

## BEARING PILE DESIGN REPORT FOR 5-17 HAVERSTOCK HILL, CAMDEN, NW3 2BF (P755)

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### Design Brief

The proposed redevelopment of the site involves the installation of load bearing piles for a new development at 5-17 Haverstock Hill, Camden.

Piles are designed in accordance with BS EN 1997-1:2004, using enhanced partial factors of safety that negate pile load testing.

Piles will be installed to an installation tolerance of 75mm on plan and 1 in 75 verticality.

**Piling platform levels are TBC.**

**Pile cut off levels are TBC.**

Projection steel shall be provided to platform level. Where a greater projection length is required or bending of bars is not possible, suitable bars will need to be coupled onto the projection steel post trimming (by others).

Pile design requirements are summarised in the table below:

Pile diameter (mm)	SLS pile load (kN)	Comb 2 action (kN)	Pile length (m)
300mm	325kN to 825kN	348kN to 870kN	16.9m to 28.6m
350mm	850kN to 1025kN	895kN to 1078kN	26.3m to 29.5m
450mm	888kN	944kN	23.1m

### Design Input



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### *Site Investigation*

The ground conditions that were utilised for this pile design have been taken from a combination of nearby borehole records provided by the British Geological Survey materials © NERC [2021], our knowledge of soils within the local area, the site investigation report carried out by Tetra Tech Environment under their report reference 784 B039335, dated September 2022. This contained the total findings of 1No. borehole which confirmed site geology to the maximum depth of 25.27 metres, with the addition of SPT-N results. These results have been summarised, along with our proposed design, in appendix A.

### Drawings

#### *Relevant Drawings*

Meinhardt Consulting drawings: HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01

*When piling operations commence, piles will be installed at a fast rate. In some instances when a document portal is being used to issue revised information, the speed of the approval process on the document portal does not keep up with the pace of piling. For this reason, we would greatly appreciate direct contact from the structural engineer if any of the above drawings have been revised, in order that they can be retrieved on the document portal.*

### Codes & Standards

BS EN 1992-1-1:2004 Eurocode 2: Design of Concrete Structures

BS EN 1997-1:2004 Eurocode 7: Geotechnical Design

### Specification

ICE Specification for piling and embedded retaining walls, 3rd Edition (SPERW), 2017.



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## Design Philosophy & Ground/ Design Model

### *Design Philosophy*

Design is based on a partial safety factor approach where characteristic pile resistance is calculated in accordance with BS EN 1997-1:2004, Design Approach 1 (section 2.4.7.3.4.2), design by calculation.

Design has been checked for Geotechnical and Structural Ultimate Limit States (ULS).

Design is based upon design actions < design resistance.

We have assessed the structure class to be Category 2 (Section 2.1) “Conventional types of structure and foundation with no exceptional risk or difficult soil and loading conditions”.

### Soil Model

The soil profile used within the design is illustrated below this profile was developed from a review of the aforementioned site investigation, an overview of which is below:

<b>Stratum</b>	<b>Design level (mbgl)</b>
Discounted Soil	0.0 metres
London Clay	3.0 metres

Design is based on a groundwater level of 0.5 metres below ground level.

### Soil Parameters

A correlation value of 5 has been applied to the SPT results to obtain the equivalent Undrained Shear Strength (kN/m<sup>2</sup>) of the Clay. The soil parameters shown in Fig.3 are subsequently used for the design of the piles. Strength plots vs depth can also be found in Appendix A.

Stratum	Bearing pile design parameters		
Made Ground	Bulk Density	$\gamma_b$	= 18kN/m <sup>3</sup>
			(Skin Friction contribution ignored)
London CLAY Firm to V Stiff CLAY (fissured silty CLAY)	Bulk Density	$\gamma_b$	= 20kN/m <sup>3</sup>
	SPT	'N'	Values as design lines
	Cohesion	$c_u$	Values as design lines, correlation factor = 5
	Adhesion factor	$\alpha$	= 0.50
	Unit skin friction	$q_s$	Limited to maximum average 110kPa

### Specified Actions

#### *Compression*

Piles have been designed for vertical compression actions as specified on drawings on page 2.

#### *Shear*

0kN to 75kN

Analysis of the pile under horizontal load / bending moments has been carried out using the OASYS Limited computer program ALP. The program models the interaction between the pile and the surrounding soil, predicts the pressures, horizontal movements, shear forces and the bending moments induced in the pile. The pile is modelled as a series of elastic beam elements. The soil is modelled as a series of non- interactive, non-linear springs. The soil deflection has been modelled assuming an elastic plastic behaviour. Two stiffness matrices relating nodal forces to displacements are developed - one represents the pile in bending the other represents the soil. The assumed soil profile and soil parameters are detailed in the vertical pile calculations.

#### *Tension*

0kN



Moments from Tolerances

Piles have been designed as restrained at the head; any additional actions as a result of pile installation tolerances have not been allowed for, these loads are to be accommodated by the substructure.

*Heave (Swell)*

The piles have been designed for clay swell over the top 3.0 metres of pile. Please refer to appendix D for calculations.

*Negative Skin Friction (NSF)*

NSF will not be induced by the soil. Piles have therefore not been designed for the effects of NSF.

Bearing Capacity

<b>Bearing Capacity – Cohesive Soils</b>	
<i>Shaft Resistance - Clay (ULS)</i>	
Characteristic Shaft Resistance of Stratum	$q_{s,i;k} = \alpha \times C_{u \text{ av.}}$
Characteristic Shaft Resistance of Pile	$R_{s;k} = A_{s,i} q_{s,i;k}$
Where	$A_{s,i} = \pi \times \text{dia} \times \text{length of shaft in clay}$ $C_{u \text{ av.}} = \text{Av. Undrained shear strength over length of shaft}$ $\alpha = \text{adhesion}$
<i>Base Resistance - Clay (ULS)</i>	
Characteristic Base Resistance of Stratum	$q_{s,i;k} = \alpha \times C_{u \text{ av.}}$
Characteristic Base Resistance of Pile	$R_{b;k} = A_b q_{b;k}$
Where	$A_b \text{ (Area of base)} = \pi \times \text{dia}^2 \times 0.25$ $N_c \text{ (Bearing capacity factor)} = 9.0$ $C_{u \text{ base}} = \text{Undrained design shear strength at base}$

Pile capacity calculations can be found in Appendix B.

## Design Check for Geotechnical ULS – Design Approach 1

Combination 1 (STR) used to check concrete stress and combination 2 (GEO) used for pile toe level.

Design Approach 1 Combination 1	Design Approach 1 Combination 2
$R_{b;k} = A_b q_{b;k}$	$R_{b;k} = A_b q_{b;k}$
$R_{s;k} = A_{s;i} q_{s;i;k}$	$R_{s;k} = A_{s;i} q_{s;i;k}$
$\gamma_b = 1.0$ (Base)	$\gamma_b = 2.0$ (Base)
$\gamma_s = 1.0$ (Shaft Compression)	$\gamma_s = 1.6$ (Shaft Compression)
$\gamma_s = 1.0$ (Shaft Tension)	$\gamma_s = 2.0$ (Shaft Tension)
$\gamma_{Rd} = 1.4$ (Model Factor)	$\gamma_{Rd} = 1.4$ (Model Factor)
$R_{c;d} = (R_{b;k}/\gamma_b + R_{s;k}/\gamma_s)/\gamma_{Rd}$	$R_{c;d} = (R_{b;k}/\gamma_b + R_{s;k}/\gamma_s)/\gamma_{Rd}$
$\gamma_G = 1.35$	$\gamma_G = 1.0$
$\gamma_Q = 1.5$	$\gamma_Q = 1.3$
$Y_0 = 0.5$ ( $Q_k > w_L$ )	$Y_0 = 0.5$ ( $Q_k > w_L$ )
$F_{c;d} = G_k \cdot \gamma_G + Q_k \cdot \gamma_Q + w_L \cdot \gamma_Q \cdot Y_0$	$F_{c;d} = G_k \cdot \gamma_G + Q_k \cdot \gamma_Q + w_L \cdot \gamma_Q \cdot Y_0$
$Y_0 = 0.7$ ( $Q_k < w_L$ )	$Y_0 = 0.7$ ( $Q_k < w_L$ )
$F_{c;d} = G_k \cdot \gamma_G + Q_k \cdot \gamma_Q \cdot Y_0 + w_L \cdot \gamma_Q$	$F_{c;d} = G_k \cdot \gamma_G + Q_k \cdot \gamma_Q \cdot Y_0 + w_L \cdot \gamma_Q$
$F_{c;d} < R_{c;d} : OK$	$F_{c;d} < R_{c;d} : OK$

## References

$F_{c;d}$	design axial compression load
$\gamma_G$	partial factor for permanent action
$\gamma_Q$	partial factor for variable action
$R_{c;d}$	design value $R_c$
$R_{b;k}$	characteristic value for base resistance of pile
$\gamma_b$	partial factor for base resistance of pile
$R_{s;k}$	characteristic value for shaft resistance of pile
$\gamma_s$	partial factor for shaft resistance of pile
$\gamma_{R;d}$	partial factor for uncertainty in a resistance model
$q_{s;i;k}$	characteristic value of shaft resistance in stratum i
$q_{b;k}$	characteristic value of base resistance in stratum i
$A_{s;i}$	pile shaft surface area in stratum i
$G_k$	permanent action
$Q_k$	variable action

## Design Check for Structural ULS – Concrete Compression

Where geotechnical ULS resistances and SLS performance have been satisfied, the structural capacity of the pile is determined in accordance with BS EN 1997-1:2004 and BS EN 1992-1-1:2004, using the Comb 1 (STR).

See appendix E.

## Structural Design

### *Structural Parameters*

<b>Pile diameter(s)</b>	300mm
<b>Concrete, <math>f_{cu}</math></b>	32/40 N/mm <sup>2</sup> Dc2 40/50 N/mm <sup>2</sup> Dc2 (please refer to schedule)
<b>Steel, <math>f_{yk}</math></b>	500 N/mm <sup>2</sup> [high yield]
<b>Materials factor, <math>\gamma_s</math></b>	1.15 (reinforcement)
<b>Cover</b>	75mm

<b>Pile diameter(s)</b>	350mm
<b>Concrete, <math>f_{cu}</math></b>	32/40 N/mm <sup>2</sup> Dc2
<b>Steel, <math>f_{yk}</math></b>	500 N/mm <sup>2</sup> [high yield]
<b>Materials factor, <math>\gamma_s</math></b>	1.15 (reinforcement)
<b>Cover</b>	75mm

<b>Pile diameter(s)</b>	450mm
<b>Concrete, <math>f_{cu}</math></b>	32/40 N/mm <sup>2</sup> Dc2
<b>Steel, <math>f_{yk}</math></b>	500 N/mm <sup>2</sup> [high yield]
<b>Materials factor, <math>\gamma_s</math></b>	1.15 (reinforcement)
<b>Cover</b>	75mm

### Pile Testing/Validation Requirements

The piles have been designed using enhanced partial factors of safety that negate the requirement for pile load testing.

Settlement analysis for a 300mm, 350mm & 450mm diameter pile, can be found in Appendix F. The analysis was carried out using a method derived by Fleming, W.G.K (1992), Geotechnique 42, No.3. The settlement at SWL is predicted to be less than 10mm.

All bearing piles are to be sonic integrity tested with the sonic echo method. Please note integrity testing to be booked in with Southern Piling via email to [chris@southernpiling.co.uk](mailto:chris@southernpiling.co.uk) by the main contractor allowing 3 working days to mobilise testing sub-contractor.



