

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.										BORE LOG						
CLIENT Strathclyde Regional Council					SITE M80 STEPPS BYPASS					LOGGED BY MS		GROUND LEVEL 99.339 m.A.O.D.		REF. NO. 605		
ENGINEER Director of Roads					DRILLING METHOD Shell and Auger, 200mm dia to 13.55m		START COMPLETE 2.3.82 3.3.82		SHEET 1 of 2		BORE NO. SB63					
										SCALE 1:50						
LABORATORY TESTS							STRATA DESCRIPTION					Depth (m)	O.D. Level m.A.O.D.	Test		
M	BD	C	φ	LL 7 PL	CGS	Soil Sample Type	Depth (m)	In situ Tests								
							0.20		TOPSOIL							
						D	0.50		Soft, mottled brown, sandy, silty, CLAY with gravel, becoming stiff towards base of stratum							
18				38 22	CI	U	1.00									
						D	1.50									
5	2005	45	11			U	2.00		Soft to firm, mottled brown, silty, very sandy CLAY with gravel, and laminated bands of silty sand and clayey silt.							
						D	2.50									
13						U	3.00		Stiff to very stiff, greyish brown, BOULDER CLAY							
						D	3.50									
12	2340	220	5			U	4.00									
						D	4.50									
13				34 15	CL	U	5.00									
						D	5.50									
12	2390					U	6.00									
						D	6.50									
13						U	7.00									
						D	7.50									
11	2240					U	8.00									
						D	8.50									
11						U	9.00									
KEY							REMARKS									
NIX) - Standard Penetration Test Result							Initial water level 2.00 metres dropping to 1.50m in 20 minutes. Borehole dry from 3.50 metres to 13.55 metres									
U - Undisturbed 100mm dia. Sample																
B - Bulk Disturbed Sample																
D - Small Disturbed Sample																
W - Water Sample																
M - Moisture Content (%)																
BD - Bulk Density (Kg/m ³)																
C - Immediate Undrained Cohesion (kN/m ²)																
φ - Immediate Undrained Friction Angle (degrees)																
LL - Liquid Limit (%)																
PL - Plastic Limit (%)																
CGS - Casagrande Group Symbol																



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1077800 : BGS Reference:
NS66NW4686/SB67
British National Grid (27700) : 264160,668695

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PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.				BORE LOG	
CLIENT Strathclyde Regional Council			SITE M80 STEPPS BYPASS		
ENGINEER Director of Roads		LOGGED BY WS	GROUND LEVEL 97.896 m.A.O.D.	REF. NO. 605	
DRILLING METHOD Shell and Auger, 200 mm dia. to 15.00m		START 5.3.82	COMPLETE 7.3.82	SHEET 1 of 2	BORE NO. SB67
				SCALE 1 : 50	

LABORATORY TESTS						Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Lithology
M	BD	C	φ	LL / PL	CGS							
									TOPSOIL	0.30		
18	2175					U	1.00		Fine to stiff, mottled brown, sandy silty CLAY with gravel			
						D	1.50			1.50		
13						U	2.00					
						D	2.50					
11	2280	144	0	32 / 15	CL	U	3.00		Stiff to very stiff greyish brown, BOULDER CLAY			
						D	3.50					
13	2370					U	4.00					
						D	4.50					
12	2345	178	0			U	5.30					
						D	5.50					
12	2370					U	6.50					
						D	7.00					
12	2330					U	8.00					
						D	8.50					
										9.00		

- KEY**
- N(X) - Standard Penetration Test Result
 - U - Undisturbed 100mm dia. Sample
 - B - Bulk Disturbed Sample
 - D - Small Disturbed Sample
 - W - Water Sample
 - M - Moisture Content (%)
 - BD - Bulk Density (Kg/m³)
 - C - Immediate Undrained Cohesion (kN/m²)
 - φ - Immediate Undrained Friction Angle (degrees)
 - LL - Liquid Limit (%)
 - PL - Plastic Limit (%)
 - CGS - Casagrande Group Symbol

REMARKS

- Borehole Dry



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NATURAL ENVIRONMENT RESEARCH COUNCIL

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BGS ID: 1077801 : BGS Reference:
NS66NW4686/SB68
British National Grid (27700) : 264275,668805

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PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD. BORE LOG

