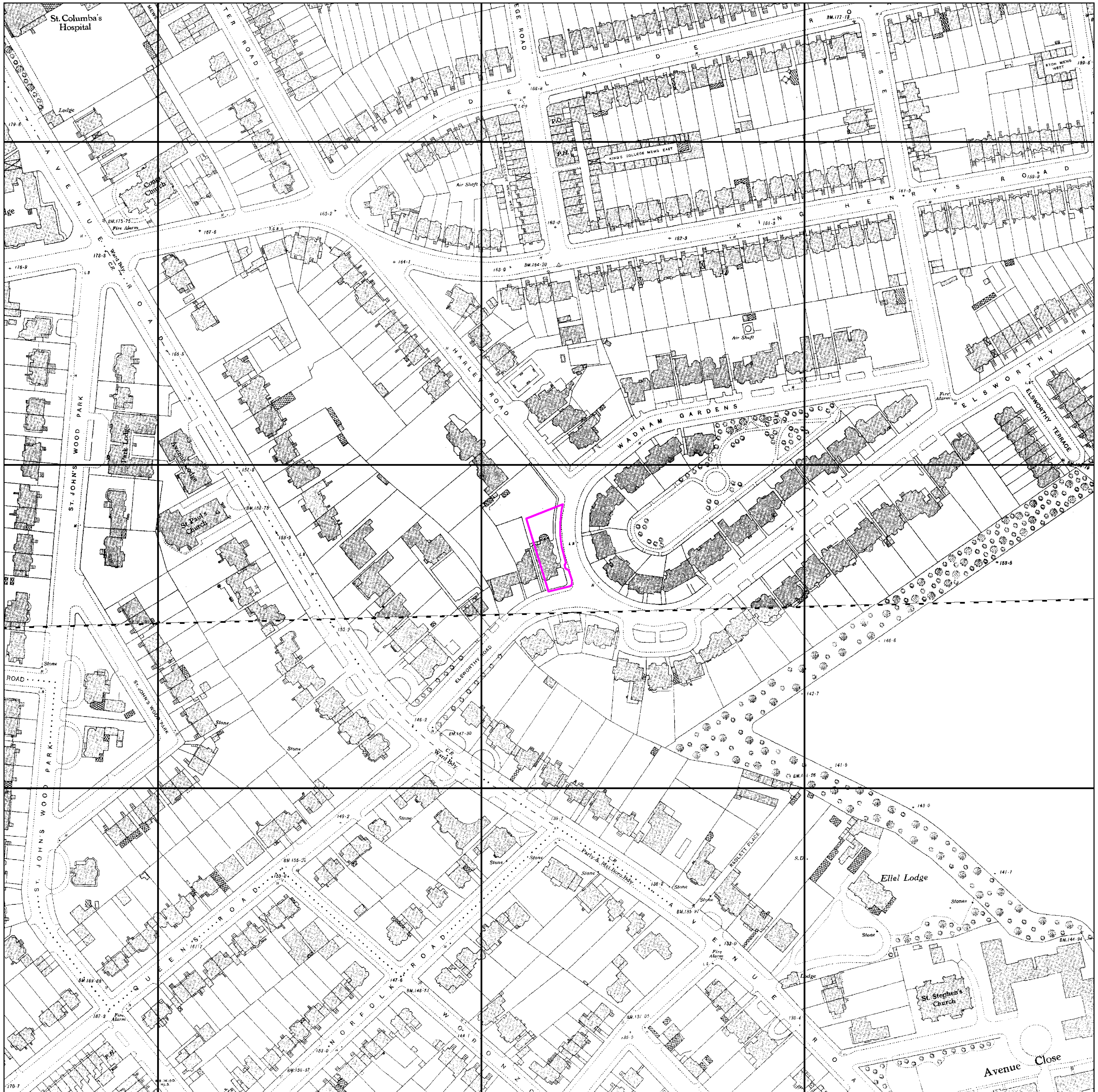
Order Number:	72033053_1_1
Customer Ref:	GE10977
National Grid Reference:	527040, 183950
Slice:	A
Site Area (Ha):	0.09
Search Buffer (m):	0

Site Details

1 Wadham Gardens, LONDON, NW3 3DN

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

526800 527000 527200



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0 100 m

Geo-Environmental London

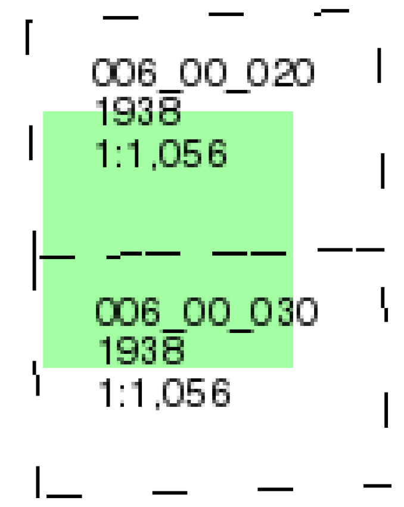
Published 1938

Source map scale - 1:1,056

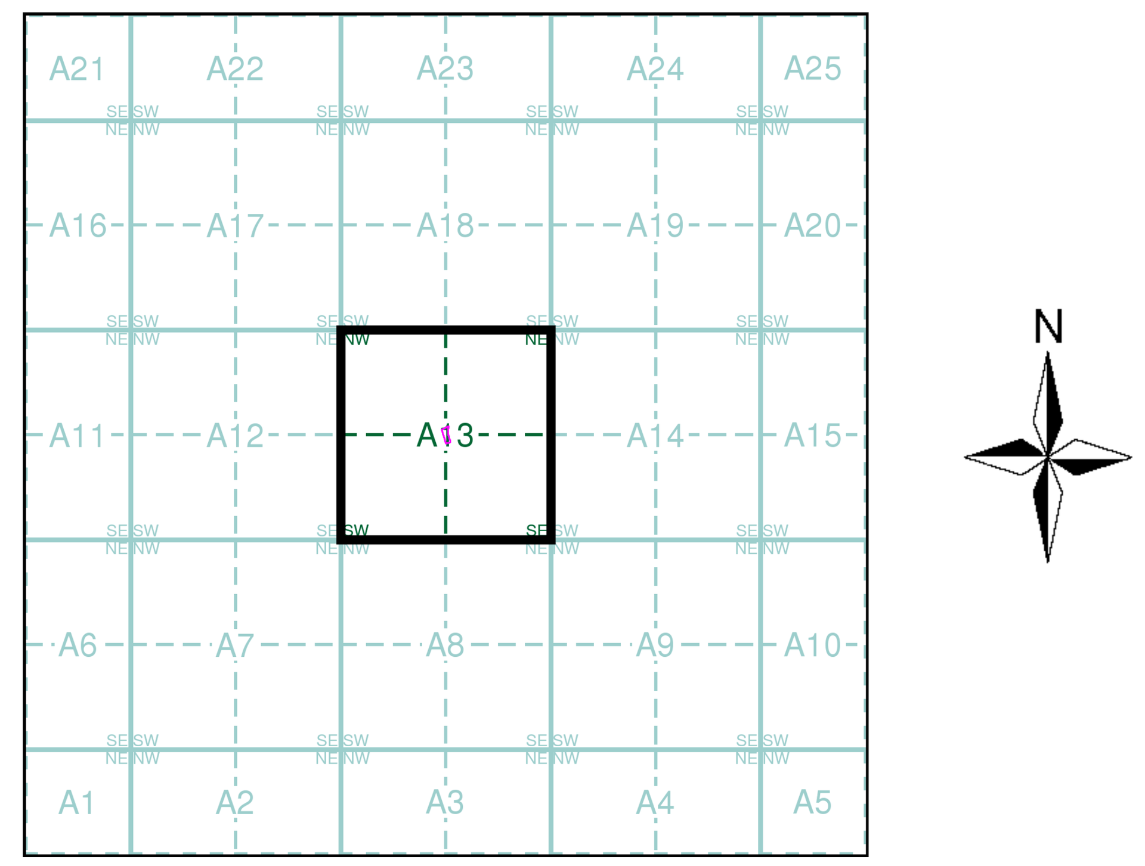
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the Ordnance Survey and a 'skeleton' survey of the capital, showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