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### Outstanding Issues

- **Construction Issue drawings are required in order to procure reinforcement.**
- **Piling platform levels and pile cut off levels are TBC.**
- **Borehole depth Vs Pile Depth – Current industry guidance advocates that site investigation boreholes should be bored to at least 5m deeper than the deepest pile. In this instance, piles will toe 4.23m deeper than the deepest borehole (29.5m from original GL). Our design approach, based on Clay end bearing to depth is conservative and as such, we are comfortable with our current approach. We would advise, however that the Principal Contractor should liaise with the relevant approval authorities to seek their comments on the current borehole depths and piled scheme.**





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## APPENDIX A: STRENGTH VS DEPTH PLOTS

**Site Address** 5-17 Haverstock Hill

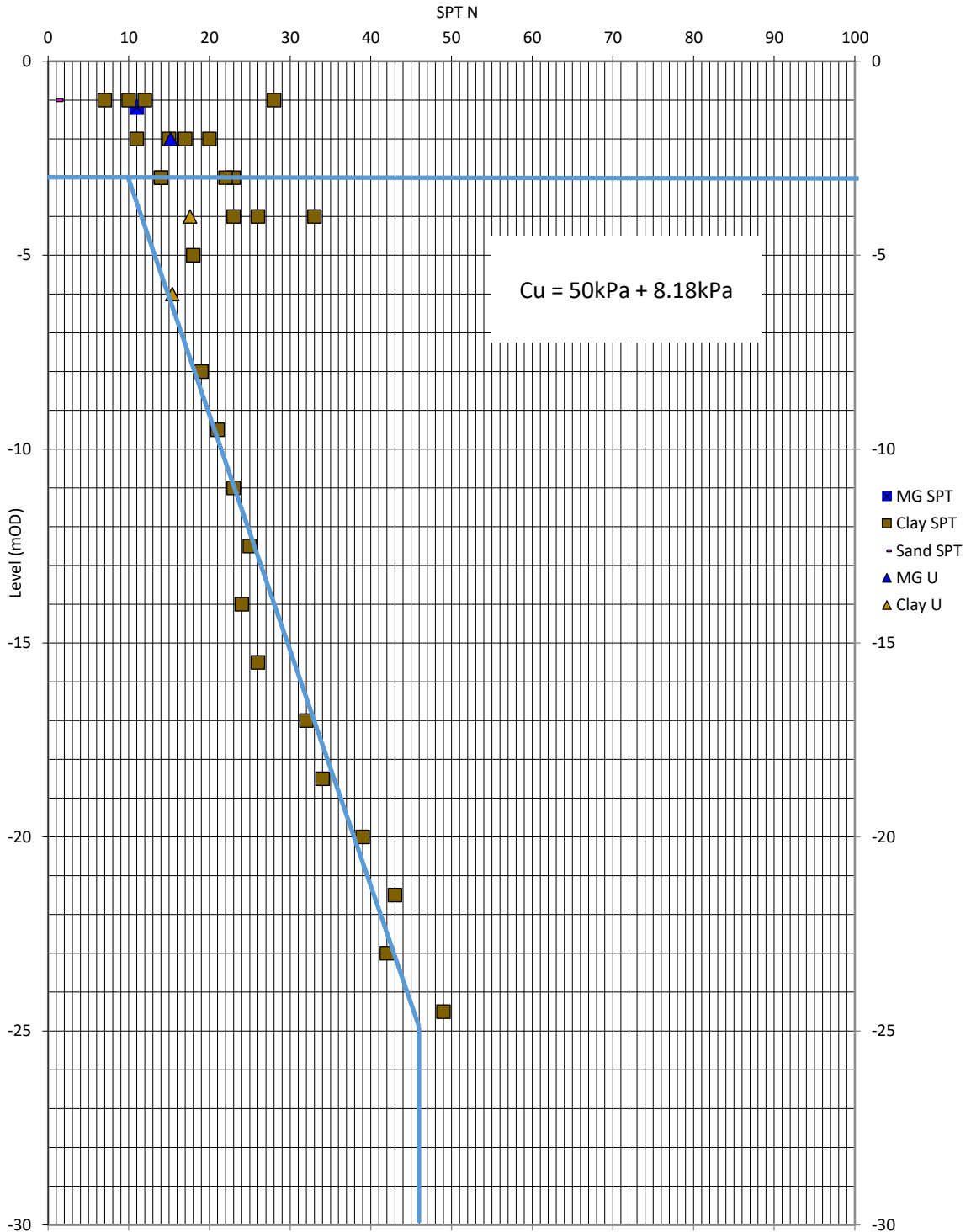
NW3

**Reference** P755

**Date** 28/04/2023



**Cu = 5 \* SPT N**





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## APPENDIX B: BEARING PILE DESIGN CALCULATIONS



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5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date  
JW

**Analysis Options**

Design approach: DA1(C1 + C2)  
 File type: CFA  
 Model factor: 1.40  
 Partial factor on negative skin friction - Set A1: 1.00  
 Partial factor on negative skin friction - Set A2: 1.00  
 Serviceability verified by load tests (preliminary/working) No  
 carried out on more than 1% of constructed piles to loads  
 not less than 1.5 times the representative load for which  
 they are designed?  
 Resistance verified by a maintained load test taken to the No  
 calculated, unfactored, ultimate resistance?  
 Is BS8004 SLS check enabled? Yes  
 Shaft only FoS (Compression): 1.00  
 Shaft only FoS (Tension): 0.00  
 Is pile capacity limited by pile material compressive No  
 strength?  
 Pile material compressive strength calculation type Grade based  
 Limiting pile material compressive strength[kPa] 0.000000  
 Datum type Depth based  
 Effective stress profile Calculated

**Pile Properties**

File type Solid  
 Material type User-defined  
 Pile cross-section Circular  
 Under-ream No  
 Calculation profile Range  
 Minimum pile length 6.0000 m  
 Maximum pile length 30.000 m  
 Increment size 0.10000

Cross-section	Number of cross sections	Top Diameter [m]	Second Diameter location [m]	Second Diameter [m]	Third Diameter location [m]	Third Diameter [m]
Cross-section 1	1	0.30000				

**Undrained Materials - General Data**

No.	Material description	Bulk unit weight [kN/m³]	Cu material factor	Top Cu [kPa]	Base Cu [kPa]
1	London Clay	20.000	NA	50.000	230.00
2	London Clay	20.000	NA	230.00	230.00

**Undrained Materials - Skin Friction Data**

No.	Material description	Skin friction computation	Alpha	q <sub>s</sub>	q <sub>s,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]
1	London Clay	Alpha specified	0.50000	NA	NA No NA
2	London Clay	Alpha specified	0.50000	NA	NA No NA

**Undrained Materials - End Bearing Data**

No.	Material description	End bearing computation	Nc	q <sub>b</sub>	q <sub>b,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]



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300mm diameter load bearing pile design revision A

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Made by JW	Date	Checked Date

No.	Material description	End bearing computation	Nc	Qb	Qb,lim
				Top	Base Spec. Value
				[kPa]	[kPa]
1	London Clay	Nc specified	9.0000	NA	NA No NA
2	London Clay	Nc specified	9.0000	NA	NA No NA
	2				

**Undrained Materials - Material Factors (Code Based)**

No.	Material description	Qs factors		Nc factors		Qb factors	
		M1	M2	M1	M2	M1	M2
1	London Clay	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.
2	London Clay 2	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.

**STAGE SPECIFIC DATA**

**Stage 0 : Initial Stage**

**Groundwater**

No.	Level [m]	Pressure [kPa]	Unit weight of water [kN/m³]
1	0.50000	0.0	10.000

**Soil Profiles**

**Soil Profile 1: Soil Profile 1**

No.	Depth [m]	Material description	Contributes to negative skin friction
1	0.0	Air/Void	No
2	3.0000	London Clay	No
3	25.000	London Clay 2	No

**Soil Profile - Groundwater Map**

No.	Soil Profile	Groundwater
1	Soil Profile 1	Groundwater Profile 1

**Stage specific warnings**

1 - Stage 0 - The bottom most layer in Soil Profile 1 is assigned "Total stress" material. For this layer the cohesion is assumed to be constant at "Cu-Top", i.e cohesion specified at the top of this layer. The user specified value of cohesion at the bottom of this layer, "Cu-Bottom" is ignored. (Material Properties)

**CAPACITY RESULTS**

**Partial Resistance Factors Used:**

**DA1 C1**  
 Shaft resistance factor for set R1 (Compression): 1.00  
 Base resistance factor for set R1: 1.00  
 Shaft resistance factor for set R1 (Tension): 1.00

**DA1 C2**



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No. Soil Profile Groundwater

Shaft resistance factor for set R4 (Compression): 1.60  
 Base resistance factor for set R4: 2.00  
 Shaft resistance factor for set R4 (Tension): 2.00  
 Model factor: 1.40

**Stress Profiles**

**Soil Profile 1: Soil Profile 1**

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit perimeter
[m]		[kN/m <sup>3</sup> ]	[kPa]		[kPa]	[kPa]	[kPa]	[kPa]	[kN/m]
0.0	H	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0
0.50000	-	10.000	0.0	0.0	0.0	0.0	0.0	NA	0.0
3.0000	-	10.000	0.0	0.0	25.000	25.000	0.0	NA	0.0
3.0000	-	20.000	50.000	N.A.	25.000	25.000	0.0	NA	0.0
6.0000	T	20.000	74.545	N.A.	85.000	55.000	30.000	NA	93.409
6.1000	T	20.000	75.364	N.A.	87.000	56.000	31.000	NA	97.157
6.2000	T	20.000	76.182	N.A.	89.000	57.000	32.000	NA	100.95
6.3000	T	20.000	77.000	N.A.	91.000	58.000	33.000	NA	104.78
6.4000	T	20.000	77.818	N.A.	93.000	59.000	34.000	NA	108.65
6.5000	T	20.000	78.636	N.A.	95.000	60.000	35.000	NA	112.56
6.6000	T	20.000	79.455	N.A.	97.000	61.000	36.000	NA	116.51
6.7000	T	20.000	80.273	N.A.	99.000	62.000	37.000	NA	120.50
6.8000	T	20.000	81.091	N.A.	101.00	63.000	38.000	NA	124.54
6.9000	T	20.000	81.909	N.A.	103.00	64.000	39.000	NA	128.61
7.0000	T	20.000	82.727	N.A.	105.00	65.000	40.000	NA	132.73
7.1000	T	20.000	83.545	N.A.	107.00	66.000	41.000	NA	136.88
7.2000	T	20.000	84.364	N.A.	109.00	67.000	42.000	NA	141.08
7.3000	T	20.000	85.182	N.A.	111.00	68.000	43.000	NA	145.32
7.4000	T	20.000	86.000	N.A.	113.00	69.000	44.000	NA	149.60
7.5000	T	20.000	86.818	N.A.	115.00	70.000	45.000	NA	153.92
7.6000	T	20.000	87.636	N.A.	117.00	71.000	46.000	NA	158.28
7.7000	T	20.000	88.455	N.A.	119.00	72.000	47.000	NA	162.68
7.8000	T	20.000	89.273	N.A.	121.00	73.000	48.000	NA	167.13
7.9000	T	20.000	90.091	N.A.	123.00	74.000	49.000	NA	171.61
8.0000	T	20.000	90.909	N.A.	125.00	75.000	50.000	NA	176.14
8.1000	T	20.000	91.727	N.A.	127.00	76.000	51.000	NA	180.70
8.2000	T	20.000	92.545	N.A.	129.00	77.000	52.000	NA	185.31
8.3000	T	20.000	93.364	N.A.	131.00	78.000	53.000	NA	189.96
8.4000	T	20.000	94.182	N.A.	133.00	79.000	54.000	NA	194.65
8.5000	T	20.000	95.000	N.A.	135.00	80.000	55.000	NA	199.38
8.6000	T	20.000	95.818	N.A.	137.00	81.000	56.000	NA	204.15
8.7000	T	20.000	96.636	N.A.	139.00	82.000	57.000	NA	208.96
8.8000	T	20.000	97.455	N.A.	141.00	83.000	58.000	NA	213.81
8.9000	T	20.000	98.273	N.A.	143.00	84.000	59.000	NA	218.70
9.0000	T	20.000	99.091	N.A.	145.00	85.000	60.000	NA	223.64
9.1000	T	20.000	99.909	N.A.	147.00	86.000	61.000	NA	228.61
9.2000	T	20.000	100.73	N.A.	149.00	87.000	62.000	NA	233.63
9.3000	T	20.000	101.55	N.A.	151.00	88.000	63.000	NA	238.68
9.4000	T	20.000	102.36	N.A.	153.00	89.000	64.000	NA	243.78
9.5000	T	20.000	103.18	N.A.	155.00	90.000	65.000	NA	248.92
9.6000	T	20.000	104.00	N.A.	157.00	91.000	66.000	NA	254.10
9.7000	T	20.000	104.82	N.A.	159.00	92.000	67.000	NA	259.32
9.8000	T	20.000	105.64	N.A.	161.00	93.000	68.000	NA	264.58
9.9000	T	20.000	106.45	N.A.	163.00	94.000	69.000	NA	269.88
10.000	T	20.000	107.27	N.A.	165.00	95.000	70.000	NA	275.23
10.100	T	20.000	108.09	N.A.	167.00	96.000	71.000	NA	280.61
10.200	T	20.000	108.91	N.A.	169.00	97.000	72.000	NA	286.04
10.300	T	20.000	109.73	N.A.	171.00	98.000	73.000	NA	291.50
10.400	T	20.000	110.55	N.A.	173.00	99.000	74.000	NA	297.01
10.500	T	20.000	111.36	N.A.	175.00	100.00	75.000	NA	302.56
10.600	T	20.000	112.18	N.A.	177.00	101.00	76.000	NA	308.15
10.700	T	20.000	113.00	N.A.	179.00	102.00	77.000	NA	313.78
10.800	T	20.000	113.82	N.A.	181.00	103.00	78.000	NA	319.45