CLIENT Strathclyde Regional Council		SITE M80 STEPPS BYPASS	
ENGINEER Director of Roads	LOGGED BY WS	GROUND LEVEL 101.192 m.A.O.D.	REF. NO. 605
DRILLING METHOD Shell and Auger, 200mm dia. to 6.00m		START COMPLETE 1.3.82 1.3.82	BORE NO. SB68
		SHEET 1 of 1	
		SCALE 1 : 50	

LABORATORY TESTS						Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	L. Level
M	BD	C	φ	LL / PL	CGS							
						D	1.00		TOPSOIL	0.30		
						D	1.50		Soft, grey, laminated silty CLAY and brown sandy SILT, interbedded			
11	2390	192	-			U	2.00		Stiff to very stiff, greyish brown, BOULDER CLAY with sandstone boulders			
						D	2.50					
11				31 / 16	CL	U	3.00					
						D	3.50					
12	2378	181	-			U	4.00					
						D	4.50					
12						U	5.00					
						D	5.50			6.00		

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 - D - Small Disturbed Sample
 - W - Water Sample
 - M - Moisture Content (%)
 - BD - Bulk Density (Kg/m³)
 - C - Immediate Undrained Cohesion (kN/m²)
 - φ - Immediate Undrained Friction Angle (degrees)
 - LL - Liquid Limit (%)
 - PL - Plastic Limit (%)
 - CGS - Casagrande Group Symbol

REMARKS
Borehole Dry



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NATURAL ENVIRONMENT RESEARCH COUNCIL

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BGS ID: 1077802 : BGS Reference:
NS66NW4686/SB69
British National Grid (27700) : 264330,668795

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LABORATORY TESTS										Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	L
M	BD	C	ϕ	LL / PL	CGS	U	D	W	M							
PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.										BORE LOG						
CLIENT Strathclyde Regional Council					SITE H80 STEPPS BYPASS					GROUND LEVEL 109.313 m.A.O.D.		REF. NO. 605				
ENGINEER Director of Roads					LOGGED BY NS		START 25.2.82		COMPLETE 26.2.82		SHEET 1 of 1		BORE NO. SB69			
DRILLING METHOD Shell and Auger, 200mm dia. to 6.00m					SCALE 1 : 50											
TOPSOIL										-0.35						
Firm to stiff, mottled brown, sandy silty CLAY with gravel										1.75						
Stiff to very stiff, greyish brown, BOULDER CLAY with sandstone boulders										6.00						
17				33 / 17	CL	U	1.00									
						D	1.50									
12	2300	220				U	2.00									
						D	2.50									
12				28 / 13	CL	U	3.00									
						D	3.50									
11	2296	200				U	4.00									
						D	4.50									
11						U	5.00									
						D	6.00									
KEY										REMARKS						
N(X) - Standard Penetration Test Result										Borehole Dry						
U - Undisturbed 100mm dia. Sample																
B - Bulk Disturbed Sample																
D - Small Disturbed Sample																
W - Water Sample																
M - Moisture Content (%)																
BD - Bulk Density (Kg/m ³)																
C - Immediate Undrained Cohesion (kN/m ²)																
ϕ - Immediate Undrained Friction Angle (degrees)																
LL - Liquid Limit (%)																
PL - Plastic Limit (%)																
CGS - Casagrande Group Symbol																



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NATURAL ENVIRONMENT RESEARCH COUNCIL

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BGS ID: 1077803 : BGS Reference:
NS66NW4686/SB70

British National Grid (27700) : 264375,668840

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PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.				BORE LOG	
CLIENT Strathclyde Regional Council			SITE M80 STEPPS BYPASS		
ENGINEER Director of Roads		LOGGED BY WS	GROUND LEVEL 103.372 m.A.O.D.	REF. NO. 605	
DRILLING METHOD Shell and Auger, 200mm dia. to 16.60m		START 25.2.82	COMPLETE 3.3.82	SHEET 1 of 2	BORE NO. SB70
				SCALE 1 : 50	

LABORATORY TESTS							Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Lithology
M	BD	C	φ	LL / PL	CGS								
										TOPSOIL	-0.30		
										Stiff to very stiff, mottled brown, sandy silty CLAY with gravel			
14	2196			31 / 15	CL	U	1.20						
						D	1.50						
12	2320					U	2.00						
						D	2.50						
						D	3.00						
						D	3.50						
12	2308			32 / 15	CL	U	4.20						
						D	4.50						
13						U	5.40						
						D	6.00						
13						U	6.40						
						D	7.00						
13						U	8.20						
						D	9.00						