Order Details

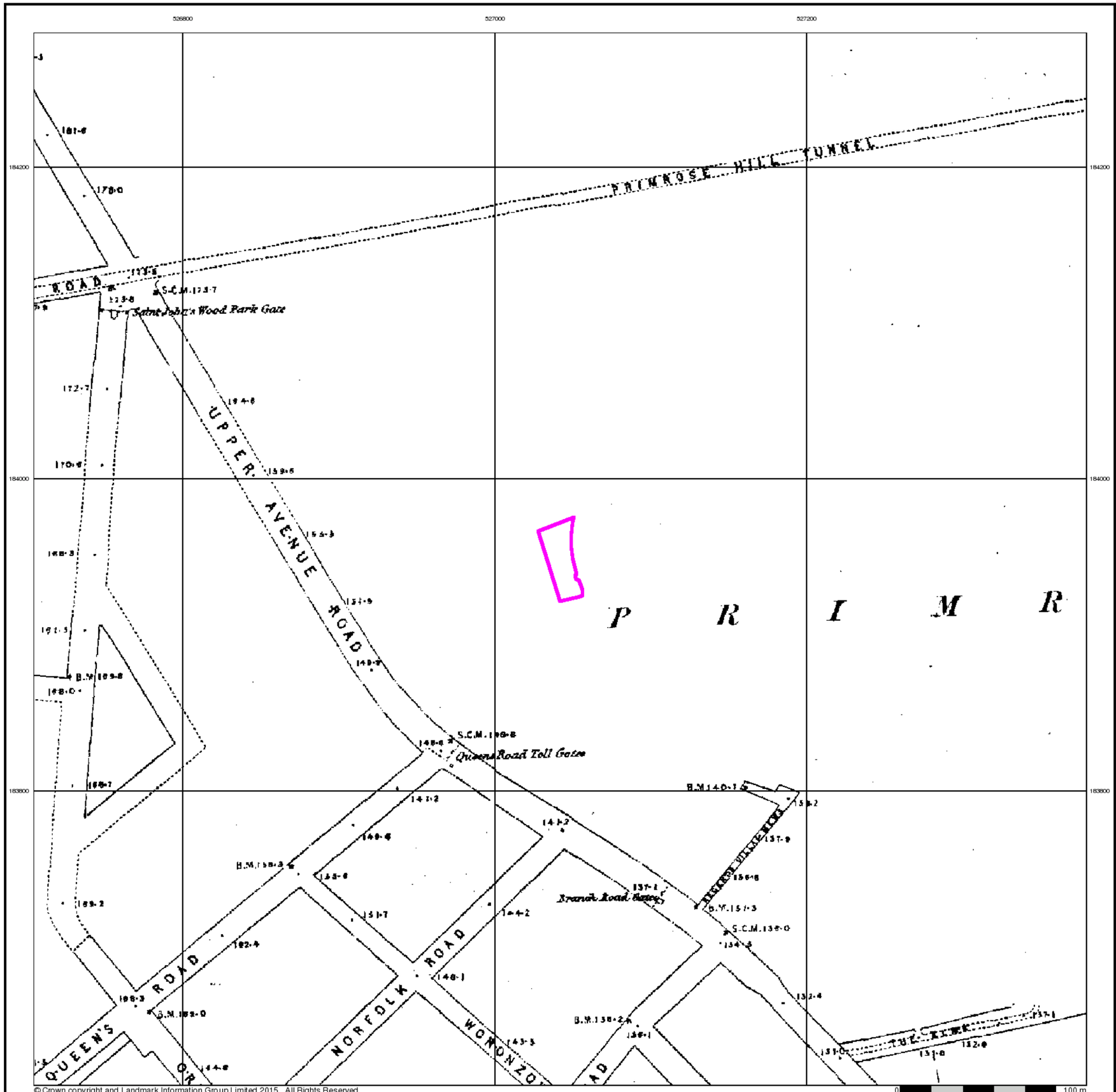
Order Number: 72033053_1_1
Customer Ref: GE10977
National Grid Reference: 527040, 183950
Slice: A
Site Area (Ha): 0.09
Search Buffer (m): 0

Site Details

1 Wadham Gardens, LONDON, NW3 3DN

Landmark Information Group

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



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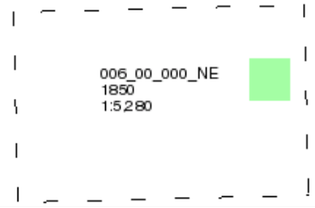
Geo-Environmental
London
Published 1850
Source map scale - 1:5,280

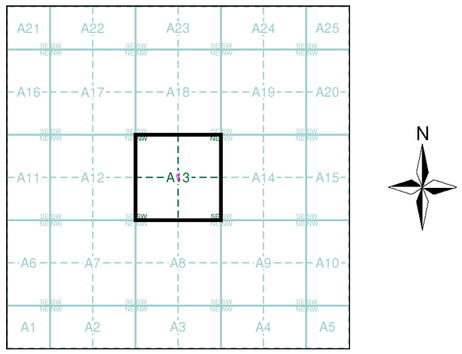
The historical town plans shown derive from Ordnance Survey mapping from the early to mid 1850s. The 1:2640 scale was introduced in the early 1850s, to survey districts covered by the Local Boards of Health and for a map of the Osborne Estate of Queen Victoria. The general style is similar to that of the early 1:2500s published shortly afterwards.
1:5280 scale was surveyed shortly afterwards in the mid 1850s as general purpose mapping with a standard of content similar to the more contemporary 1:10.560 mapping. The scale was also used for a reduction of the 1:1056 'skeleton survey' of London that was undertaken between 1848 and 1850.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