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300mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
10.900	T	20.000	114.64	N.A.	183.00	104.00	79.000	NA	325.16
11.000	T	20.000	115.45	N.A.	185.00	105.00	80.000	NA	330.91
11.100	T	20.000	116.27	N.A.	187.00	106.00	81.000	NA	336.70
11.200	T	20.000	117.09	N.A.	189.00	107.00	82.000	NA	342.54
11.300	T	20.000	117.91	N.A.	191.00	108.00	83.000	NA	348.41
11.400	T	20.000	118.73	N.A.	193.00	109.00	84.000	NA	354.33
11.500	T	20.000	119.55	N.A.	195.00	110.00	85.000	NA	360.28
11.600	T	20.000	120.36	N.A.	197.00	111.00	86.000	NA	366.28
11.700	T	20.000	121.18	N.A.	199.00	112.00	87.000	NA	372.32
11.800	T	20.000	122.00	N.A.	201.00	113.00	88.000	NA	378.40
11.900	T	20.000	122.82	N.A.	203.00	114.00	89.000	NA	384.52
12.000	T	20.000	123.64	N.A.	205.00	115.00	90.000	NA	390.68
12.100	T	20.000	124.45	N.A.	207.00	116.00	91.000	NA	396.88
12.200	T	20.000	125.27	N.A.	209.00	117.00	92.000	NA	403.13
12.300	T	20.000	126.09	N.A.	211.00	118.00	93.000	NA	409.41
12.400	T	20.000	126.91	N.A.	213.00	119.00	94.000	NA	415.74
12.500	T	20.000	127.73	N.A.	215.00	120.00	95.000	NA	422.10
12.600	T	20.000	128.55	N.A.	217.00	121.00	96.000	NA	428.51
12.700	T	20.000	129.36	N.A.	219.00	122.00	97.000	NA	434.96
12.800	T	20.000	130.18	N.A.	221.00	123.00	98.000	NA	441.45
12.900	T	20.000	131.00	N.A.	223.00	124.00	99.000	NA	447.98
13.000	T	20.000	131.82	N.A.	225.00	125.00	100.000	NA	454.55
13.100	T	20.000	132.64	N.A.	227.00	126.00	101.000	NA	461.16
13.200	T	20.000	133.45	N.A.	229.00	127.00	102.000	NA	467.81
13.300	T	20.000	134.27	N.A.	231.00	128.00	103.000	NA	474.50
13.400	T	20.000	135.09	N.A.	233.00	129.00	104.000	NA	481.24
13.500	T	20.000	135.91	N.A.	235.00	130.00	105.000	NA	488.01
13.600	T	20.000	136.73	N.A.	237.00	131.00	106.000	NA	494.83
13.700	T	20.000	137.55	N.A.	239.00	132.00	107.000	NA	501.68
13.800	T	20.000	138.36	N.A.	241.00	133.00	108.000	NA	508.58
13.900	T	20.000	139.18	N.A.	243.00	134.00	109.000	NA	515.52
14.000	T	20.000	140.00	N.A.	245.00	135.00	110.000	NA	522.50
14.100	T	20.000	140.82	N.A.	247.00	136.00	111.000	NA	529.52
14.200	T	20.000	141.64	N.A.	249.00	137.00	112.000	NA	536.58
14.300	T	20.000	142.45	N.A.	251.00	138.00	113.000	NA	543.68
14.400	T	20.000	143.27	N.A.	253.00	139.00	114.000	NA	550.83
14.500	T	20.000	144.09	N.A.	255.00	140.00	115.000	NA	558.01
14.600	T	20.000	144.91	N.A.	257.00	141.00	116.000	NA	565.24
14.700	T	20.000	145.73	N.A.	259.00	142.00	117.000	NA	572.50
14.800	T	20.000	146.55	N.A.	261.00	143.00	118.000	NA	579.81
14.900	T	20.000	147.36	N.A.	263.00	144.00	119.000	NA	587.16
15.000	T	20.000	148.18	N.A.	265.00	145.00	120.000	NA	594.55
15.100	T	20.000	149.00	N.A.	267.00	146.00	121.000	NA	601.98
15.200	T	20.000	149.82	N.A.	269.00	147.00	122.000	NA	609.45
15.300	T	20.000	150.64	N.A.	271.00	148.00	123.000	NA	616.96
15.400	T	20.000	151.45	N.A.	273.00	149.00	124.000	NA	624.51
15.500	T	20.000	152.27	N.A.	275.00	150.00	125.000	NA	632.10
15.600	T	20.000	153.09	N.A.	277.00	151.00	126.000	NA	639.74
15.700	T	20.000	153.91	N.A.	279.00	152.00	127.000	NA	647.41
15.800	T	20.000	154.73	N.A.	281.00	153.00	128.000	NA	655.13
15.900	T	20.000	155.55	N.A.	283.00	154.00	129.000	NA	662.88
16.000	T	20.000	156.36	N.A.	285.00	155.00	130.000	NA	670.68
16.100	T	20.000	157.18	N.A.	287.00	156.00	131.000	NA	678.52
16.200	T	20.000	158.00	N.A.	289.00	157.00	132.000	NA	686.40
16.300	T	20.000	158.82	N.A.	291.00	158.00	133.000	NA	694.32
16.400	-	20.000	159.64	N.A.	293.00	159.00	134.000	NA	702.28
16.500	T	20.000	160.45	N.A.	295.00	160.00	135.000	NA	710.28
16.600	T	20.000	161.27	N.A.	297.00	161.00	136.000	NA	718.33
16.700	T	20.000	162.09	N.A.	299.00	162.00	137.000	NA	726.41
16.800	T	20.000	162.91	N.A.	301.00	163.00	138.000	NA	734.54
16.900	-	20.000	163.73	N.A.	303.00	164.00	139.000	NA	742.70
17.000	T	20.000	164.55	N.A.	305.00	165.00	140.000	NA	750.91
17.100	T	20.000	165.36	N.A.	307.00	166.00	141.000	NA	759.16
17.200	T	20.000	166.18	N.A.	309.00	167.00	142.000	NA	767.45
17.300	T	20.000	167.00	N.A.	311.00	168.00	143.000	NA	775.78
17.400	-	20.000	167.82	N.A.	313.00	169.00	144.000	NA	784.15
17.500	T	20.000	168.64	N.A.	315.00	170.00	145.000	NA	792.56
17.600	T	20.000	169.45	N.A.	317.00	171.00	146.000	NA	801.01
17.700	T	20.000	170.27	N.A.	319.00	172.00	147.000	NA	809.50
17.800	T	20.000	171.09	N.A.	321.00	173.00	148.000	NA	818.04
17.900	-	20.000	171.91	N.A.	323.00	174.00	149.000	NA	826.61



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

300mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
18.000	T	20.000	172.73	N.A.	325.00	175.00	150.00	NA	835.23
18.100	T	20.000	173.55	N.A.	327.00	176.00	151.00	NA	843.88
18.200	T	20.000	174.36	N.A.	329.00	177.00	152.00	NA	852.58
18.300	T	20.000	175.18	N.A.	331.00	178.00	153.00	NA	861.32
18.400	-	20.000	176.00	N.A.	333.00	179.00	154.00	NA	870.10
18.500	T	20.000	176.82	N.A.	335.00	180.00	155.00	NA	878.92
18.600	T	20.000	177.64	N.A.	337.00	181.00	156.00	NA	887.78
18.700	T	20.000	178.45	N.A.	339.00	182.00	157.00	NA	896.68
18.800	T	20.000	179.27	N.A.	341.00	183.00	158.00	NA	905.63
18.900	-	20.000	180.09	N.A.	343.00	184.00	159.00	NA	914.61
19.000	T	20.000	180.91	N.A.	345.00	185.00	160.00	NA	923.64
19.100	T	20.000	181.73	N.A.	347.00	186.00	161.00	NA	932.70
19.200	T	20.000	182.55	N.A.	349.00	187.00	162.00	NA	941.81
19.300	T	20.000	183.36	N.A.	351.00	188.00	163.00	NA	950.96
19.400	-	20.000	184.18	N.A.	353.00	189.00	164.00	NA	960.15
19.500	T	20.000	185.00	N.A.	355.00	190.00	165.00	NA	969.38
19.600	T	20.000	185.82	N.A.	357.00	191.00	166.00	NA	978.65
19.700	T	20.000	186.64	N.A.	359.00	192.00	167.00	NA	987.92
19.800	T	20.000	187.45	N.A.	361.00	193.00	168.00	NA	997.31
19.900	-	20.000	188.27	N.A.	363.00	194.00	169.00	NA	1006.7
20.000	T	20.000	189.09	N.A.	365.00	195.00	170.00	NA	1016.1
20.100	T	20.000	189.91	N.A.	367.00	196.00	171.00	NA	1025.6
20.200	T	20.000	190.73	N.A.	369.00	197.00	172.00	NA	1035.1
20.300	T	20.000	191.55	N.A.	371.00	198.00	173.00	NA	1044.7
20.400	-	20.000	192.36	N.A.	373.00	199.00	174.00	NA	1054.3
20.500	T	20.000	193.18	N.A.	375.00	200.00	175.00	NA	1063.9
20.600	T	20.000	194.00	N.A.	377.00	201.00	176.00	NA	1073.6
20.700	T	20.000	194.82	N.A.	379.00	202.00	177.00	NA	1083.3
20.800	T	20.000	195.64	N.A.	381.00	203.00	178.00	NA	1093.1
20.900	-	20.000	196.45	N.A.	383.00	204.00	179.00	NA	1102.9
21.000	T	20.000	197.27	N.A.	385.00	205.00	180.00	NA	1112.7
21.100	T	20.000	198.09	N.A.	387.00	206.00	181.00	NA	1122.6
21.200	T	20.000	198.91	N.A.	389.00	207.00	182.00	NA	1132.5
21.300	T	20.000	199.73	N.A.	391.00	208.00	183.00	NA	1142.5
21.400	-	20.000	200.55	N.A.	393.00	209.00	184.00	NA	1152.5
21.500	T	20.000	201.36	N.A.	395.00	210.00	185.00	NA	1162.6
21.600	T	20.000	202.18	N.A.	397.00	211.00	186.00	NA	1172.6
21.700	T	20.000	203.00	N.A.	399.00	212.00	187.00	NA	1182.8
21.800	T	20.000	203.82	N.A.	401.00	213.00	188.00	NA	1192.9
21.900	-	20.000	204.64	N.A.	403.00	214.00	189.00	NA	1203.2
22.000	T	20.000	205.45	N.A.	405.00	215.00	190.00	NA	1213.4
22.100	T	20.000	206.27	N.A.	407.00	216.00	191.00	NA	1223.7
22.200	T	20.000	207.09	N.A.	409.00	217.00	192.00	NA	1234.0
22.300	-	20.000	207.91	N.A.	411.00	218.00	193.00	NA	1244.4
22.400	T	20.000	208.73	N.A.	413.00	219.00	194.00	NA	1254.8
22.500	T	20.000	209.55	N.A.	415.00	220.00	195.00	NA	1265.3
22.600	T	20.000	210.36	N.A.	417.00	221.00	196.00	NA	1275.8
22.700	T	20.000	211.18	N.A.	419.00	222.00	197.00	NA	1286.3
22.800	-	20.000	212.00	N.A.	421.00	223.00	198.00	NA	1296.9
22.900	T	20.000	212.82	N.A.	423.00	224.00	199.00	NA	1307.5
23.000	T	20.000	213.64	N.A.	425.00	225.00	200.00	NA	1318.2
23.100	T	20.000	214.45	N.A.	427.00	226.00	201.00	NA	1328.9
23.200	T	20.000	215.27	N.A.	429.00	227.00	202.00	NA	1339.6
23.300	-	20.000	216.09	N.A.	431.00	228.00	203.00	NA	1350.4
23.400	T	20.000	216.91	N.A.	433.00	229.00	204.00	NA	1361.2
23.500	T	20.000	217.73	N.A.	435.00	230.00	205.00	NA	1372.1
23.600	T	20.000	218.55	N.A.	437.00	231.00	206.00	NA	1383.0
23.700	T	20.000	219.36	N.A.	439.00	232.00	207.00	NA	1394.0
23.800	-	20.000	220.18	N.A.	441.00	233.00	208.00	NA	1404.9
23.900	T	20.000	221.00	N.A.	443.00	234.00	209.00	NA	1416.0
24.000	T	20.000	221.82	N.A.	445.00	235.00	210.00	NA	1427.0
24.100	T	20.000	222.64	N.A.	447.00	236.00	211.00	NA	1438.2
24.200	T	20.000	223.45	N.A.	449.00	237.00	212.00	NA	1449.3
24.300	-	20.000	224.27	N.A.	451.00	238.00	213.00	NA	1460.5
24.400	T	20.000	225.09	N.A.	453.00	239.00	214.00	NA	1471.7
24.500	T	20.000	225.91	N.A.	455.00	240.00	215.00	NA	1483.0
24.600	T	20.000	226.73	N.A.	457.00	241.00	216.00	NA	1494.3
24.700	T	20.000	227.55	N.A.	459.00	242.00	217.00	NA	1505.7
24.800	-	20.000	228.36	N.A.	461.00	243.00	218.00	NA	1517.1
24.900	T	20.000	229.18	N.A.	463.00	244.00	219.00	NA	1528.5
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

300mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0
25.100	T	20.000	230.00	N.A.	467.00	246.00	221.00	NA	1551.5
25.200	T	20.000	230.00	N.A.	469.00	247.00	222.00	NA	1563.0
25.300	-	20.000	230.00	N.A.	471.00	248.00	223.00	NA	1574.5
25.400	T	20.000	230.00	N.A.	473.00	249.00	224.00	NA	1586.0
25.500	T	20.000	230.00	N.A.	475.00	250.00	225.00	NA	1597.5
25.600	T	20.000	230.00	N.A.	477.00	251.00	226.00	NA	1609.0
25.700	T	20.000	230.00	N.A.	479.00	252.00	227.00	NA	1620.5
25.800	-	20.000	230.00	N.A.	481.00	253.00	228.00	NA	1632.0
25.900	T	20.000	230.00	N.A.	483.00	254.00	229.00	NA	1643.5
26.000	T	20.000	230.00	N.A.	485.00	255.00	230.00	NA	1655.0
26.100	T	20.000	230.00	N.A.	487.00	256.00	231.00	NA	1666.5
26.200	T	20.000	230.00	N.A.	489.00	257.00	232.00	NA	1678.0
26.300	-	20.000	230.00	N.A.	491.00	258.00	233.00	NA	1689.5
26.400	T	20.000	230.00	N.A.	493.00	259.00	234.00	NA	1701.0
26.500	T	20.000	230.00	N.A.	495.00	260.00	235.00	NA	1712.5
26.600	T	20.000	230.00	N.A.	497.00	261.00	236.00	NA	1724.0
26.700	T	20.000	230.00	N.A.	499.00	262.00	237.00	NA	1735.5
26.800	-	20.000	230.00	N.A.	501.00	263.00	238.00	NA	1747.0
26.900	T	20.000	230.00	N.A.	503.00	264.00	239.00	NA	1758.5
27.000	T	20.000	230.00	N.A.	505.00	265.00	240.00	NA	1770.0
27.100	T	20.000	230.00	N.A.	507.00	266.00	241.00	NA	1781.5
27.200	T	20.000	230.00	N.A.	509.00	267.00	242.00	NA	1793.0
27.300	-	20.000	230.00	N.A.	511.00	268.00	243.00	NA	1804.5
27.400	T	20.000	230.00	N.A.	513.00	269.00	244.00	NA	1816.0
27.500	T	20.000	230.00	N.A.	515.00	270.00	245.00	NA	1827.5
27.600	T	20.000	230.00	N.A.	517.00	271.00	246.00	NA	1839.0
27.700	T	20.000	230.00	N.A.	519.00	272.00	247.00	NA	1850.5
27.800	-	20.000	230.00	N.A.	521.00	273.00	248.00	NA	1862.0
27.900	T	20.000	230.00	N.A.	523.00	274.00	249.00	NA	1873.5
28.000	T	20.000	230.00	N.A.	525.00	275.00	250.00	NA	1885.0
28.100	T	20.000	230.00	N.A.	527.00	276.00	251.00	NA	1896.5
28.200	T	20.000	230.00	N.A.	529.00	277.00	252.00	NA	1908.0
28.300	-	20.000	230.00	N.A.	531.00	278.00	253.00	NA	1919.5
28.400	T	20.000	230.00	N.A.	533.00	279.00	254.00	NA	1931.0
28.500	T	20.000	230.00	N.A.	535.00	280.00	255.00	NA	1942.5
28.600	T	20.000	230.00	N.A.	537.00	281.00	256.00	NA	1954.0
28.700	T	20.000	230.00	N.A.	539.00	282.00	257.00	NA	1965.5
28.800	-	20.000	230.00	N.A.	541.00	283.00	258.00	NA	1977.0
28.900	T	20.000	230.00	N.A.	543.00	284.00	259.00	NA	1988.5
29.000	T	20.000	230.00	N.A.	545.00	285.00	260.00	NA	2000.0
29.100	T	20.000	230.00	N.A.	547.00	286.00	261.00	NA	2011.5
29.200	T	20.000	230.00	N.A.	549.00	287.00	262.00	NA	2023.0
29.300	-	20.000	230.00	N.A.	551.00	288.00	263.00	NA	2034.5
29.400	T	20.000	230.00	N.A.	553.00	289.00	264.00	NA	2046.0
29.500	T	20.000	230.00	N.A.	555.00	290.00	265.00	NA	2057.5
29.600	T	20.000	230.00	N.A.	557.00	291.00	266.00	NA	2069.0
29.700	T	20.000	230.00	N.A.	559.00	292.00	267.00	NA	2080.5
29.800	-	20.000	230.00	N.A.	561.00	293.00	268.00	NA	2092.0
29.900	T	20.000	230.00	N.A.	563.00	294.00	269.00	NA	2103.5
30.000	T	20.000	230.00	N.A.	565.00	295.00	270.00	NA	2115.0

\* Annotation:

H: Pile head location

T: Pile toe locations corresponding to different pile lengths

\* Effective horizontal stress not calculated for "Total Stress" materials and for Beta Method.

**Cross-section 1 results:**

Uniform pile with top shaft diameter = 0.30 m

**Results - Compression**

**Soil Profile 1: Soil Profile 1**

Depth	Pile length	Ultimate base capacity	Cumulative external Friction	Average Negative external Friction	Net skin friction	Net ultimate resistance



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by	Date	Checked
JW		

		(Q <sub>p</sub> )	(Q <sub>s</sub> )	(q <sub>s</sub> )	(Q <sub>nsf</sub> )	
[m]	[m]	[kN]	[kN]	[kN/m]	[kN]	[kN]
6.0000	6.0000	47.424	88.036	14.673	0.0	135.46
6.1000	6.1000	47.944	91.568	15.011	0.0	139.51
6.2000	6.2000	48.465	95.139	15.345	0.0	143.60
6.3000	6.3000	48.985	98.748	15.674	0.0	147.73
6.4000	6.4000	49.506	102.40	15.999	0.0	151.90
6.5000	6.5000	50.026	106.08	16.320	0.0	156.11
6.6000	6.6000	50.547	109.81	16.637	0.0	160.35
6.7000	6.7000	51.067	113.57	16.951	0.0	164.64
6.8000	6.8000	51.588	117.37	17.261	0.0	168.96
6.9000	6.9000	52.108	121.21	17.567	0.0	173.32
7.0000	7.0000	52.629	125.09	17.870	0.0	177.72
7.1000	7.1000	53.149	129.01	18.170	0.0	182.16
7.2000	7.2000	53.670	132.97	18.468	0.0	186.64
7.3000	7.3000	54.190	136.96	18.762	0.0	191.15
7.4000	7.4000	54.711	140.99	19.053	0.0	195.71
7.5000	7.5000	55.231	145.07	19.342	0.0	200.30
7.6000	7.6000	55.752	149.18	19.629	0.0	204.93
7.7000	7.7000	56.272	153.33	19.912	0.0	209.60
7.8000	7.8000	56.793	157.51	20.194	0.0	214.31
7.9000	7.9000	57.313	161.74	20.473	0.0	219.05
8.0000	8.0000	57.834	166.00	20.751	0.0	223.84
8.1000	8.1000	58.354	170.31	21.026	0.0	228.66
8.2000	8.2000	58.875	174.65	21.299	0.0	233.52
8.3000	8.3000	59.395	179.03	21.570	0.0	238.43
8.4000	8.4000	59.916	183.45	21.839	0.0	243.36
8.5000	8.5000	60.436	187.91	22.107	0.0	248.34
8.6000	8.6000	60.957	192.40	22.372	0.0	253.36
8.7000	8.7000	61.477	196.94	22.636	0.0	258.41
8.8000	8.8000	61.998	201.51	22.899	0.0	263.51
8.9000	8.9000	62.518	206.12	23.160	0.0	268.64
9.0000	9.0000	63.039	210.77	23.419	0.0	273.81
9.1000	9.1000	63.559	215.46	23.677	0.0	279.02
9.2000	9.2000	64.080	220.19	23.934	0.0	284.27
9.3000	9.3000	64.600	224.95	24.189	0.0	289.55
9.4000	9.4000	65.121	229.76	24.442	0.0	294.88
9.5000	9.5000	65.641	234.60	24.695	0.0	300.24
9.6000	9.6000	66.162	239.48	24.946	0.0	305.65
9.7000	9.7000	66.682	244.40	25.196	0.0	311.09
9.8000	9.8000	67.203	249.36	25.445	0.0	316.57
9.9000	9.9000	67.723	254.36	25.693	0.0	322.08
10.000	10.000	68.244	259.40	25.940	0.0	327.64
10.100	10.100	68.764	264.47	26.185	0.0	333.23
10.200	10.200	69.285	269.58	26.430	0.0	338.87
10.300	10.300	69.805	274.73	26.673	0.0	344.54
10.400	10.400	70.326	279.92	26.916	0.0	350.25
10.500	10.500	70.846	285.15	27.157	0.0	356.00
10.600	10.600	71.367	290.42	27.398	0.0	361.79
10.700	10.700	71.887	295.73	27.638	0.0	367.61
10.800	10.800	72.408	301.07	27.877	0.0	373.48
10.900	10.900	72.929	306.45	28.115	0.0	379.38
11.000	11.000	73.449	311.87	28.352	0.0	385.32
11.100	11.100	73.970	317.33	28.589	0.0	391.30
11.200	11.200	74.490	322.83	28.824	0.0	397.32
11.300	11.300	75.011	328.37	29.059	0.0	403.38
11.400	11.400	75.531	333.95	29.293	0.0	409.48
11.500	11.500	76.052	339.56	29.527	0.0	415.61
11.600	11.600	76.572	345.21	29.760	0.0	421.78
11.700	11.700	77.093	350.90	29.992	0.0	428.00
11.800	11.800	77.613	356.63	30.223	0.0	434.25
11.900	11.900	78.134	362.40	30.454	0.0	440.54
12.000	12.000	78.654	368.21	30.684	0.0	446.86
12.100	12.100	79.175	374.05	30.914	0.0	453.23
12.200	12.200	79.695	379.94	31.143	0.0	459.63
12.300	12.300	80.216	385.86	31.371	0.0	466.08
12.400	12.400	80.736	391.82	31.599	0.0	472.56
12.500	12.500	81.257	397.82	31.826	0.0	479.08
12.600	12.600	81.777	403.86	32.052	0.0	485.64
12.700	12.700	82.298	409.94	32.279	0.0	492.23
12.800	12.800	82.818	416.05	32.504	0.0	498.87