- KEY**
- N(X) - Standard Penetration Test Result
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 - B - Bulk Disturbed Sample
 - D - Small Disturbed Sample
 - W - Water Sample
 - M - Moisture Content (%)
 - BD - Bulk Density (Kg/m³)
 - C - Immediate Undrained Cohesion (kN/m²)
 - φ - Immediate Undrained Friction Angle (degrees)
 - LL - Liquid Limit (%)
 - PL - Plastic Limit (%)
 - CGS - Casagrande Group Symbol

REMARKS
Borehole dry, becoming slightly damp at 5.60m



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1077805 : BGS Reference:
NS66NW4686/SB73
British National Grid (27700) : 264590,668885
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PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT Strathclyde Regional Council		SITE M80 STEPPS BYPASS	
ENGINEER Director of Roads	LOGGED BY WS	GROUND LEVEL 93.810 m.A.O.D.	REF. NO. 605
DRILLING METHOD Sho11 and Auger, 200mm dia. to 4.50m		START COMPLETE 26.2.82 26.2.82	SHEET 1 of 1
		SCALE 1 : 50	BORE NO. SB 73

LABORATORY TESTS						Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Diagrams	
M	BD	C	ϕ	LL / PL	CGS								
						D	0.50		TOPSOIL	0.30			
20				38	20	CI	1.00		Stiff mottled brown, sandy silty CLAY with gravel				
						D	1.50			1.80			
15	2197	100	-			U	2.00		Stiff to very stiff, greyish brown, BOULDER CLAY				
						D	2.50						
11						U	3.00						
						D	3.50						
12	2333			31	15	CL	4.00			4.50			

- KEY
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 - D - Small Disturbed Sample
 - W - Water Sample
 - M - Moisture Content (%)
 - BD - Bulk Density (Kg/m³)
 - C - Immediate Undrained Cohesion (kN/m²)
 - ϕ - Immediate Undrained Friction Angle (degree)
 - LL - Liquid Limit (%)
 - PL - Plastic Limit (%)
 - CGS - Casagrande Group Symbol

REMARKS
Borehole Dry



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1077807 : BGS Reference:
NS66NW4686/SB75
British National Grid (27700) : 264740,668970

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British Geological Survey

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.			BORE LOG		
CLIENT Strathclyde Regional Council		SITE K80 STEPPS BYPASS			
ENGINEER Director of Roads		LOGGED BY WS	GROUND LEVEL 101.149 m.A.O.D.	REF. NO. 605	
DRILLING METHOD Shell and Auger, 200mm dia. to 12.00m		START 7.3.82	COMPLETE 8.3.82	SHEET 1 of 2	BORE NO. SB75
				SCALE 1 : 50	

LABORATORY TESTS						Soil Sample Type	Depth (m)	In situ Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	L. Level
M	BD	C	φ	LL / PL	CCS							
						D	0.50		TOPSOIL	0.30		
17				32	17	CL	1.00		Firm to stiff, greyish brown, sandy silty CLAY with gravel and occasional boulders			
						D	1.50			1.60		
14	2190					U	2.00		Stiff to very stiff, greyish brown, BOULDER CLAY with boulders throughout			
						D	2.50					
16						U	3.00					
						D	3.50					
12	2345	50				U	4.00					
						D	4.50					
11	2270	21	26	34	18	CL	5.00					
						D	5.50					
13	2318					U	6.00					
						D	6.50					
13						U	7.00					
						D	7.50					
13	2331					U	8.00					
						D	8.50					
						W	9.00			9.00		

- KEY**
- N(X) - Standard Penetration Test Result
 - U - Undisturbed 100mm dia. Sample
 - B - Bulk Disturbed Sample
 - D - Small Disturbed Sample
 - W - Water Sample
 - M - Moisture Content (%)
 - BD - Bulk Density (Kg/m³)
 - C - Immediate Undrained Cohesion (kN/m²)
 - φ - Immediate Undrained Friction Angle (degree)
 - LL - Liquid Limit (%)
 - PL - Plastic Limit (%)
 - CCS - Casagrande Group Symbol