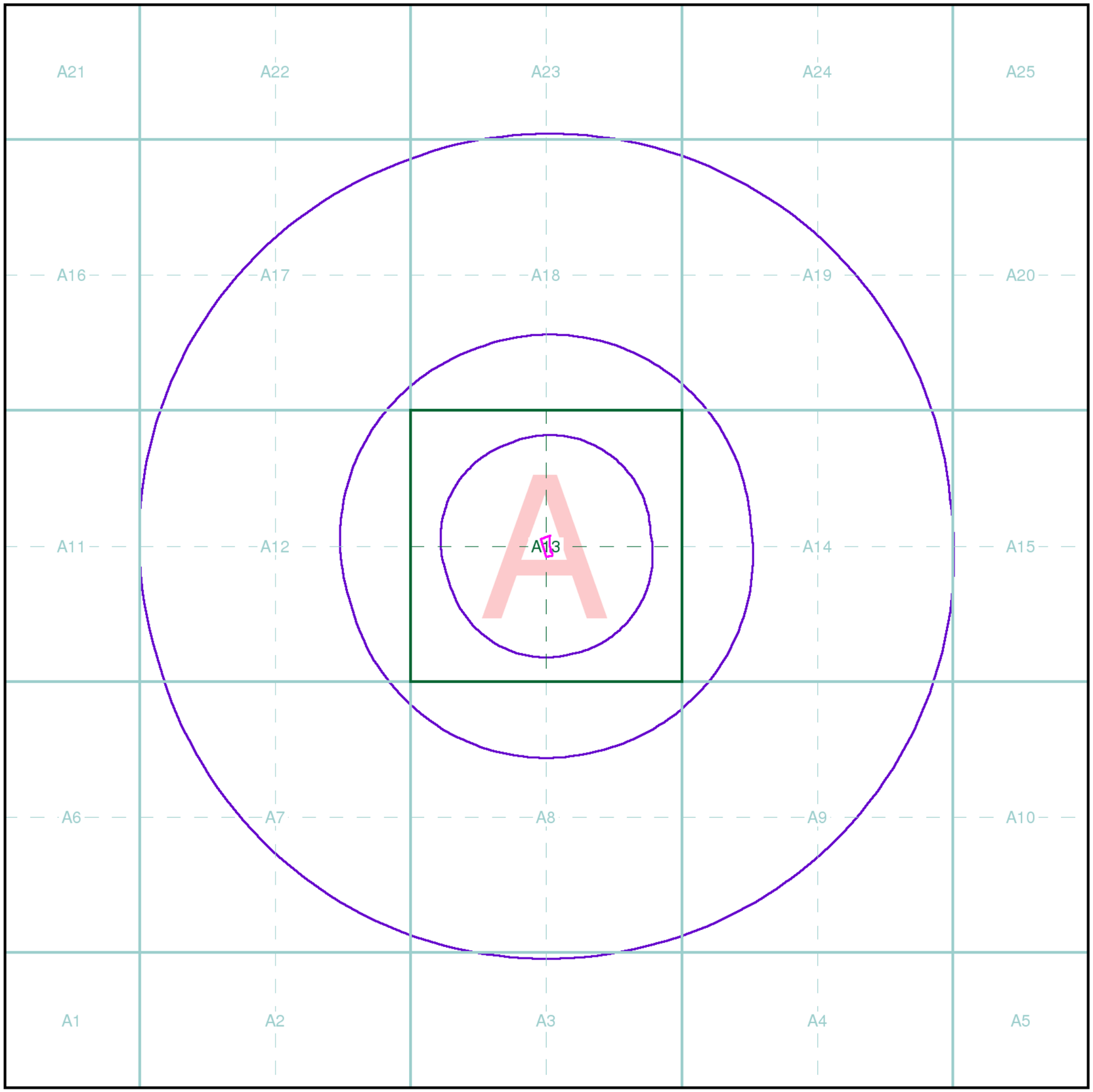
Order Details

Order Number:	72033053_1_1
Customer Ref:	GE10977
National Grid Reference:	527040, 183950
Slice:	A
Site Area (Ha):	0.09
Search Buffer (m):	0

Site Details

1 Wadham Gardens, LONDON, NW3 3DN

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



Geo-Environmental
Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Ordnance Survey Licensed Partner

British Geological Survey, Natural Environment Research Council

Environment Agency

Natural England

Envirocheck reports are compiled from 136 different sources of data.

Client Details
MR J Tingley, Geo Environmental Services Ltd, Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL

Order Details
Order Number:	72033053_1_1
Customer Ref:	GE10977
National Grid Reference:	527040, 183950
Site Area (Ha):	0.09
Search Buffer (m):	1000

Site Details
1 Wadham Gardens, LONDON, NW3 3DN

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

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

APPENDIX B

Exploratory Hole Logs

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS1** Sheet 1 of 1

Project Name:	1 Wadham Gardens	Project No. GE10977	Co-ords: 527035E - 183956N	Hole Type WS
Location:	London		Level:	Scale 1:25
Client:	Marcus Cooper Group		Dates: 03/09/2015	Logged By PC

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.12			Paving slab. MADE GROUND
		0.20	ES		0.20			Sandstone blocks and orangish brown sand. MADE GROUND
		0.55	D		0.60			Dark brown sand and gravel comprising demolition rubble; concrete, brick and occasional breeze block fragments.. MADE GROUND
		1.00 1.00	D PP	2.0kg/cm2				Stiff orangish brown silty CLAY. LONDON CLAY
		1.50 1.55	PP D	2.0kg/cm2				
		2.00 2.00	D PP	3.2kg/cm2				
		2.50 2.50	D PP	3.1kg/cm2				*Fine selenite crystals from 2.60m.*
		3.00 3.00	D PP	3.0kg/cm2				
		3.50 3.50	D PP	3.2kg/cm2				
		4.00 4.00	D PP	3.3kg/cm2				
		4.50 4.50	D PP	3.7kg/cm2	4.50			End of Borehole at 4.50m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Borehole Log

Borehole No. **WS2**
Sheet 1 of 1

Project Name: 1 Wadham Gardens	Project No. GE10977	Co-ords: 527053E - 183952N	Hole Type WS
Location: London		Level:	Scale 1:25
Client: Marcus Cooper Group		Dates: 03/09/2015	Logged By PC

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			Pea shingle over weed fabric. MADE GROUND
		0.20	ES					Black very silty clay with rare brick fragments. TOPSOIL
					0.30			Orangish brown clay with very rare brick fragments. MADE GROUND
		0.50	PP	1.4kg/cm2				
		0.55	D		0.60			Stiff orangish brown silty CLAY. LONDON CLAY
		1.00	D					
		1.00	PP	1.8kg/cm2				
		1.50	PP	1.2kg/cm2				
		1.55	D					
		2.00	D					
		2.00	PP	2.6kg/cm2				
								Becoming very stiff with some fine selenite crystals from 2.30m.
		2.50	D					
		2.50	PP	3.0kg/cm2				
		3.00	D		3.00			End of Borehole at 3.00m
		3.00	PP	4.0kg/cm2				

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS3** Sheet 1 of 1
Project Name:	1 Wadham Gardens	Project No. GE10977	Co-ords: 527058E - 183933N Hole Type WS
Location:	London		Level: Scale 1:25
Client:	Marcus Cooper Group		Dates: 03/09/2015 Logged By PC

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					Black very silty clay with rare brick fragments. TOPSOIL
					0.40			
		0.50	D					Re-worked orangish brown silty CLAY MADE GROUND
		0.50	PP	1.4kg/cm2	0.55			Stiff orangish brown, locally grey silty CLAY LONDON CLAY
		1.00	D					
		1.00	PP	1.0kg/cm2				
		1.50	D					
		1.50	PP	2.5kg/cm2				
		2.00	D					
		2.00	PP	2.3kg/cm2				
		2.50	D					
		2.50	PP	3.5kg/cm2				*Fine selenite crystals from 2.80m.*
		3.00	D					
		3.00	PP	3.6kg/cm2				
		3.50	D					
		3.50	PP	2.5kg/cm2				
		4.00	D					
		4.00	PP	2.5kg/cm2				
		4.50	D					
		4.50	PP	3.6kg/cm2	4.60			End of Borehole at 4.60m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS4** Sheet 1 of 1

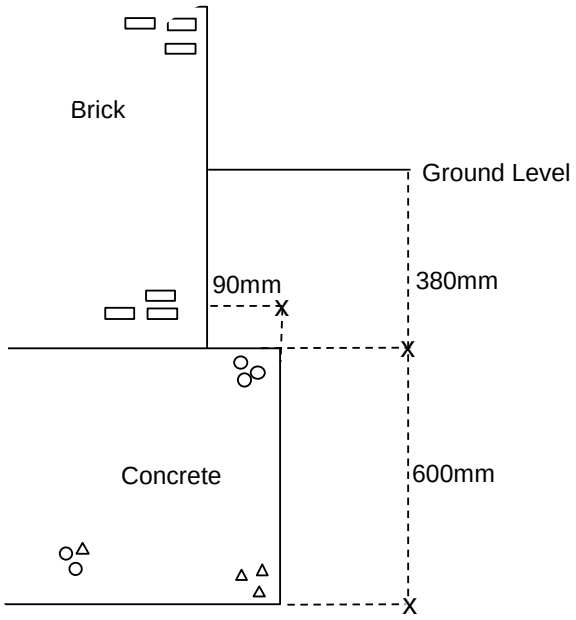
Project Name:	1 Wadham Gardens	Project No. GE10977	Co-ords: 527046E - 183925N	Hole Type WS
Location:	London		Level:	Scale 1:25
Client:	Marcus Cooper Group		Dates: 03/09/2015	Logged By PC

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05			Pea shingle over weed fabric. MADE GROUND
		0.30	ES					Dark brown and black gravelly silty CLAY with occasional brick and ash fragments. TOPSOIL
					0.40			
		0.50	D					Orangish brown clay with rare brick and concrete fragments. MADE GROUND
					0.60			Stiff orangish brown silty CLAY. LONDON CLAY
		1.00	D					
		1.00	PP	2.5kg/cm2				
								Occasional carbonaceous deposits from 1.40m.
		1.50	D					
		1.50	PP	1.8kg/cm2				
		2.00	D					
		2.00	PP	2.6kg/cm2				
								Becoming very stiff with occasional fine calcareous nodules from 2.40m.
		2.50	D					
		2.50	PP	3.7kg/cm2				*Becoming very stiff with some fine selenite crystals from 2.50m.*
		3.00	D					
		3.00	PP	3.1kg/cm2				
		3.50	D					
		3.50	PP	2.7kg/cm2				
					3.80			Very stiff orangish brown and bluish grey silty CLAY. LONDON CLAY
		4.00	D					
		4.00	PP	3.0kg/cm2				
		4.50	D		4.50			End of Borehole at 4.50m
		4.50	PP	3.1kg/cm2				

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	

Geo-Environmental

FE1



Ground Conditions:

GL - 0.12: Paving slab.