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date  
JW

300mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
12.900	12.900	83.339	422.21	32.729	0.0	505.55
13.000	13.000	83.859	428.40	32.954	0.0	512.26
13.100	13.100	84.380	434.63	33.178	0.0	519.01
13.200	13.200	84.900	440.90	33.402	0.0	525.80
13.300	13.300	85.421	447.21	33.625	0.0	532.63
13.400	13.400	85.941	453.55	33.847	0.0	539.50
13.500	13.500	86.462	459.94	34.070	0.0	546.40
13.600	13.600	86.982	466.36	34.291	0.0	553.35
13.700	13.700	87.503	472.83	34.513	0.0	560.33
13.800	13.800	88.023	479.33	34.734	0.0	567.35
13.900	13.900	88.544	485.87	34.954	0.0	574.41
14.000	14.000	89.064	492.44	35.175	0.0	581.51
14.100	14.100	89.585	499.06	35.394	0.0	588.65
14.200	14.200	90.105	505.72	35.614	0.0	595.82
14.300	14.300	90.626	512.41	35.833	0.0	603.04
14.400	14.400	91.146	519.14	36.052	0.0	610.29
14.500	14.500	91.667	525.91	36.270	0.0	617.58
14.600	14.600	92.187	532.72	36.488	0.0	624.91
14.700	14.700	92.708	539.57	36.705	0.0	632.28
14.800	14.800	93.228	546.46	36.923	0.0	639.69
14.900	14.900	93.749	553.38	37.140	0.0	647.13
15.000	15.000	94.269	560.35	37.356	0.0	654.62
15.100	15.100	94.790	567.35	37.573	0.0	662.14
15.200	15.200	95.310	574.39	37.789	0.0	669.70
15.300	15.300	95.831	581.47	38.004	0.0	677.30
15.400	15.400	96.351	588.59	38.220	0.0	684.94
15.500	15.500	96.872	595.74	38.435	0.0	692.61
15.600	15.600	97.392	602.94	38.650	0.0	700.33
15.700	15.700	97.913	610.17	38.864	0.0	708.08
15.800	15.800	98.433	617.44	39.079	0.0	715.88
15.900	15.900	98.954	624.75	39.293	0.0	723.71
16.000	16.000	99.474	632.10	39.506	0.0	731.58
16.100	16.100	99.995	639.49	39.720	0.0	739.49
16.200	16.200	100.52	646.92	39.933	0.0	747.43
16.300	16.300	101.04	654.38	40.146	0.0	755.42
16.400	16.400	101.56	661.89	40.359	0.0	763.44
16.500	16.500	102.08	669.43	40.571	0.0	771.50
16.600	16.600	102.60	677.01	40.784	0.0	779.60
16.700	16.700	103.12	684.63	40.996	0.0	787.74
16.800	16.800	103.64	692.28	41.207	0.0	795.92
16.900	16.900	104.16	699.98	41.419	0.0	804.14
17.000	17.000	104.68	707.72	41.630	0.0	812.39
17.100	17.100	105.20	715.49	41.841	0.0	820.69
17.200	17.200	105.72	723.30	42.052	0.0	829.02
17.300	17.300	106.24	731.15	42.263	0.0	837.39
17.400	17.400	106.76	739.04	42.474	0.0	845.80
17.500	17.500	107.28	746.97	42.684	0.0	854.25
17.600	17.600	107.80	754.93	42.894	0.0	862.74
17.700	17.700	108.32	762.94	43.104	0.0	871.26
17.800	17.800	108.84	770.98	43.314	0.0	879.82
17.900	17.900	109.36	779.06	43.523	0.0	888.43
18.000	18.000	109.88	787.18	43.732	0.0	897.07
18.100	18.100	110.40	795.34	43.942	0.0	905.75
18.200	18.200	110.93	803.54	44.151	0.0	914.47
18.300	18.300	111.45	811.78	44.359	0.0	923.22
18.400	18.400	111.97	820.05	44.568	0.0	932.02
18.500	18.500	112.49	828.36	44.776	0.0	940.85
18.600	18.600	113.01	836.71	44.985	0.0	949.72
18.700	18.700	113.53	845.11	45.193	0.0	958.63
18.800	18.800	114.05	853.53	45.401	0.0	967.58
18.900	18.900	114.57	862.00	45.609	0.0	976.57
19.000	19.000	115.09	870.51	45.816	0.0	985.60
19.100	19.100	115.61	879.05	46.024	0.0	994.66
19.200	19.200	116.13	887.63	46.231	0.0	1003.8
19.300	19.300	116.65	896.26	46.438	0.0	1012.9
19.400	19.400	117.17	904.92	46.645	0.0	1022.1
19.500	19.500	117.69	913.61	46.852	0.0	1031.3
19.600	19.600	118.21	922.35	47.059	0.0	1040.6
19.700	19.700	118.73	931.13	47.265	0.0	1049.9
19.800	19.800	119.25	939.94	47.472	0.0	1059.2
19.900	19.900	119.77	948.79	47.678	0.0	1068.6



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

300mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
20.000	20.000	120.29	957.69	47.884	0.0	1078.0
20.100	20.100	120.81	966.62	48.090	0.0	1087.4
20.200	20.200	121.34	975.58	48.296	0.0	1096.9
20.300	20.300	121.86	984.59	48.502	0.0	1106.4
20.400	20.400	122.38	993.64	48.708	0.0	1116.0
20.500	20.500	122.90	1002.7	48.913	0.0	1125.6
20.600	20.600	123.42	1011.8	49.119	0.0	1135.3
20.700	20.700	123.94	1021.0	49.324	0.0	1144.9
20.800	20.800	124.46	1030.2	49.529	0.0	1154.7
20.900	20.900	124.98	1039.4	49.734	0.0	1164.4
21.000	21.000	125.50	1048.7	49.939	0.0	1174.2
21.100	21.100	126.02	1058.0	50.144	0.0	1184.1
21.200	21.200	126.54	1067.4	50.349	0.0	1193.9
21.300	21.300	127.06	1076.8	50.553	0.0	1203.8
21.400	21.400	127.58	1086.2	50.758	0.0	1213.8
21.500	21.500	128.10	1095.7	50.962	0.0	1223.8
21.600	21.600	128.62	1105.2	51.166	0.0	1233.8
21.700	21.700	129.14	1114.7	51.370	0.0	1243.9
21.800	21.800	129.66	1124.3	51.575	0.0	1254.0
21.900	21.900	130.18	1133.9	51.778	0.0	1264.1
22.000	22.000	130.70	1143.6	51.982	0.0	1274.3
22.100	22.100	131.23	1153.3	52.186	0.0	1284.5
22.200	22.200	131.75	1163.1	52.390	0.0	1294.8
22.300	22.300	132.27	1172.8	52.593	0.0	1305.1
22.400	22.400	132.79	1182.6	52.797	0.0	1315.4
22.500	22.500	133.31	1192.5	53.000	0.0	1325.8
22.600	22.600	133.83	1202.4	53.203	0.0	1336.2
22.700	22.700	134.35	1212.3	53.407	0.0	1346.7
22.800	22.800	134.87	1222.3	53.610	0.0	1357.2
22.900	22.900	135.39	1232.3	53.813	0.0	1367.7
23.000	23.000	135.91	1242.4	54.016	0.0	1378.3
23.100	23.100	136.43	1252.4	54.218	0.0	1388.9
23.200	23.200	136.95	1262.6	54.421	0.0	1399.5
23.300	23.300	137.47	1272.7	54.624	0.0	1410.2
23.400	23.400	137.99	1282.9	54.826	0.0	1420.9
23.500	23.500	138.51	1293.2	55.029	0.0	1431.7
23.600	23.600	139.03	1303.5	55.231	0.0	1442.5
23.700	23.700	139.55	1313.8	55.433	0.0	1453.3
23.800	23.800	140.07	1324.1	55.636	0.0	1464.2
23.900	23.900	140.59	1334.5	55.838	0.0	1475.1
24.000	24.000	141.11	1345.0	56.040	0.0	1486.1
24.100	24.100	141.64	1355.4	56.242	0.0	1497.1
24.200	24.200	142.16	1365.9	56.444	0.0	1508.1
24.300	24.300	142.68	1376.5	56.646	0.0	1519.2
24.400	24.400	143.20	1387.1	56.848	0.0	1530.3
24.500	24.500	143.72	1397.7	57.049	0.0	1541.4
24.600	24.600	144.24	1408.4	57.251	0.0	1552.6
24.700	24.700	144.76	1419.1	57.452	0.0	1563.8
24.800	24.800	145.28	1429.8	57.654	0.0	1575.1
24.900	24.900	145.80	1440.6	57.855	0.0	1586.4
25.000	25.000	146.32	1451.4	58.057	0.0	1597.7
25.000	25.000	146.32	1451.4	58.057	0.0	1597.7
25.100	25.100	146.32	1462.3	58.257	0.0	1608.6
25.200	25.200	146.32	1473.1	58.456	0.0	1619.4
25.300	25.300	146.32	1483.9	58.653	0.0	1630.3
25.400	25.400	146.32	1494.8	58.849	0.0	1641.1
25.500	25.500	146.32	1505.6	59.043	0.0	1651.9
25.600	25.600	146.32	1516.4	59.236	0.0	1662.8
25.700	25.700	146.32	1527.3	59.427	0.0	1673.6
25.800	25.800	146.32	1538.1	59.617	0.0	1684.4
25.900	25.900	146.32	1549.0	59.806	0.0	1695.3
26.000	26.000	146.32	1559.8	59.992	0.0	1706.1
26.100	26.100	146.32	1570.6	60.178	0.0	1717.0
26.200	26.200	146.32	1581.5	60.362	0.0	1727.8
26.300	26.300	146.32	1592.3	60.544	0.0	1738.6
26.400	26.400	146.32	1603.2	60.726	0.0	1749.5
26.500	26.500	146.32	1614.0	60.905	0.0	1760.3
26.600	26.600	146.32	1624.8	61.084	0.0	1771.2
26.700	26.700	146.32	1635.7	61.261	0.0	1782.0
26.800	26.800	146.32	1646.5	61.437	0.0	1792.8
26.900	26.900	146.32	1657.3	61.611	0.0	1803.7



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

300mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
27.000	27.000	146.32	1668.2	61.785	0.0	1814.5
27.100	27.100	146.32	1679.0	61.957	0.0	1825.3
27.200	27.200	146.32	1689.9	62.127	0.0	1836.2
27.300	27.300	146.32	1700.7	62.297	0.0	1847.0
27.400	27.400	146.32	1711.5	62.465	0.0	1857.9
27.500	27.500	146.32	1722.4	62.632	0.0	1868.7
27.600	27.600	146.32	1733.2	62.798	0.0	1879.5
27.700	27.700	146.32	1744.1	62.962	0.0	1890.4
27.800	27.800	146.32	1754.9	63.126	0.0	1901.2
27.900	27.900	146.32	1765.7	63.288	0.0	1912.1
28.000	28.000	146.32	1776.6	63.449	0.0	1922.9
28.100	28.100	146.32	1787.4	63.609	0.0	1933.7
28.200	28.200	146.32	1798.2	63.768	0.0	1944.6
28.300	28.300	146.32	1809.1	63.925	0.0	1955.4
28.400	28.400	146.32	1819.9	64.082	0.0	1966.2
28.500	28.500	146.32	1830.8	64.237	0.0	1977.1
28.600	28.600	146.32	1841.6	64.392	0.0	1987.9
28.700	28.700	146.32	1852.4	64.545	0.0	1998.8
28.800	28.800	146.32	1863.3	64.697	0.0	2009.6
28.900	28.900	146.32	1874.1	64.848	0.0	2020.4
29.000	29.000	146.32	1885.0	64.998	0.0	2031.3
29.100	29.100	146.32	1895.8	65.148	0.0	2042.1
29.200	29.200	146.32	1906.6	65.296	0.0	2053.0
29.300	29.300	146.32	1917.5	65.443	0.0	2063.8
29.400	29.400	146.32	1928.3	65.589	0.0	2074.6
29.500	29.500	146.32	1939.1	65.734	0.0	2085.5
29.600	29.600	146.32	1950.0	65.878	0.0	2096.3
29.700	29.700	146.32	1960.8	66.021	0.0	2107.1
29.800	29.800	146.32	1971.7	66.163	0.0	2118.0
29.900	29.900	146.32	1982.5	66.304	0.0	2128.8
30.000	30.000	146.32	1993.3	66.445	0.0	2139.7