REMARKS

Borehole Daap

* Consolidated Undrained Triaxial



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1078331 : BGS Reference:
NS66NW4972/TP8
British National Grid (27700) : 263590,668820

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RECORD OF CONTENTS TRIAL PITS

<p>TRIAL PIT NO. 5.</p> <p>IMPOSSIBLE TO DO TRIAL PIT 5 DUE TO LOCATION BEING IN WOODED AREA.</p>	<p>TRIAL PIT NO. 7.</p> <table border="0"> <tr> <td>Topsoil</td> <td style="text-align: right;">100</td> </tr> <tr> <td>Firm mottled brown grey sandy clay with fine to coarse gravel and cobbles</td> <td style="text-align: right;">800</td> </tr> <tr> <td>Firm to stiff mottled grey brown fine sandy clay with cobbles and some fine gravel. Cobbles becoming more common with depth</td> <td style="text-align: right;">700</td> </tr> <tr> <td></td> <td style="text-align: right;"><u>1600</u></td> </tr> </table> <p>Becoming difficult to excavate</p> <p>No water</p>	Topsoil	100	Firm mottled brown grey sandy clay with fine to coarse gravel and cobbles	800	Firm to stiff mottled grey brown fine sandy clay with cobbles and some fine gravel. Cobbles becoming more common with depth	700		<u>1600</u>								
Topsoil	100																
Firm mottled brown grey sandy clay with fine to coarse gravel and cobbles	800																
Firm to stiff mottled grey brown fine sandy clay with cobbles and some fine gravel. Cobbles becoming more common with depth	700																
	<u>1600</u>																
<p>TRIAL PIT NO. 6.</p> <table border="0"> <tr> <td>Topsoil</td> <td style="text-align: right;">300</td> </tr> <tr> <td>Firm mottled brown and grey sandy clay with small to medium gravel and cobbles.</td> <td style="text-align: right;">800</td> </tr> <tr> <td>Firm to stiff dark brown and grey sandy clay with small boulders. Friable when excavated.</td> <td style="text-align: right;">500</td> </tr> <tr> <td></td> <td style="text-align: right;"><u>1600</u></td> </tr> </table> <p>Becoming difficult to excavate due to boulders.</p> <p>No water</p>	Topsoil	300	Firm mottled brown and grey sandy clay with small to medium gravel and cobbles.	800	Firm to stiff dark brown and grey sandy clay with small boulders. Friable when excavated.	500		<u>1600</u>	<p>TRIAL PIT NO. 8.</p> <table border="0"> <tr> <td>Topsoil</td> <td style="text-align: right;">200</td> </tr> <tr> <td>Firm to stiff mottled grey brown sandy clay with small to medium gravel</td> <td style="text-align: right;">700</td> </tr> <tr> <td>Dark grey firm to stiff sandy clay with some fine to medium gravel and cobbles</td> <td style="text-align: right;">500</td> </tr> <tr> <td></td> <td style="text-align: right;"><u>1400</u></td> </tr> </table> <p>Becoming difficult to excavate</p> <p>No water</p>	Topsoil	200	Firm to stiff mottled grey brown sandy clay with small to medium gravel	700	Dark grey firm to stiff sandy clay with some fine to medium gravel and cobbles	500		<u>1400</u>
Topsoil	300																
Firm mottled brown and grey sandy clay with small to medium gravel and cobbles.	800																
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	<u>1600</u>																
Topsoil	200																
Firm to stiff mottled grey brown sandy clay with small to medium gravel	700																
Dark grey firm to stiff sandy clay with some fine to medium gravel and cobbles	500																
	<u>1400</u>																



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1078335 : BGS Reference:
NS66NW4972/TP12
British National Grid (27700) : 263690,668870

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RECORD OF CONTENTS TRIAL PITS