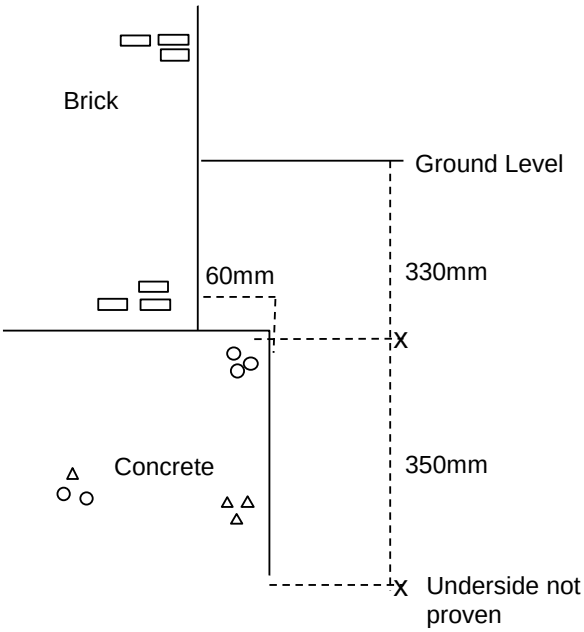
0.12 - 0.20m: Sandstone rubble.

0.20 - 0.60m: Black and brown silty sand and gravel comprising demoloition rubble; brick , concrete, paving slabs and flints. (MADE GROUND)

>0.60m: Orangish brown silty CLAY with occasional rounded flint gravel.(LONDON CLAY)

Project:	1 Wadham Gardens			**Title**	Foundation Sketch
Client:				**Geo-Environmental Services Ltd**	
Ref No:	GE10977	**Revision:**	V1	**Unit 7, Danworth Farm, Cuckfield Road,**	
Drawn:	PC	**Date:**	17/09/2015	**Hurstpierpoint, West Sussex, BN6 9GL**	
Figure:		**Scale:**	Not to Scale	**E: mail@gesl.net T: 01273 832972**	

FE2



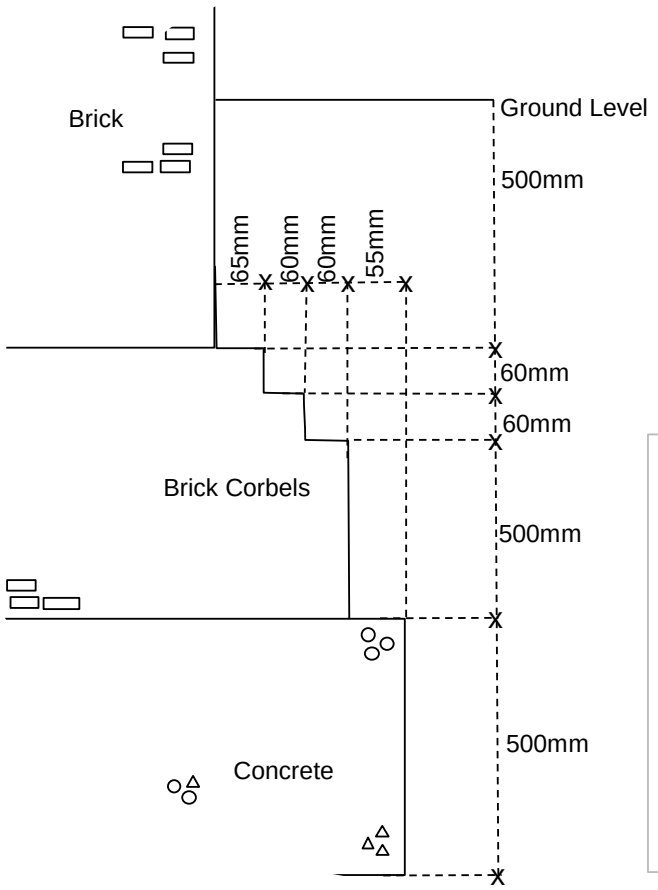
Ground Conditions:

GL - 0.12: Pea shingle over weed fabic

0.12 - >0.70Black and brown silty sand and gravel comprising demoloition rubble; brick , concrete, paving slabs and flints. (MADE GROUND)

Project:	1 Wadham Gardens			**Title**	Foundation Sketch
Client:				**Geo-Environmental Services Ltd**	
Ref No:	GE10977	**Revision:**	V1	**Unit 7, Danworth Farm, Cuckfield Road,**	
Drawn:	PC	**Date:**	17/09/2015	**Hurstpierpoint, West Sussex, BN6 9GL**	
Figure:		**Scale:**	Not to Scale	**E: mail@gesl.net T: 01273 832972**	

FE3



Ground Conditions:

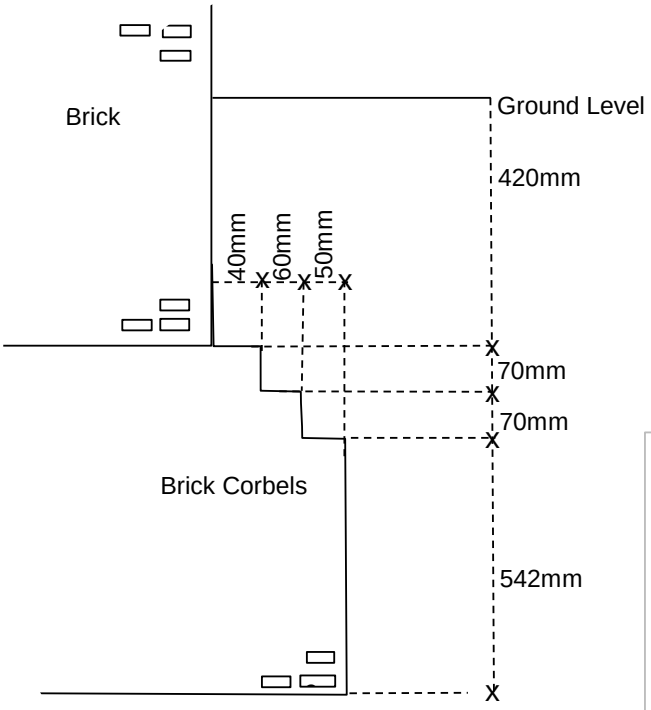
GL-0.0.05: Pea shingle over weed fabric.

0.05 - 1.20m: Black and brown silty sand and gravel comprising demoloition rubble; brick , concrete, paving slabs and flints. (MADE GROUND)

>1.20m: Orangish brown silty CLAY with occasional rounded flint gravel.(LONDON CLAY)

Project:	1 Wadham Gardens			**Title**	Foundation Sketch
Client:				**Geo-Environmental Services Ltd**	
Ref No:	GE10977	**Revision:**	V1	**Unit 7, Danworth Farm, Cuckfield Road,**	
Drawn:	PC	**Date:**	17/09/2015	**Hurstpierpoint, West Sussex, BN6 9GL**	
Figure:		**Scale:**	Not to Scale	**E: mail@gesl.net T: 01273 832972**	

FE4



Ground Conditions:

GL-0.0.05m: Pea shingle over weed fabric.

0.05 - 0.15m Paving slab.