Depth [m]	Pile length [m]	Design resistance [kN]			Combination with least resistance #	Factored load* [kN]		
		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]
6.0000	6.0000	96.757	56.239	88.036	2	0.0 (C)	0.0 (C)	0.0 (C)
6.1000	6.1000	99.652	58.002	91.568	2	0.0 (C)	0.0 (C)	0.0 (C)
6.2000	6.2000	102.57	59.782	95.139	2	0.0 (C)	0.0 (C)	0.0 (C)
6.3000	6.3000	105.52	61.579	98.748	2	0.0 (C)	0.0 (C)	0.0 (C)
6.4000	6.4000	108.50	63.393	102.40	2	0.0 (C)	0.0 (C)	0.0 (C)
6.5000	6.5000	111.51	65.225	106.08	2	0.0 (C)	0.0 (C)	0.0 (C)
6.6000	6.6000	114.54	67.074	109.81	2	0.0 (C)	0.0 (C)	0.0 (C)
6.7000	6.7000	117.60	68.940	113.57	2	0.0 (C)	0.0 (C)	0.0 (C)
6.8000	6.8000	120.69	70.823	117.37	2	0.0 (C)	0.0 (C)	0.0 (C)
6.9000	6.9000	123.80	72.723	121.21	2	0.0 (C)	0.0 (C)	0.0 (C)
7.0000	7.0000	126.94	74.641	125.09	2	0.0 (C)	0.0 (C)	0.0 (C)
7.1000	7.1000	130.11	76.576	129.01	2	0.0 (C)	0.0 (C)	0.0 (C)
7.2000	7.2000	133.31	78.528	132.97	2	0.0 (C)	0.0 (C)	0.0 (C)
7.3000	7.3000	136.54	80.497	136.96	2	0.0 (C)	0.0 (C)	0.0 (C)
7.4000	7.4000	139.79	82.484	140.99	2	0.0 (C)	0.0 (C)	0.0 (C)
7.5000	7.5000	143.07	84.487	145.07	2	0.0 (C)	0.0 (C)	0.0 (C)
7.6000	7.6000	146.38	86.508	149.18	2	0.0 (C)	0.0 (C)	0.0 (C)
7.7000	7.7000	149.71	88.546	153.33	2	0.0 (C)	0.0 (C)	0.0 (C)
7.8000	7.8000	153.08	90.602	157.51	2	0.0 (C)	0.0 (C)	0.0 (C)
7.9000	7.9000	156.47	92.674	161.74	2	0.0 (C)	0.0 (C)	0.0 (C)
8.0000	8.0000	159.88	94.764	166.00	2	0.0 (C)	0.0 (C)	0.0 (C)
8.1000	8.1000	163.33	96.871	170.31	2	0.0 (C)	0.0 (C)	0.0 (C)
8.2000	8.2000	166.80	98.995	174.65	2	0.0 (C)	0.0 (C)	0.0 (C)
8.3000	8.3000	170.30	101.14	179.03	2	0.0 (C)	0.0 (C)	0.0 (C)
8.4000	8.4000	173.83	103.30	183.45	2	0.0 (C)	0.0 (C)	0.0 (C)
8.5000	8.5000	177.39	105.47	187.91	2	0.0 (C)	0.0 (C)	0.0 (C)
8.6000	8.6000	180.97	107.66	192.40	2	0.0 (C)	0.0 (C)	0.0 (C)
8.7000	8.7000	184.58	109.87	196.94	2	0.0 (C)	0.0 (C)	0.0 (C)
8.8000	8.8000	188.22	112.10	201.51	2	0.0 (C)	0.0 (C)	0.0 (C)
8.9000	8.9000	191.89	114.35	206.12	2	0.0 (C)	0.0 (C)	0.0 (C)
9.0000	9.0000	195.58	116.61	210.77	2	0.0 (C)	0.0 (C)	0.0 (C)
9.1000	9.1000	199.30	118.89	215.46	2	0.0 (C)	0.0 (C)	0.0 (C)
9.2000	9.2000	203.05	121.18	220.19	2	0.0 (C)	0.0 (C)	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*				
			#					
9.3000	9.3000	206.82	123.50	224.95	2	0.0 (C)	0.0 (C)	0.0 (C)
9.4000	9.4000	210.63	125.83	229.76	2	0.0 (C)	0.0 (C)	0.0 (C)
9.5000	9.5000	214.46	128.18	234.60	2	0.0 (C)	0.0 (C)	0.0 (C)
9.6000	9.6000	218.32	130.54	239.48	2	0.0 (C)	0.0 (C)	0.0 (C)
9.7000	9.7000	222.20	132.92	244.40	2	0.0 (C)	0.0 (C)	0.0 (C)
9.8000	9.8000	226.12	135.32	249.36	2	0.0 (C)	0.0 (C)	0.0 (C)
9.9000	9.9000	230.06	137.74	254.36	2	0.0 (C)	0.0 (C)	0.0 (C)
10.0000	10.0000	234.03	140.17	259.40	2	0.0 (C)	0.0 (C)	0.0 (C)
10.1000	10.1000	238.02	142.63	264.47	2	0.0 (C)	0.0 (C)	0.0 (C)
10.2000	10.2000	242.05	145.09	269.58	2	0.0 (C)	0.0 (C)	0.0 (C)
10.3000	10.3000	246.10	147.58	274.73	2	0.0 (C)	0.0 (C)	0.0 (C)
10.4000	10.4000	250.18	150.08	279.92	2	0.0 (C)	0.0 (C)	0.0 (C)
10.5000	10.5000	254.29	152.60	285.15	2	0.0 (C)	0.0 (C)	0.0 (C)
10.6000	10.6000	258.42	155.14	290.42	2	0.0 (C)	0.0 (C)	0.0 (C)
10.7000	10.7000	262.58	157.69	295.73	2	0.0 (C)	0.0 (C)	0.0 (C)
10.8000	10.8000	266.77	160.27	301.07	2	0.0 (C)	0.0 (C)	0.0 (C)
10.9000	10.9000	270.99	162.86	306.45	2	0.0 (C)	0.0 (C)	0.0 (C)
11.0000	11.0000	275.23	165.46	311.87	2	0.0 (C)	0.0 (C)	0.0 (C)
11.1000	11.1000	279.50	168.08	317.33	2	0.0 (C)	0.0 (C)	0.0 (C)
11.2000	11.2000	283.80	170.73	322.83	2	0.0 (C)	0.0 (C)	0.0 (C)
11.3000	11.3000	288.13	173.38	328.37	2	0.0 (C)	0.0 (C)	0.0 (C)
11.4000	11.4000	292.48	176.06	333.95	2	0.0 (C)	0.0 (C)	0.0 (C)
11.5000	11.5000	296.87	178.75	339.56	2	0.0 (C)	0.0 (C)	0.0 (C)
11.6000	11.6000	301.27	181.46	345.21	2	0.0 (C)	0.0 (C)	0.0 (C)
11.7000	11.7000	305.71	184.19	350.90	2	0.0 (C)	0.0 (C)	0.0 (C)
11.8000	11.8000	310.18	186.93	356.63	2	0.0 (C)	0.0 (C)	0.0 (C)
11.9000	11.9000	314.67	189.69	362.40	2	0.0 (C)	0.0 (C)	0.0 (C)
12.0000	12.0000	319.19	192.47	368.21	2	0.0 (C)	0.0 (C)	0.0 (C)
12.1000	12.1000	323.74	195.27	374.05	2	0.0 (C)	0.0 (C)	0.0 (C)
12.2000	12.2000	328.31	198.08	379.94	2	0.0 (C)	0.0 (C)	0.0 (C)
12.3000	12.3000	332.91	200.91	385.86	2	0.0 (C)	0.0 (C)	0.0 (C)
12.4000	12.4000	337.54	203.75	391.82	2	0.0 (C)	0.0 (C)	0.0 (C)
12.5000	12.5000	342.20	206.62	397.82	2	0.0 (C)	0.0 (C)	0.0 (C)
12.6000	12.6000	346.88	209.50	403.86	2	0.0 (C)	0.0 (C)	0.0 (C)
12.7000	12.7000	351.60	212.40	409.94	2	0.0 (C)	0.0 (C)	0.0 (C)
12.8000	12.8000	356.34	215.32	416.05	2	0.0 (C)	0.0 (C)	0.0 (C)
12.9000	12.9000	361.10	218.25	422.21	2	0.0 (C)	0.0 (C)	0.0 (C)
13.0000	13.0000	365.90	221.20	428.40	2	0.0 (C)	0.0 (C)	0.0 (C)
13.1000	13.1000	370.72	224.17	434.63	2	0.0 (C)	0.0 (C)	0.0 (C)
13.2000	13.2000	375.57	227.15	440.90	2	0.0 (C)	0.0 (C)	0.0 (C)
13.3000	13.3000	380.45	230.15	447.21	2	0.0 (C)	0.0 (C)	0.0 (C)
13.4000	13.4000	385.35	233.17	453.55	2	0.0 (C)	0.0 (C)	0.0 (C)
13.5000	13.5000	390.29	236.21	459.94	2	0.0 (C)	0.0 (C)	0.0 (C)
13.6000	13.6000	395.25	239.26	466.36	2	0.0 (C)	0.0 (C)	0.0 (C)
13.7000	13.7000	400.23	242.33	472.83	2	0.0 (C)	0.0 (C)	0.0 (C)
13.8000	13.8000	405.25	245.42	479.33	2	0.0 (C)	0.0 (C)	0.0 (C)
13.9000	13.9000	410.29	248.53	485.87	2	0.0 (C)	0.0 (C)	0.0 (C)
14.0000	14.0000	415.36	251.65	492.44	2	0.0 (C)	0.0 (C)	0.0 (C)
14.1000	14.1000	420.46	254.79	499.06	2	0.0 (C)	0.0 (C)	0.0 (C)
14.2000	14.2000	425.59	257.95	505.72	2	0.0 (C)	0.0 (C)	0.0 (C)
14.3000	14.3000	430.74	261.12	512.41	2	0.0 (C)	0.0 (C)	0.0 (C)
14.4000	14.4000	435.92	264.31	519.14	2	0.0 (C)	0.0 (C)	0.0 (C)
14.5000	14.5000	441.13	267.52	525.91	2	0.0 (C)	0.0 (C)	0.0 (C)
14.6000	14.6000	446.36	270.75	532.72	2	0.0 (C)	0.0 (C)	0.0 (C)
14.7000	14.7000	451.63	273.99	539.57	2	0.0 (C)	0.0 (C)	0.0 (C)
14.8000	14.8000	456.92	277.25	546.46	2	0.0 (C)	0.0 (C)	0.0 (C)
14.9000	14.9000	462.24	280.53	553.38	2	0.0 (C)	0.0 (C)	0.0 (C)
15.0000	15.0000	467.58	283.82	560.35	2	0.0 (C)	0.0 (C)	0.0 (C)
15.1000	15.1000	472.96	287.13	567.35	2	0.0 (C)	0.0 (C)	0.0 (C)
15.2000	15.2000	478.36	290.46	574.39	2	0.0 (C)	0.0 (C)	0.0 (C)
15.3000	15.3000	483.78	293.81	581.47	2	0.0 (C)	0.0 (C)	0.0 (C)
15.4000	15.4000	489.24	297.17	588.59	2	0.0 (C)	0.0 (C)	0.0 (C)
15.5000	15.5000	494.72	300.55	595.74	2	0.0 (C)	0.0 (C)	0.0 (C)
15.6000	15.6000	500.24	303.95	602.94	2	0.0 (C)	0.0 (C)	0.0 (C)
15.7000	15.7000	505.77	307.37	610.17	2	0.0 (C)	0.0 (C)	0.0 (C)
15.8000	15.8000	511.34	310.80	617.44	2	0.0 (C)	0.0 (C)	0.0 (C)
15.9000	15.9000	516.93	314.25	624.75	2	0.0 (C)	0.0 (C)	0.0 (C)
16.0000	16.0000	522.56	317.72	632.10	2	0.0 (C)	0.0 (C)	0.0 (C)
16.1000	16.1000	528.20	321.20	639.49	2	0.0 (C)	0.0 (C)	0.0 (C)
16.2000	16.2000	533.88	324.70	646.92	2	0.0 (C)	0.0 (C)	0.0 (C)
16.3000	16.3000	539.58	328.22	654.38	2	0.0 (C)	0.0 (C)	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