<p>TRIAL PIT NO. 9.</p> <p>Topsoil with some loose broken brick rubble 100</p> <p>Firm to stiff mottled brown grey sandy clay with some fine gravel 800</p> <p>Stiff grey sandy clay with fine to medium gravel and cobbles and one boulder. Cobbles becoming more common with depth 900</p> <p>1800</p> <p>Becoming difficult to excavate</p> <p>No water</p>	<p>TRIAL PIT NO. 11</p> <p>Topsoil 250</p> <p>Firm to stiff mottled grey brown orange sandy clay with some fine gravel. Friable when excavated 850</p> <p>Stiff grey sandy clay with small to medium gravel and cobbles 200</p> <p>Stiff grey sandy clay with some small gravel and cobbles 200</p> <p>1500</p> <p>Becoming difficult to excavate</p> <p>No water</p>
<p>TRIAL PIT NO. 10</p> <p>Loose broken brick fill with some metal piping and some timber 400</p> <p>Firm mottled grey brown sandy clay with some fine gravel 900</p> <p>Firm sandy grey clay with fine gravel 800</p> <p>Going to firm to stiff grey sandy clay with fine to medium gravel. Friable when excavated 500</p> <p>2600</p> <p>No water</p>	<p>TRIAL PIT NO. 12</p> <p>Topsoil with 400 x 400 x 200 concrete padstone 200</p> <p>Firm to stiff greyish brown sandy clay with some fine gravel 800</p> <p>Stiff grey sandy clay with some small gravel and cobbles 400</p> <p>1400</p> <p>Difficult to excavate</p>



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1078337 : BGS Reference:
NS66NW4972/TP14
British National Grid (27700) : 263700,668990

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RECORD OF CONTENTS TRIAL PITS

<p>TRIAL PIT NO. 13.</p> <p>Broken Brick and stone rubble 300</p> <p>Stiff mottled grey brown sandy clay with some fine gravel 600</p> <p>Stiff grey sandy clay with some small gravel and cobbles 600</p> <hr/> <p>Becoming difficult to excavate</p> <p>No water</p>	<p>TRIAL PIT NO. 15</p> <p>Topsoil with roots 600</p> <p>Firm light to dark brown mottled fine sandy clay with some cobbles 1000</p> <p>Firm mottled brown dark brown fine sandy clay 500</p> <p>Firm grey sandy clay with high proportion of fine to medium gravel and some cobbles 200</p> <hr/> <p>Becoming difficult to excavate</p> <p>No water</p>
<p>TRIAL PIT NO. 14.</p> <p>Topsoil 400</p> <p>Firm and mottled brown grey fine sandy clay with some fine to medium gravel 800</p> <p>Firm grey very gravelly sandy clay going gradually to cobbles and boulders 800</p> <hr/> <p>2000</p> <p>Difficult to excavate further</p> <p>Some slight water seepage from about 1800 - 2000 level</p>	<p>TRIAL PIT NO. 16</p> <p>Topsoil with roots 500</p> <p>Firm mottled brown grey sandy clay with some gravel 900</p> <p>Firm dark brown sandy clay with fine to medium gravel and cobbles and boulders. Going to stiff 400</p> <hr/> <p>1800</p> <p>Becoming difficult to excavate</p> <p>No water</p>



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Version 2.0.6

BGS ID: 1078340 : BGS Reference:
NS66NW4972/TP17
British National Grid (27700) : 263790,668860