0.15 - 0.75m: Black and brown silty sand and gravel comprising demoloition rubble; brick , concrete, paving slabs and flints. (MADE GROUND)

>0.75m: Orangish brown silty CLAY. (LONDON

Project:	1 Wadham Gardens			**Title**	Foundation Sketch
Client:				**Geo-Environmental Services Ltd**	
Ref No:	GE10977	**Revision:**	V1	**Unit 7, Danworth Farm, Cuckfield Road,**	
Drawn:	PC	**Date:**	17/09/2015	**Hurstpierpoint, West Sussex, BN6 9GL**	
Figure:		**Scale:**	Not to Scale	**E: mail@gesl.net T: 01273 832972**	

APPENDIX C

Ground Gas & Groundwater Monitoring Results

Project: Wadham Gardens
Ref: GE10977
Client: Marcus Cooper Group

Geo-Environmental

Location	Date	Time (sec)	CH_4 (%)	CO_2 (%)	O_2 (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH_4	CO_2	BS8485 & C665		Flow	CH_4	CO_2	CH_4		CO_2	
												CH_4	CO_2				GSV	Conc.	GSV	Conc.
WS2	10/09/15	10	0.0	1.3	20.0	-0.1		1019	Dry	0.000	-0.001	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	10/09/15	20	0.0	4.9	18.8	-0.1	-	1019	Dry	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	10/09/15	30	0.0	5.0	18.2	-0.1	-	1019	Dry	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	AMBER 1
WS2	10/09/15	60	0.0	5.1	18.0	-0.1	-	1019	Dry	0.000	-0.005	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	10/09/15	120	0.0	3.3	18.5	-0.1	-	1019	Dry	0.000	-0.003	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	10/09/15	10	0.0	1.8	20.4	-0.1		1018	Dry	0.000	-0.002	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	10/09/15	20	0.0	4.7	19.1	-0.1	-	1018	Dry	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	10/09/15	30	0.0	4.8	18.5	-0.1	-	1018	Dry	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	10/09/15	60	0.0	4.8	18.3	-0.1	-	1018	Dry	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	10/09/15	120	0.0	2.6	19.0	-0.1	-	1018	Dry	0.000	-0.003	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	17/09/15	10	0.1	2.4	19.9	0.0		999	2.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	17/09/15	20	0.0	5.6	18.1	0.0	-	999	2.39	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	17/09/15	30	0.1	5.7	17.3	0.0	-	999	2.39	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	17/09/15	60	0.0	5.8	17.1	0.0	-	999	2.39	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	17/09/15	120	0.0	5.8	17.1	0.0	-	999	2.39	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	17/09/15	10	0.0	1.3	20.2	0.0		999	3.16	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	17/09/15	20	0.0	2.8	19.5	0.0	-	999	3.16	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	17/09/15	30	0.0	3.8	18.7	0.0	-	999	3.16	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	17/09/15	60	0.0	4.6	17.9	0.0	-	999	3.16	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	17/09/15	120	0.0	4.7	17.7	0.0	-	999	3.16	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	24/09/15	10	0.1	0.6	20.4	0.9		1011	2.12	0.001	0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	24/09/15	20	0.1	2.9	19.3	0.9	-	1011	2.12	0.001	0.026	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	24/09/15	30	0.1	5.0	17.9	0.9	-	1011	2.12	0.001	0.045	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	AMBER 1
WS2	24/09/15	60	0.1	5.8	16.3	0.9	-	1011	2.12	0.001	0.052	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	24/09/15	120	0.1	5.9	16.0	0.9	-	1011	2.12	0.001	0.053	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	24/09/15	10	0.1	2.8	19.9	-0.1		1011	3.04	0.000	-0.003	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	24/09/15	20	0.1	5.8	16.3	-0.1	-	1011	3.04	0.000	-0.006	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	24/09/15	30	0.1	5.8	15.4	-0.1	-	1011	3.04	0.000	-0.006	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	24/09/15	60	0.1	5.9	15.1	-0.1	-	1011	3.04	0.000	-0.006	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	24/09/15	120	0.1	6.0	15.0	-0.1	-	1011	3.04	0.000	-0.006	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	01/10/15	10	0.1	1.1	20.2	0.0		1027	1.82	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/15	20	0.1	3.4	18.4	0.0	-	1027	1.82	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/15	30	0.1	4.5	17.0	0.0	-	1027	1.82	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/15	60	0.1	5.4	15.5	0.0	-	1027	1.82	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS2	01/10/15	120	0.1	5.6	15.4	0.0	-	1027	1.82	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	01/10/15	10	0.1	5.7	15.7	0.0		1027	2.94	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	01/10/15	20	0.1	6.2	14.4	0.0	-	1027	2.94	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	01/10/15	30	0.1	6.2	14.3	0.0	-	1027	2.94	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	01/10/15	60	0.1	6.3	14.2	0.0	-	1027	2.94	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS4	01/10/15	120	0.1	6.0	14.5	0.0	-	1027	2.94	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
Max values			0.1	6.3	20.4	0.9	0.0	1027.0		0.001	0.057	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
Min Vaules			0.0	0.6	14.2	-0.1	0.0	999.0		0.000	-0.001	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
BH Flow LoD check			0.1	6.3	20.4	0.1	0.0	1027.0		0.000	0.006	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1

APPENDIX D

Geotechnical Test Results

Summary of Classification Test Results

Job No.	Project Name	Programme	
19504	1 Wadham Gardens	Samples received	11/09/2015
		Schedule received	14/09/2015
Project No.	Client	Project started	15/09/2015
GE10977	GESL	Testing Started	25/09/2015

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top	Base	Type		%	%	%	%	%	
WS1	2	1.00		D	Brown CLAY	24	100	67	21	46	
WS1	6	3.00		D	Brown CLAY	23	100	67	22	45	
WS1	9	4.50		D	Brown CLAY with occasional selenite crystals	25	100	68	24	44	
WS2	3	1.55		D	Brown and occasional pale grey CLAY	25	100	70	23	47	
WS2	6	3.00		D	Brown CLAY	22	100	65	22	43	
WS3	2	1.00		D	Brown and orange slightly gravelly CLAY (gravel is fine and sub-angular)	34	97	76	24	52	
WS3	4	2.00		D	Brown and occasional pale grey slightly gravelly CLAY with sandy clay pockets (gravel is fine and sub-angular)	20	98	45	15	30	
WS4	2	1.00		D	Brown CLAY	25	100	72	22	50	
WS4	9	4.50		D	Brown and occasional blue grey CLAY	25	100	71	23	48	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials **J.P**

Date: 29/09/2015

Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results

Tested in accordance with BS1377 : Part 3 : 1990, clause 5.3 and clause 9

Job No.	Project Name	Programme	
19504	1 Wadham Gardens	Samples received	11/09/2015
		Schedule received	14/09/2015
Project No.	Client	Project started	15/09/2015
GE10977	GESL	Testing Started	22/09/2015

Hole No.	Sample				Soil description	Dry Mass passing 2mm	SO3 Content	SO4 Content	pH	Remarks
	Ref	Top	Base	Type		%	g/l	g/l		
WS1	9	4.50		D	Brown CLAY with occasional selenite crystals	100	0.98	1.18	7.89	
WS3	2	1.00		D	Brown and orange slightly gravelly CLAY (gravel is fine and sub-angular)	100	0.27	0.33	7.86	
WS3	8	4.00		D	Brown mottled bluish grey silty CLAY	100	0.47	0.56	7.92	
WS4	6	3.00		D	Brown mottled bluish grey silty CLAY	100	0.36	0.43	8.00	