300mm diameter load bearing pile design revision A

Depth	Pile length	Design	resistance	Combination with least resistance	Factored load*
				#	
16.400	16.400	545.32	331.75	661.89	2 0.0 (C) 0.0 (C) 0.0 (C)
16.500	16.500	551.07	335.31	669.43	2 0.0 (C) 0.0 (C) 0.0 (C)
16.600	16.600	556.86	338.88	677.01	2 0.0 (C) 0.0 (C) 0.0 (C)
16.700	16.700	562.67	342.46	684.63	2 0.0 (C) 0.0 (C) 0.0 (C)
16.800	16.800	568.52	346.07	692.28	2 0.0 (C) 0.0 (C) 0.0 (C)
16.900	16.900	574.39	349.69	699.98	2 0.0 (C) 0.0 (C) 0.0 (C)
17.000	17.000	580.28	353.33	707.72	2 0.0 (C) 0.0 (C) 0.0 (C)
17.100	17.100	586.21	356.99	715.49	2 0.0 (C) 0.0 (C) 0.0 (C)
17.200	17.200	592.16	360.66	723.30	2 0.0 (C) 0.0 (C) 0.0 (C)
17.300	17.300	598.14	364.35	731.15	2 0.0 (C) 0.0 (C) 0.0 (C)
17.400	17.400	604.14	368.06	739.04	2 0.0 (C) 0.0 (C) 0.0 (C)
17.500	17.500	610.18	371.78	746.97	2 0.0 (C) 0.0 (C) 0.0 (C)
17.600	17.600	616.24	375.52	754.93	2 0.0 (C) 0.0 (C) 0.0 (C)
17.700	17.700	622.33	379.28	762.94	2 0.0 (C) 0.0 (C) 0.0 (C)
17.800	17.800	628.45	383.06	770.98	2 0.0 (C) 0.0 (C) 0.0 (C)
17.900	17.900	634.59	386.85	779.06	2 0.0 (C) 0.0 (C) 0.0 (C)
18.000	18.000	640.76	390.67	787.18	2 0.0 (C) 0.0 (C) 0.0 (C)
18.100	18.100	646.96	394.49	795.34	2 0.0 (C) 0.0 (C) 0.0 (C)
18.200	18.200	653.19	398.34	803.54	2 0.0 (C) 0.0 (C) 0.0 (C)
18.300	18.300	659.44	402.20	811.78	2 0.0 (C) 0.0 (C) 0.0 (C)
18.400	18.400	665.73	406.08	820.05	2 0.0 (C) 0.0 (C) 0.0 (C)
18.500	18.500	672.04	409.98	828.36	2 0.0 (C) 0.0 (C) 0.0 (C)
18.600	18.600	678.37	413.89	836.71	2 0.0 (C) 0.0 (C) 0.0 (C)
18.700	18.700	684.74	417.82	845.10	2 0.0 (C) 0.0 (C) 0.0 (C)
18.800	18.800	691.13	421.77	853.53	2 0.0 (C) 0.0 (C) 0.0 (C)
18.900	18.900	697.55	425.74	862.00	2 0.0 (C) 0.0 (C) 0.0 (C)
19.000	19.000	704.00	429.72	870.51	2 0.0 (C) 0.0 (C) 0.0 (C)
19.100	19.100	710.47	433.72	879.05	2 0.0 (C) 0.0 (C) 0.0 (C)
19.200	19.200	716.97	437.74	887.63	2 0.0 (C) 0.0 (C) 0.0 (C)
19.300	19.300	723.50	441.78	896.26	2 0.0 (C) 0.0 (C) 0.0 (C)
19.400	19.400	730.06	445.83	904.92	2 0.0 (C) 0.0 (C) 0.0 (C)
19.500	19.500	736.65	449.90	913.61	2 0.0 (C) 0.0 (C) 0.0 (C)
19.600	19.600	743.26	453.98	922.35	2 0.0 (C) 0.0 (C) 0.0 (C)
19.700	19.700	749.90	458.09	931.13	2 0.0 (C) 0.0 (C) 0.0 (C)
19.800	19.800	756.57	462.21	939.94	2 0.0 (C) 0.0 (C) 0.0 (C)
19.900	19.900	763.26	466.35	948.79	2 0.0 (C) 0.0 (C) 0.0 (C)
20.000	20.000	769.99	470.50	957.69	2 0.0 (C) 0.0 (C) 0.0 (C)
20.100	20.100	776.74	474.67	966.62	2 0.0 (C) 0.0 (C) 0.0 (C)
20.200	20.200	783.51	478.86	975.58	2 0.0 (C) 0.0 (C) 0.0 (C)
20.300	20.300	790.32	483.07	984.59	2 0.0 (C) 0.0 (C) 0.0 (C)
20.400	20.400	797.15	487.29	993.64	2 0.0 (C) 0.0 (C) 0.0 (C)
20.500	20.500	804.01	491.54	1002.7	2 0.0 (C) 0.0 (C) 0.0 (C)
20.600	20.600	810.90	495.79	1011.8	2 0.0 (C) 0.0 (C) 0.0 (C)
20.700	20.700	817.82	500.07	1021.0	2 0.0 (C) 0.0 (C) 0.0 (C)
20.800	20.800	824.76	504.36	1030.2	2 0.0 (C) 0.0 (C) 0.0 (C)
20.900	20.900	831.73	508.67	1039.4	2 0.0 (C) 0.0 (C) 0.0 (C)
21.000	21.000	838.73	513.00	1048.7	2 0.0 (C) 0.0 (C) 0.0 (C)
21.100	21.100	845.75	517.34	1058.0	2 0.0 (C) 0.0 (C) 0.0 (C)
21.200	21.200	852.81	521.71	1067.4	2 0.0 (C) 0.0 (C) 0.0 (C)
21.300	21.300	859.89	526.09	1076.8	2 0.0 (C) 0.0 (C) 0.0 (C)
21.400	21.400	867.00	530.48	1086.2	2 0.0 (C) 0.0 (C) 0.0 (C)
21.500	21.500	874.13	534.90	1095.7	2 0.0 (C) 0.0 (C) 0.0 (C)
21.600	21.600	881.30	539.33	1105.2	2 0.0 (C) 0.0 (C) 0.0 (C)
21.700	21.700	888.49	543.77	1114.7	2 0.0 (C) 0.0 (C) 0.0 (C)
21.800	21.800	895.71	548.24	1124.3	2 0.0 (C) 0.0 (C) 0.0 (C)
21.900	21.900	902.95	552.72	1133.9	2 0.0 (C) 0.0 (C) 0.0 (C)
22.000	22.000	910.23	557.22	1143.6	2 0.0 (C) 0.0 (C) 0.0 (C)
22.100	22.100	917.53	561.74	1153.3	2 0.0 (C) 0.0 (C) 0.0 (C)
22.200	22.200	924.86	566.27	1163.1	2 0.0 (C) 0.0 (C) 0.0 (C)
22.300	22.300	932.21	570.82	1172.8	2 0.0 (C) 0.0 (C) 0.0 (C)
22.400	22.400	939.60	575.39	1182.6	2 0.0 (C) 0.0 (C) 0.0 (C)
22.500	22.500	947.01	579.98	1192.5	2 0.0 (C) 0.0 (C) 0.0 (C)
22.600	22.600	954.45	584.58	1202.4	2 0.0 (C) 0.0 (C) 0.0 (C)
22.700	22.700	961.91	589.20	1212.3	2 0.0 (C) 0.0 (C) 0.0 (C)
22.800	22.800	969.41	593.84	1222.3	2 0.0 (C) 0.0 (C) 0.0 (C)
22.900	22.900	976.93	598.49	1232.3	2 0.0 (C) 0.0 (C) 0.0 (C)
23.000	23.000	984.48	603.16	1242.4	2 0.0 (C) 0.0 (C) 0.0 (C)
23.100	23.100	992.05	607.85	1252.4	2 0.0 (C) 0.0 (C) 0.0 (C)
23.200	23.200	999.66	612.56	1262.6	2 0.0 (C) 0.0 (C) 0.0 (C)
23.300	23.300	1007.3	617.28	1272.7	2 0.0 (C) 0.0 (C) 0.0 (C)
23.400	23.400	1014.9	622.02	1282.9	2 0.0 (C) 0.0 (C) 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

300mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
23.500	23.500	1022.6	626.78 1293.2	2 0.0 (C) 0.0 (C) 0.0 (C)
23.600	23.600	1030.3	631.55 1303.5	2 0.0 (C) 0.0 (C) 0.0 (C)
23.700	23.700	1038.1	636.35 1313.8	2 0.0 (C) 0.0 (C) 0.0 (C)
23.800	23.800	1045.9	641.16 1324.1	2 0.0 (C) 0.0 (C) 0.0 (C)
23.900	23.900	1053.7	645.98 1334.5	2 0.0 (C) 0.0 (C) 0.0 (C)
24.000	24.000	1061.5	650.83 1345.0	2 0.0 (C) 0.0 (C) 0.0 (C)
24.100	24.100	1069.3	655.69 1355.4	2 0.0 (C) 0.0 (C) 0.0 (C)
24.200	24.200	1077.2	660.57 1365.9	2 0.0 (C) 0.0 (C) 0.0 (C)
24.300	24.300	1085.1	665.46 1376.5	2 0.0 (C) 0.0 (C) 0.0 (C)
24.400	24.400	1093.1	670.37 1387.1	2 0.0 (C) 0.0 (C) 0.0 (C)
24.500	24.500	1101.0	675.30 1397.7	2 0.0 (C) 0.0 (C) 0.0 (C)
24.600	24.600	1109.0	680.25 1408.4	2 0.0 (C) 0.0 (C) 0.0 (C)
24.700	24.700	1117.0	685.21 1419.1	2 0.0 (C) 0.0 (C) 0.0 (C)
24.800	24.800	1125.1	690.20 1429.8	2 0.0 (C) 0.0 (C) 0.0 (C)
24.900	24.900	1133.1	695.19 1440.6	2 0.0 (C) 0.0 (C) 0.0 (C)
25.000	25.000	1141.2	700.21 1451.4	2 0.0 (C) 0.0 (C) 0.0 (C)
25.000	25.000	1141.2	700.21 1451.4	2 0.0 (C) 0.0 (C) 0.0 (C)
25.100	25.100	1149.0	705.05 1462.3	2 0.0 (C) 0.0 (C) 0.0 (C)
25.200	25.200	1156.7	709.89 1473.1	2 0.0 (C) 0.0 (C) 0.0 (C)
25.300	25.300	1164.5	714.73 1483.9	2 0.0 (C) 0.0 (C) 0.0 (C)
25.400	25.400	1172.2	719.57 1494.8	2 0.0 (C) 0.0 (C) 0.0 (C)
25.500	25.500	1179.9	724.40 1505.6	2 0.0 (C) 0.0 (C) 0.0 (C)
25.600	25.600	1187.7	729.24 1516.4	2 0.0 (C) 0.0 (C) 0.0 (C)
25.700	25.700	1195.4	734.08 1527.3	2 0.0 (C) 0.0 (C) 0.0 (C)
25.800	25.800	1203.2	738.92 1538.1	2 0.0 (C) 0.0 (C) 0.0 (C)
25.900	25.900	1210.9	743.76 1549.0	2 0.0 (C) 0.0 (C) 0.0 (C)
26.000	26.000	1218.7	748.60 1559.8	2 0.0 (C) 0.0 (C) 0.0 (C)
26.100	26.100	1226.4	753.44 1570.6	2 0.0 (C) 0.0 (C) 0.0 (C)
26.200	26.200	1234.1	758.27 1581.5	2 0.0 (C) 0.0 (C) 0.0 (C)
26.300	26.300	1241.9	763.11 1592.3	2 0.0 (C) 0.0 (C) 0.0 (C)
26.400	26.400	1249.6	767.95 1603.2	2 0.0 (C) 0.0 (C) 0.0 (C)
26.500	26.500	1257.4	772.79 1614.0	2 0.0 (C) 0.0 (C) 0.0 (C)
26.600	26.600	1265.1	777.63 1624.8	2 0.0 (C) 0.0 (C) 0.0 (C)
26.700	26.700	1272.9	782.47 1635.7	2 0.0 (C) 0.0 (C) 0.0 (C)
26.800	26.800	1280.6	787.31 1646.5	2 0.0 (C) 0.0 (C) 0.0 (C)
26.900	26.900	1288.3	792.14 1657.3	2 0.0 (C) 0.0 (C) 0.0 (C)
27.000	27.000	1296.1	796.98 1668.2	2 0.0 (C) 0.0 (C) 0.0 (C)
27.100	27.100	1303.8	801.82 1679.0	2 0.0 (C) 0.0 (C) 0.0 (C)
27.200	27.200	1311.6	806.66 1689.9	2 0.0 (C) 0.0 (C) 0.0 (C)
27.300	27.300	1319.3	811.50 1700.7	2 0.0 (C) 0.0 (C) 0.0 (C)
27.400	27.400	1327.0	816.34 1711.5	2 0.0 (C) 0.0 (C) 0.0 (C)
27.500	27.500	1334.8	821.18 1722.4	2 0.0 (C) 0.0 (C) 0.0 (C)
27.600	27.600	1342.5	826.01 1733.2	2 0.0 (C) 0.0 (C) 0.0 (C)
27.700	27.700	1350.3	830.85 1744.1	2 0.0 (C) 0.0 (C) 0.0 (C)
27.800	27.800	1358.0	835.69 1754.9	2 0.0 (C) 0.0 (C) 0.0 (C)
27.900	27.900	1365.8	840.53 1765.7	2 0.0 (C) 0.0 (C) 0.0 (C)
28.000	28.000	1373.5	845.37 1776.6	2 0.0 (C) 0.0 (C) 0.0 (C)
28.100	28.100	1381.2	850.21 1787.4	2 0.0 (C) 0.0 (C) 0.0 (C)
28.200	28.200	1389.0	855.05 1798.2	2 0.0 (C) 0.0 (C) 0.0 (C)
28.300	28.300	1396.7	859.88 1809.1	2 0.0 (C) 0.0 (C) 0.0 (C)
28.400	28.400	1404.5	864.72 1819.9	2 0.0 (C) 0.0 (C) 0.0 (C)
28.500	28.500	1412.2	869.56 1830.8	2 0.0 (C) 0.0 (C) 0.0 (C)
28.600	28.600	1419.9	874.40 1841.6	2 0.0 (C) 0.0 (C) 0.0 (C)
28.700	28.700	1427.7	879.24 1852.4	2 0.0 (C) 0.0 (C) 0.0 (C)
28.800	28.800	1435.4	884.08 1863.3	2 0.0 (C) 0.0 (C) 0.0 (C)
28.900	28.900	1443.2	888.92 1874.1	2 0.0 (C) 0.0 (C) 0.0 (C)
29.000	29.000	1450.9	893.76 1885.0	2 0.0 (C) 0.0 (C) 0.0 (C)
29.100	29.100	1458.7	898.59 1895.8	2 0.0 (C) 0.0 (C) 0.0 (C)
29.200	29.200	1466.4	903.43 1906.6	2 0.0 (C) 0.0 (C) 0.0 (C)
29.300	29.300	1474.1	908.27 1917.5	2 0.0 (C) 0.0 (C) 0.0 (C)
29.400	29.400	1481.9	913.11 1928.3	2 0.0 (C) 0.0 (C) 0.0 (C)
29.500	29.500	1489.6	917.95 1939.1	2 0.0 (C) 0.0 (C) 0.0 (C)
29.600	29.600	1497.4	922.79 1950.0	2 0.0 (C) 0.0 (C) 0.0 (C)
29.700	29.700	1505.1	927.63 1960.8	2 0.0 (C) 0.0 (C) 0.0 (C)
29.800	29.800	1512.8	932.46 1971.7	2 0.0 (C) 0.0 (C) 0.0 (C)
29.900	29.900	1520.6	937.30 1982.5	2 0.0 (C) 0.0 (C) 0.0 (C)
30.000	30.000	1528.3	942.14 1993.3	2 0.0 (C) 0.0 (C) 0.0 (C)