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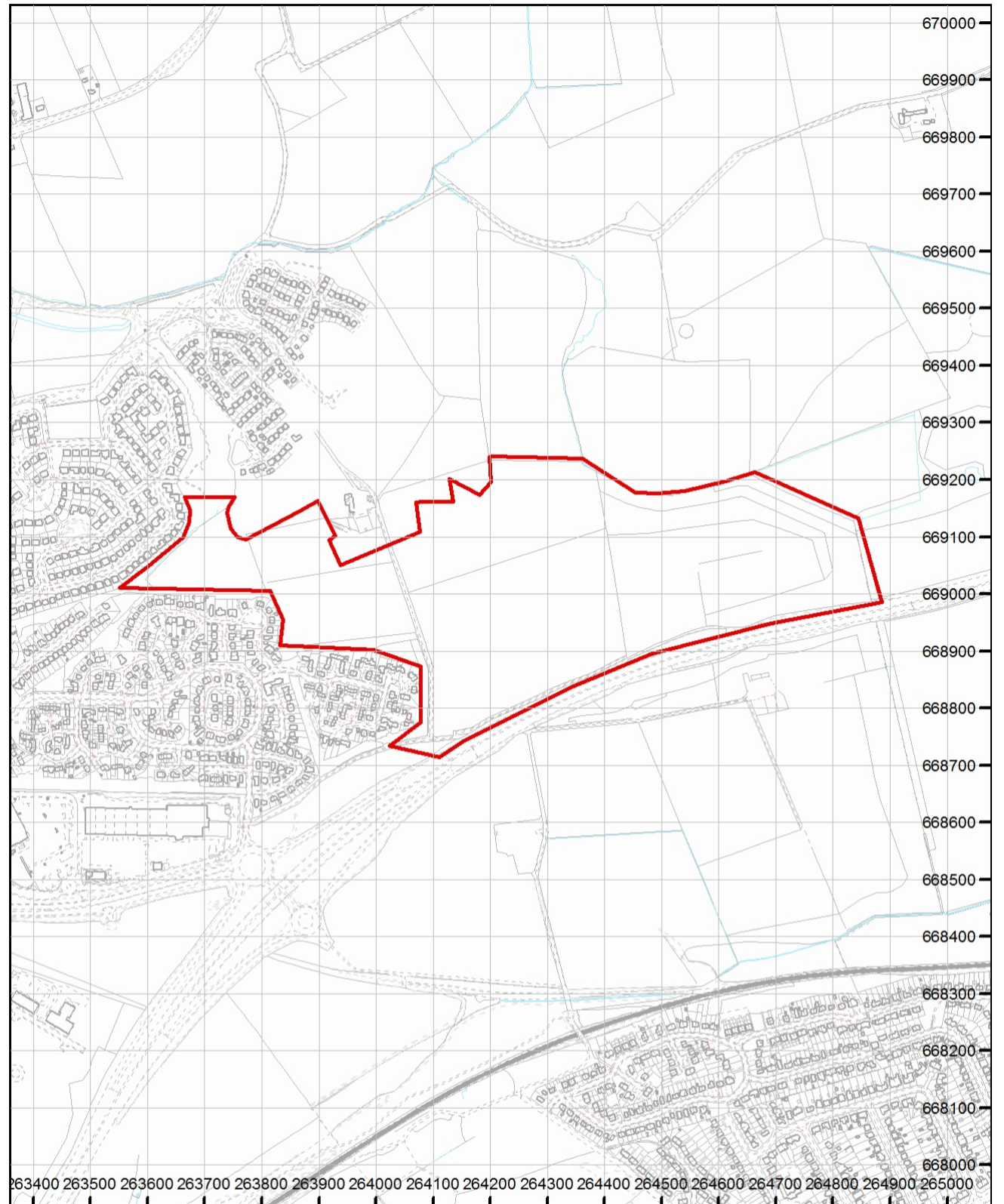
RECORD OF CONTENTS TRIAL PITS

<p>TRIAL PIT NO. 17.</p> <p>Topsoil 300</p> <p>Firm mottled brown grey fine sandy clay with some small gravel 800</p> <p>Firm to stiff grey with some brown sandy clay with fine to medium gravel and some cobbles going to stiff 500</p> <p>Cobbles with stiff sandy clay making excavation difficult 400</p> <hr/> <p>2000</p> <p>No water</p>	<p>TRIAL PIT NO. 19</p> <p>Topsoil and some brick rubble 400</p> <p>Firm to stiff mottled grey brown sandy clay with fine to medium gravel 1000</p> <p>Two inch red clay land water drainage pipe at 1500 mm</p> <p>Firm dark grey fine silty sandy clay with some small gravel 800</p> <hr/> <p>2200</p> <p>Pit abandoned due to water inflow</p>
<p>TRIAL PIT NO. 18</p> <p>Topsoil 300</p> <p>Ash and brick fill (mainly ash) fine to medium gravel sized 500</p> <p>Mottled firm silty sandy clay 500</p> <p>Ash fill fine to medium gravel sized 1000</p> <p>Firm grey fine sandy clay with some small gravel 1000</p> <hr/> <p>3300</p> <p>No water</p>	<p>TRIAL PIT NO. 20</p> <p>Topsoil with vegetation 700</p> <p>Mottled grey brown soft to firm fine sandy clay. Water land drain with small flow from one side only 1700</p> <p>Soft grey silty sandy clay 1500</p> <hr/> <p>3200</p> <p>Could not go any deeper</p>

Enquiry boundary

Key

Approximate position of enquiry boundary shown





How to contact us


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