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

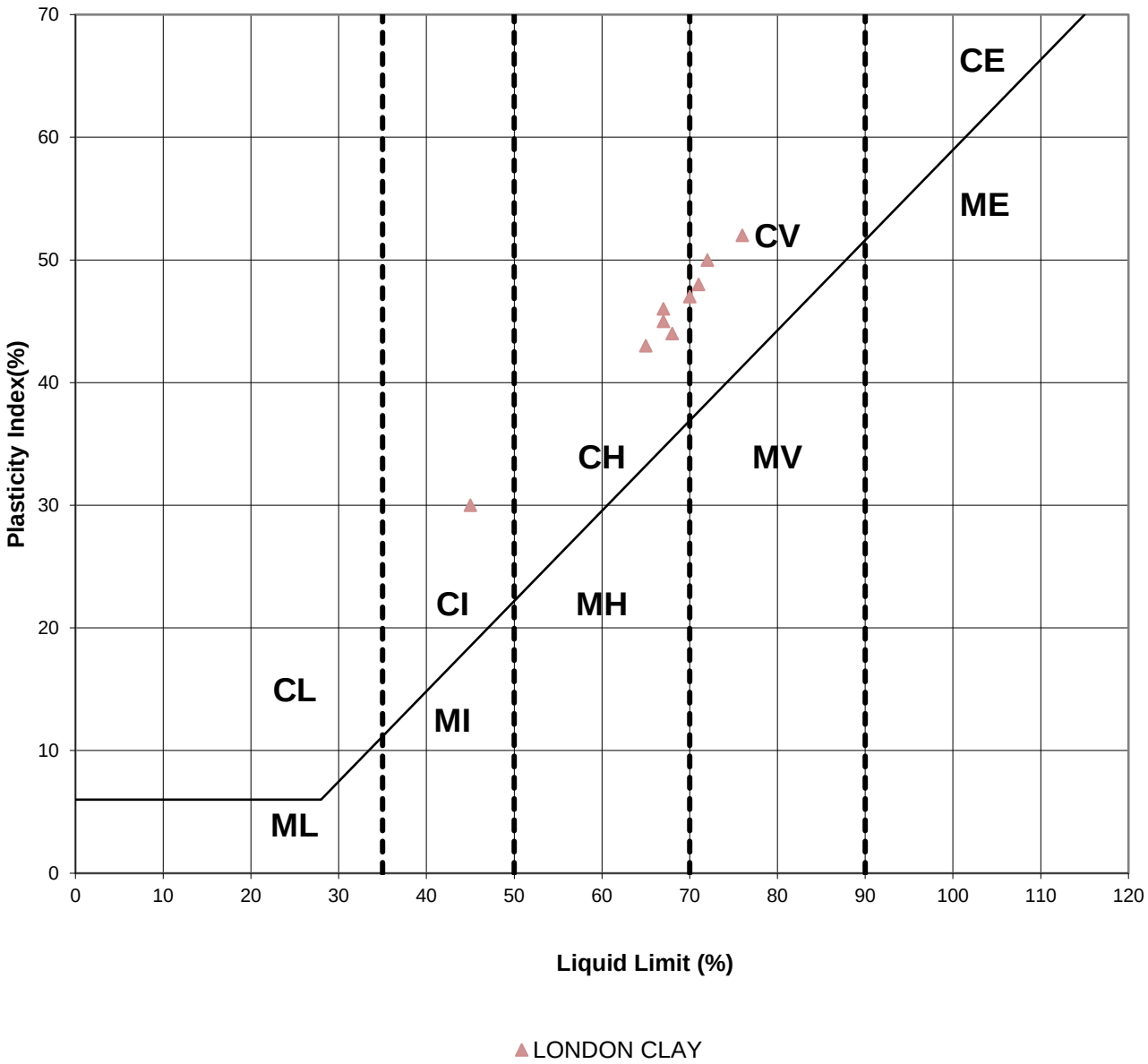
Initials J.P

Date: 29/09/2015

Geo-Environmental Services Limited
www.gesl.net
+44 (0) 1273 832972

A Line Plot -

Project ID: **GE10977**	Project Title: **1 Wadham Gardens**
Client: **Quadrant Harmon**	Location: **London**



Date Reported: **01/10/2015**

Data Status:

APPENDIX E

Geochemical Test Results

Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618
Facsimile: (01424) 729911
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	15-03656
Issue:	1
Date of Issue:	14/09/2015
Contact:	Jonathan Tingley
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West Sussex BN6 9GL
Quotation No:	Q14-00021
Order No:	Not Supplied
Customer Reference:	GE10977
Date Received:	08/09/2015
Date Approved:	14/09/2015
Details:	Wadham Gardens
Approved by:	

Naomi Williams, Customer services officer

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683

Sample Summary

Report No.: 15-03656

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
38961	WS1 0.50	08/09/2015	08/09/2015	Sand	
38962	WS2 0.20	04/09/2015	08/09/2015	Sandy silty loam	
38963	WS3 0.20	03/09/2015	08/09/2015	Silty clayey loam	
38964	WS4 0.30	03/09/2015	08/09/2015	Silty loam	

Results Summary

Report No.: 15-03656

			ELAB Reference	38961	38962	38963	38964
			Customer Reference				
			Sample ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS1	WS2	WS3	WS4
			Sample Depth (m)	0.50	0.20	0.20	0.30
			Sampling Date	08/09/2015	04/09/2015	03/09/2015	03/09/2015
Determinand	**Codes**	**Units**	**LOD**				
Metals							
Arsenic	M	mg/kg	1	18.8	14.3	25.7	21.1
Barium	M	mg/kg	10	159	66.6	166	247
Beryllium	U	mg/kg	1	1.2	< 1.0	1.5	1.3
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.5	< 0.5
Chromium	M	mg/kg	5	54.9	28.7	44.3	41.3
Copper	M	mg/kg	5	19.3	29.6	105	117
Lead	M	mg/kg	5	24.7	71.0	761	2400
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	0.6	0.8
Nickel	M	mg/kg	5	33.5	22.2	27.0	25.7
Selenium	M	mg/kg	1	< 1.0	1.7	2.0	1.2
Vanadium	M	mg/kg	5	99.3	47.2	79.3	74.1
Zinc	M	mg/kg	45	77.7	67.4	296	247
Anions							
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.66	0.05	0.03	0.03
Inorganics							
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20	37
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	1.0	1.0
Acid Soluble Sulphate (SO4)	U	%SO4	0.02	0.51	0.12	0.08	0.10
Water Soluble Boron	N	mg/kg	0.5	1.5	1.0	0.8	0.6
Miscellaneous							
pH	M	units	0.1	9.8	7.8	7.4	7.4
Total Organic Carbon	N	%	0.01	0.09	2.6	2.0	1.7
Phenols							
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	0.2
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	1.5	0.8
Anthracene	M	mg/kg	0.1	< 0.1	0.2	0.5	0.2
Fluoranthene	M	mg/kg	0.1	< 0.1	0.4	5.2	2.9
Pyrene	M	mg/kg	0.1	0.1	0.3	4.5	2.6
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	0.2	2.5	1.7
Chrysene	M	mg/kg	0.1	< 0.1	0.3	3.0	1.9
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	0.2	3.1	1.7
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	0.3	2.9	1.8
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	0.2	2.6	1.8
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	0.1	2.1	1.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.2	0.6	0.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	0.1	1.8	1.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	2.6	30.7	18.3
BTEX							
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 15-03656

			ELAB Reference	38961	38962	38963	38964
			Customer Reference				
			Sample ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS1	WS2	WS3	WS4
			Sample Depth (m)	0.50	0.20	0.20	0.30
			Sampling Date	08/09/2015	04/09/2015	03/09/2015	03/09/2015
Determinand	**Codes**	**Units**	**LOD**				
TPH CWG							
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	7.7	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	5.8	6.8	10.4
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	5.8	14.6	10.4

Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 15-03656

Asbestos Qualitative Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Result
38961	0.50	WS1	Sand	No asbestos detected
38962	0.20	WS2	Sandy silty loam	No asbestos detected
38963	0.20	WS3	Silty clayey loam	No asbestos detected
38964	0.30	WS4	Silty loam	No asbestos detected

Method Summary

Report No.: 15-03656

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	10/09/2015	109	Colorimetry
Hexavalent chromium	N	As submitted sample	10/09/2015	110	Colorimetry
pH	M	Air dried sample	11/09/2015	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	14/09/2015	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	11/09/2015	118	ICPMS
Phenols in solids	M	As submitted sample	10/09/2015	121	HPLC
Elemental Sulphur	N	Air dried sample	11/09/2015	122	HPLC
Polyaromatic hydrocarbons (GC-FID)	M	As submitted sample	09/09/2015	133	GC-FID
Water soluble anions	M	Air dried sample	11/09/2015	172	Ion Chromatography
BTEX in solids	M	As submitted sample	10/09/2015	181	GC-MS
Water soluble boron	N	Air dried sample	11/09/2015	202	Colorimetry
Total cyanide	M	As submitted sample	11/09/2015	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	10/09/2015	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	09/09/2015	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	10/09/2015	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	09/09/2015	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	10/09/2015	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	10/09/2015	214	GC-MS
Asbestos identification	U	As submitted sample	14/09/2015	PMAN	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 15-03656

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

CLEA Software Version 1.06

Report generated 01-Oct-15

Report title

Created by Geo-Environmental

RESULTS

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?	
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
1	Arsenic	3.24E+01	8.50E+01	NR	1.00	0.38	NR	NR	No	No
2	Cadmium	5.45E+00	2.97E+01	5.17E+00	0.91	0.10	1.00	NR	Yes	Yes
3	Chromium III	1.95E+04	3.55E+03	3.01E+03	0.15	0.85	1.00	NR	No	No
4	Mercury, inorganic	1.81E+02	2.55E+03	1.69E+02	0.93	0.07	1.00	NR	No	No
5	Nickel	5.31E+02	1.27E+02	NR	0.14	1.00	NR	NR	Yes	Yes
6	Copper	7.81E+03	1.04E+04	5.20E+03	0.50	0.50	1.00	NR	Yes	No
7	Zinc	1.94E+04	2.55E+07	1.94E+04	1.00	0.00	1.00	NR	Yes	No
8	Selenium	3.50E+02	NR	NR	1.00	NR	NR	NR	Yes	No
9	Chromium VI	4.89E+01	NR	NR	1.00	NR	NR	NR	Yes	No
10	Barium	1.33E+03	NR	NR	1.00	NR	NR	NR	Yes	No
11	Beryllium	1.48E+02	5.10E+01	4.12E+01	0.19	0.81	1.00	NR	Yes	No
12	Vanadium	1.18E+02	6.08E+02	1.07E+02	0.90	0.10	1.00	NR	Yes	Yes
13	Phenol	7.94E+02	5.13E+02	3.12E+02	0.39	0.61	1.00	7.01E+04 (vap)	No	No
14										
15										
16										
17										
18										
19										
20										

Environment Agency

	Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?	
	oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Environment Agency

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
1	Arsenic	99.9	0.1	0.0	100.0	3.24E+01	NR	1.62E+01	1.38E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02	1.30E-02	7.45E-03	1.07E-02	6.48E-03	3.56E-02
2	Cadmium	99.7	0.3	0.0	100.0	5.17E+00	NR	2.59E+00	2.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-01	1.50E-01	1.60E-01	8.28E-02	1.60E-02	7.24E-03
3	Chromium III	100.0	0.0	0.0	100.0	3.01E+03	NR	1.50E+03	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-03	9.29E-03	1.89E-02	5.23E-03	1.50E-02	1.42E-02
4	Mercury, inorganic	99.9	0.1	0.0	100.0	1.69E+02	NR	8.43E+01	7.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.41E-01	1.16E+00	7.25E-01	1.69E-01	1.86E-01	1.69E-01
5	Nickel	99.9	0.1	0.0	100.0	1.27E+02	NR	6.37E+01	5.42E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-01	5.48E-01	2.42E-01	3.19E-01	3.19E-01	4.33E-01
6	Copper	99.7	0.3	0.0	100.0	5.20E+03	NR	2.60E+03	2.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E+01	1.10E+01	2.25E+01	7.03E+00	1.78E+01	1.68E+01
7	Zinc	99.2	0.8	0.0	100.0	1.94E+04	NR	9.69E+03	8.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E+02	1.08E+02	2.20E+02	1.61E+02	1.74E+02	1.64E+02
8	Selenium	99.4	0.6	0.0	100.0	3.50E+02	NR	1.75E+02	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.78E+00	1.27E+00	2.91E-01	9.49E-01	1.05E+00	1.05E+00
9	Chromium VI	98.3	1.7	0.0	100.0	4.89E+01	NR	2.45E+01	2.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.39E-04	5.04E-04	1.03E-03	2.55E-01	2.44E-03	6.91E-01
10	Barium	#####	#DIV/0!	0.0	#DIV/0!	1.33E+03	NR	6.64E+02	5.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	Beryllium	100.0	0.0	0.0	100.0	4.12E+01	NR	2.06E+01	1.75E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.77E-02	5.09E-03	1.04E-02	2.87E-03	8.21E-03	7.76E-03
12	Vanadium	97.6	2.4	0.0	100.0	1.07E+02	NR	5.34E+01	4.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E+00	1.43E+00	2.92E-01	8.06E-02	2.31E-01	2.18E-01
13	Phenol	75.8	24.2	0.0	100.0	3.12E+02	2.04E+00	1.56E+02	1.33E-07	0.00E+00	1.11E-03	9.43E-05	0.00E+00	1.94E+02	3.74E+02	2.09E+02	0.00E+00	0.00E+00	3.96E+02
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	Soil Distribution				Media Concentrations													
	Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
	%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
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		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
1	Arsenic	2.40E-04	2.27E-05	3.70E-05	7.62E-07	0.00E+00	0.00E+00	0.00E+00	79.89	7.54	12.31	0.25	0.00	0.00	0.00	0.00
2	Cadmium	3.84E-05	1.32E-04	1.97E-07	1.22E-07	0.00E+00	7.54E-04	1.21E-06	11.21	38.70	0.06	0.04	0.00	0.00	49.96	0.04
3	Chromium III	2.23E-02	2.69E-04	0.00E+00	7.08E-05	0.00E+00	3.39E-03	1.64E-05	85.63	1.03	0.00	0.27	0.00	0.00	13.01	0.06
4	Mercury, inorganic	1.25E-03	5.64E-04	0.00E+00	3.97E-06	0.00E+00	5.63E-05	0.00E+00	66.71	30.08	0.00	0.21	0.00	0.00	3.00	0.00
5	Nickel	9.45E-04	4.66E-04	2.43E-05	3.00E-06	0.00E+00	7.31E-03	3.64E-06	32.77	16.18	0.84	0.10	0.00	0.00	49.90	0.10
6	Copper	3.86E-02	1.47E-02	0.00E+00	1.22E-04	0.00E+00	3.94E-01	4.12E-05	36.15	13.78	0.00	0.11	0.00	0.00	49.92	0.04
7	Zinc	1.44E-01	1.56E-01	0.00E+00	4.56E-04	0.00E+00	1.52E+00	1.45E-04	23.95	26.00	0.00	0.08	0.00	0.00	49.95	0.02
8	Selenium	2.60E-03	1.82E-03	0.00E+00	8.24E-06	0.00E+00	1.97E-03	3.64E-06	40.59	28.46	0.00	0.13	0.00	0.00	30.82	0.00
9	Chromium VI	3.63E-04	2.60E-04	0.00E+00	1.15E-06	0.00E+00	3.77E-04	0.00E+00	36.29	26.02	0.00	0.00	0.00	0.00	37.70	0.00
10	Barium	9.86E-03	1.13E-04	0.00E+00	3.13E-05	0.00E+00	4.77E-02	6.06E-02	49.28	0.57	0.00	0.16	0.00	0.00	50.00	0.00
11	Beryllium	3.06E-04	1.61E-05	0.00E+00	9.70E-07	0.00E+00	8.44E-04	0.00E+00	47.43	2.49	0.00	0.15	0.00	0.00	49.92	0.00
12	Vanadium	7.93E-04	7.49E-04	0.00E+00	2.52E-06	0.00E+00	1.29E-03	3.88E-05	27.91	26.36	0.00	0.09	0.00	0.00	45.56	0.09
13	Phenol	2.31E-03	2.65E-01	3.56E-03	7.34E-06	1.03E-03	1.97E-02	2.42E-03	0.79	90.12	1.21	0.00	0.35	0.00	6.70	0.83
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	Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
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		Oral Health Criteria Value ($\mu g\ kg^{-1}\ BW\ day^{-1}$)		Inhalation Health Criteria Value ($\mu g\ kg^{-1}\ BW\ day^{-1}$)		Oral Mean Daily Intake ($\mu g\ day^{-1}$)	Inhalation Mean Daily Intake ($\mu g\ day^{-1}$)	Air-water partition coefficient (K_{aw}) ($cm^3\ cm^{-3}$)	Coefficient of Diffusion in Air ($m^2\ s^{-1}$)	Coefficient of Diffusion in Water ($m^2\ s^{-1}$)	log K_{oc} ($cm^3\ g^{-1}$)	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor ($g\ g^{-1}$ DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
1	Arsenic	ID	0.3	ID	0.002	NR	NR	NR	NR	NR	NR	NR	0.03	0.5	1	1	1
2	Cadmium	TDI	0.36	TDI	0.0014	13.4	0.02	NR	NR	NR	NR	NR	0.001	0.5	1	1	1
3	Chromium III	TDI	150	TDI	0.1	60.2	0.27	NR	NR	NR	NR	NR	0	0.5	1	1	1
4	Mercury, inorganic	TDI	2	TDI	0.06	1	0	NR	NR	NR	NR	NR	0	0.5	1	1	1
5	Nickel	TDI	12	TDI	0.006	130	0.06	NR	NR	NR	NR	NR	0.005	0.5	1	1	1
6	Copper	TDI	160	TDI	0.286	7000	0.68	NR	NR	NR	NR	NR	0	0.5	1	1	1
7	Zinc	TDI	600	TDI	600	27000	2.4	NR	NR	NR	NR	NR	0	0.5	1	1	1
8	Selenium	TDI	6.4	NR	0	35	0.06	NR	NR	NR	NR	NR	0	0.5	1	1	1
9	Chromium VI	TDI	1	NR	0	6.7	NR	NR	NR	NR	NR	NR	0	0.5	1	1	1
10	Barium	TDI	20	NR	0	847	1000	NR	NR	NR	NR	NR	0	0.5	1	1	1
11	Beryllium	TDI	2	ID	0.0012	15	NR	NR	NR	NR	NR	NR	0	0.5	1	1	1
12	Vanadium	TDI	3	TDI	0.0286	23	0.64	NR	NR	NR	NR	NR	0	0.5	1	1	1
13	Phenol	TDI	700	TDI	10	350	40	8.35E-06	7.90E-06	6.36E-10	1.92	1.48	0.3	0.5	1	1	1
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	Oral Health Criteria Value ($\mu g\ kg^{-1}\ BW\ day^{-1}$)		Inhalation Health Criteria Value ($\mu g\ kg^{-1}\ BW\ day^{-1}$)		Oral Mean Daily Intake ($\mu g\ day^{-1}$)	Inhalation Mean Daily Intake ($\mu g\ day^{-1}$)	Air-water partition coefficient (K_{aw}) ($cm^3\ cm^{-3}$)	Coefficient of Diffusion in Air ($m^2\ s^{-1}$)	Coefficient of Diffusion in Water ($m^2\ s^{-1}$)	log K_{oc} ($cm^3\ g^{-1}$)	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor ($g\ g^{-1}$ DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
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		Soil-to-water partition coefficient ($cm^3\ g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg\ L^{-1}$)	Soil-to-plant concentration factor for green vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for root vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tuber vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for herbaceous fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for shrub fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tree fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)
1	Arsenic	5.00E+02	NR	1.25E+06	0.00043 fw	0.0004 fw	0.00023 fw	0.00033 fw	0.0002 fw	0.0011 fw
2	Cadmium	1.00E+02	NR	1.62E+06	0.052 fw	0.029 fw	0.031 fw	0.016 fw	0.0031 fw	0.0014 fw
3	Chromium III	4.80E+03	NR	5.85E+05	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw
4	Mercury, inorganic	5.00E+02	NR	7.40E+04	0.0038 fw	0.0069 fw	0.0043 fw	0.001 fw	0.0011 fw	0.001 fw
5	Nickel	5.00E+02	NR	2.50E+06	0.0038 fw	0.0043 fw	0.0019 fw	0.0025 fw	0.0025 fw	0.0034 fw
6	Copper	1.00E+02	NR	1.38E+06	0.0206 dw	0.0206 dw	0.0206 dw	0.0233 dw	0.0206 dw	0.0206 dw
7	Zinc	3.80E+01	NR	4.32E+06	0.054 dw	0.054 dw	0.054 dw	0.143 dw	0.054 dw	0.054 dw
8	Selenium	5.00E+01	NR	2.17E+06	0.0108 fw	0.00364 fw	0.00083 fw	0.00271 fw	0.003 fw	0.003 fw
9	Chromium VI	1.80E+01	NR	2.30E+06	0.0002 dw	0.0001 dw	0.0001 dw	0.09 dw	0.0003 dw	0.09 dw
10	Barium	0.00E+00	NR	8.00E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	Beryllium	1.70E+03	NR	1.66E+06	0.007 dw	0.0012 dw	0.0012 dw	0.0012 dw	0.0012 dw	0.0012 dw
12	Vanadium	1.26E+01	NR	2.11E+05	0.13 dw	0.13 dw	0.013 dw	0.013 dw	0.013 dw	0.013 dw
13	Phenol	9.65E-01	1.15E+01	8.41E+04	model	model	model	0.00E+00	0.00E+00	model
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	Soil-to-water partition coefficient ($cm^3 g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg L^{-1}$)	Soil-to-plant concentration factor for green vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for root vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tuber vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for herbaceous fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for shrub fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tree fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)
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Client/client ref: Marcus Cooper Group
Project ref: GE10977
Site ref:
Data description: Near Surface Soils
Contaminant(s): Metals and BAP
Test scenario: Planning
Date: 1 October 2015
User details:

	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Vanadium	Zinc	Hexavalent Chromium	Total Cyanide	Total Phenols	Benzo (a) pyrene
Critical concentration, C_c	**32**	**1330**	**41.2**	**5.17**	**3010**	**5200**	**200**	**169**	**127**	**350**	**107**	**19400**	**48.9**	**5**	**312**	**5**
Notes																
Full dataset size	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Outliers present?	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Number of outliers temporarily excluded							0									
Number removed by filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample size, n	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Sample mean, $\bar{x}$	19.975	159.65	1.125	0.3125	42.3	67.725	814.175	0.475	27.1	1.35	74.975	172.025	0.4	0.75	3	1.1625
Standard deviation, s	4.74789427	73.7768482	0.43493295	0.125	10.7814656	50.3850093	1109.5417	0.27233558	4.72369912	0.65574385	21.4680188	116.668544	0	0.28867513	0	1.24323168
Number of non-detects	0	0	**1**	**3**	0	0	0	**2**	0	**1**	0	0	**4**	**2**	**4**	**1**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Normal	Normal	Normal	Non-normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Single value	Non-normal	Single value	Normal
Statistical approach	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: Chebychev	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: One-sample t	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers								
t statistic, t_0 (or k_0)	-5.065403447	-31.72675516	-184.2812804	-77.72	-550.5188471	-203.7223002	1.107078713	-1237.627501	-42.29735957	-1063.372531	-2.983507721	-329.6171245	N/A	-29.44486373	N/A	-6.173427004
Upper confidence limit (on true mean concentration, μ)	25.5617604	246.461868	1.63677764	0.58493118	54.9863534	127.012119	2119.75244	0.79545229	32.6582904	2.1216018	100.236025	309.306743	0.4	1.37915287	3	2.62538798
Evidence level	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**17%**	**100%**	**100%**	**100%**	**97%**	**100%**	**100%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ ≥ Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**
Select dataset	○ Y	○ Y	○ Y	○ Y	○ Y	○ Y	◉ Y	○ Y	○ Y	○ Y	○ Y	○ Y	○ Y	○ Y	○ Y	○ Y

Back to data | Go to outlier test | Go to normality test | Show individual summary