# Limiting criteria :  
1 : DA1 C1  
2 : DA1 C2





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
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3 : BS8004:2015 SLS  
 \*(C)-> Compression load, (T)-> Tension load  
 Note: Design resistance does not include any consideration of negative skin friction.

**Nq Calculation Details**

**Soil Profile 1: Soil Profile 1 - Material Factor Set - 1**

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

**Soil Profile 1: Soil Profile 1 - Material Factor Set - 2**

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

**Results - Tension**

**Soil Profile 1: Soil Profile 1**

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
[m]	[m]	[kN]	[kN/m]	[kN]
6.0000	6.0000	88.036	14.673	88.036
6.1000	6.1000	91.568	15.011	91.568
6.2000	6.2000	95.139	15.345	95.139
6.3000	6.3000	98.748	15.674	98.748
6.4000	6.4000	102.40	15.999	102.40
6.5000	6.5000	106.08	16.320	106.08
6.6000	6.6000	109.81	16.637	109.81
6.7000	6.7000	113.57	16.951	113.57
6.8000	6.8000	117.37	17.261	117.37
6.9000	6.9000	121.21	17.567	121.21
7.0000	7.0000	125.09	17.870	125.09
7.1000	7.1000	129.01	18.170	129.01
7.2000	7.2000	132.97	18.468	132.97
7.3000	7.3000	136.96	18.762	136.96
7.4000	7.4000	140.99	19.053	140.99
7.5000	7.5000	145.07	19.342	145.07
7.6000	7.6000	149.18	19.629	149.18
7.7000	7.7000	153.33	19.912	153.33
7.8000	7.8000	157.51	20.194	157.51
7.9000	7.9000	161.74	20.473	161.74
8.0000	8.0000	166.00	20.751	166.00
8.1000	8.1000	170.31	21.026	170.31
8.2000	8.2000	174.65	21.299	174.65
8.3000	8.3000	179.03	21.570	179.03
8.4000	8.4000	183.45	21.839	183.45
8.5000	8.5000	187.91	22.107	187.91
8.6000	8.6000	192.40	22.372	192.40
8.7000	8.7000	196.94	22.636	196.94
8.8000	8.8000	201.51	22.899	201.51
8.9000	8.9000	206.12	23.160	206.12
9.0000	9.0000	210.77	23.419	210.77
9.1000	9.1000	215.46	23.677	215.46
9.2000	9.2000	220.19	23.934	220.19
9.3000	9.3000	224.95	24.189	224.95
9.4000	9.4000	229.76	24.442	229.76
9.5000	9.5000	234.60	24.695	234.60
9.6000	9.6000	239.48	24.946	239.48
9.7000	9.7000	244.40	25.196	244.40
9.8000	9.8000	249.36	25.445	249.36
9.9000	9.9000	254.36	25.693	254.36
10.000	10.000	259.40	25.940	259.40
10.100	10.100	264.47	26.185	264.47
10.200	10.200	269.58	26.430	269.58
10.300	10.300	274.73	26.673	274.73



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

300mm diameter load bearing pile design revision A

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
10.400	10.400	279.92	26.916	279.92
10.500	10.500	285.15	27.157	285.15
10.600	10.600	290.42	27.398	290.42
10.700	10.700	295.73	27.638	295.73
10.800	10.800	301.07	27.877	301.07
10.900	10.900	306.45	28.115	306.45
11.000	11.000	311.87	28.352	311.87
11.100	11.100	317.33	28.589	317.33
11.200	11.200	322.83	28.824	322.83
11.300	11.300	328.37	29.059	328.37
11.400	11.400	333.95	29.293	333.95
11.500	11.500	339.56	29.527	339.56
11.600	11.600	345.21	29.760	345.21
11.700	11.700	350.90	29.992	350.90
11.800	11.800	356.63	30.223	356.63
11.900	11.900	362.40	30.454	362.40
12.000	12.000	368.21	30.684	368.21
12.100	12.100	374.05	30.914	374.05
12.200	12.200	379.94	31.143	379.94
12.300	12.300	385.86	31.371	385.86
12.400	12.400	391.82	31.599	391.82
12.500	12.500	397.82	31.826	397.82
12.600	12.600	403.86	32.052	403.86
12.700	12.700	409.94	32.279	409.94
12.800	12.800	416.05	32.504	416.05
12.900	12.900	422.21	32.729	422.21
13.000	13.000	428.40	32.954	428.40
13.100	13.100	434.63	33.178	434.63
13.200	13.200	440.90	33.402	440.90
13.300	13.300	447.21	33.625	447.21
13.400	13.400	453.55	33.847	453.55
13.500	13.500	459.94	34.070	459.94
13.600	13.600	466.36	34.291	466.36
13.700	13.700	472.83	34.513	472.83
13.800	13.800	479.33	34.734	479.33
13.900	13.900	485.87	34.954	485.87
14.000	14.000	492.44	35.175	492.44
14.100	14.100	499.06	35.394	499.06
14.200	14.200	505.72	35.614	505.72
14.300	14.300	512.41	35.833	512.41
14.400	14.400	519.14	36.052	519.14
14.500	14.500	525.91	36.270	525.91
14.600	14.600	532.72	36.488	532.72
14.700	14.700	539.57	36.705	539.57
14.800	14.800	546.46	36.923	546.46
14.900	14.900	553.38	37.140	553.38
15.000	15.000	560.35	37.356	560.35
15.100	15.100	567.35	37.573	567.35
15.200	15.200	574.39	37.789	574.39
15.300	15.300	581.47	38.004	581.47
15.400	15.400	588.59	38.220	588.59
15.500	15.500	595.74	38.435	595.74
15.600	15.600	602.94	38.650	602.94
15.700	15.700	610.17	38.864	610.17
15.800	15.800	617.44	39.079	617.44
15.900	15.900	624.75	39.293	624.75
16.000	16.000	632.10	39.506	632.10
16.100	16.100	639.49	39.720	639.49
16.200	16.200	646.92	39.933	646.92
16.300	16.300	654.38	40.146	654.38
16.400	16.400	661.89	40.359	661.89
16.500	16.500	669.43	40.571	669.43
16.600	16.600	677.01	40.784	677.01
16.700	16.700	684.63	40.996	684.63
16.800	16.800	692.28	41.207	692.28
16.900	16.900	699.98	41.419	699.98
17.000	17.000	707.72	41.630	707.72
17.100	17.100	715.49	41.841	715.49
17.200	17.200	723.30	42.052	723.30
17.300	17.300	731.15	42.263	731.15
17.400	17.400	739.04	42.474	739.04



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

300mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
17.500	17.500	746.97	42.684	746.97
17.600	17.600	754.93	42.894	754.93
17.700	17.700	762.94	43.104	762.94
17.800	17.800	770.98	43.314	770.98
17.900	17.900	779.06	43.523	779.06
18.000	18.000	787.18	43.732	787.18
18.100	18.100	795.34	43.942	795.34
18.200	18.200	803.54	44.151	803.54
18.300	18.300	811.78	44.359	811.78
18.400	18.400	820.05	44.568	820.05
18.500	18.500	828.36	44.776	828.36
18.600	18.600	836.71	44.985	836.71
18.700	18.700	845.11	45.193	845.11
18.800	18.800	853.53	45.401	853.53
18.900	18.900	862.00	45.609	862.00
19.000	19.000	870.51	45.816	870.51
19.100	19.100	879.05	46.024	879.05
19.200	19.200	887.63	46.231	887.63
19.300	19.300	896.26	46.438	896.26
19.400	19.400	904.92	46.645	904.92
19.500	19.500	913.61	46.852	913.61
19.600	19.600	922.35	47.059	922.35
19.700	19.700	931.13	47.265	931.13
19.800	19.800	939.94	47.472	939.94
19.900	19.900	948.79	47.678	948.79
20.000	20.000	957.69	47.884	957.69
20.100	20.100	966.62	48.090	966.62
20.200	20.200	975.58	48.296	975.58
20.300	20.300	984.59	48.502	984.59
20.400	20.400	993.64	48.708	993.64
20.500	20.500	1002.7	48.913	1002.7
20.600	20.600	1011.8	49.119	1011.8
20.700	20.700	1021.0	49.324	1021.0
20.800	20.800	1030.2	49.529	1030.2
20.900	20.900	1039.4	49.734	1039.4
21.000	21.000	1048.7	49.939	1048.7
21.100	21.100	1058.0	50.144	1058.0
21.200	21.200	1067.4	50.349	1067.4
21.300	21.300	1076.8	50.553	1076.8
21.400	21.400	1086.2	50.758	1086.2
21.500	21.500	1095.7	50.962	1095.7
21.600	21.600	1105.2	51.166	1105.2
21.700	21.700	1114.7	51.370	1114.7
21.800	21.800	1124.3	51.575	1124.3
21.900	21.900	1133.9	51.778	1133.9
22.000	22.000	1143.6	51.982	1143.6
22.100	22.100	1153.3	52.186	1153.3
22.200	22.200	1163.1	52.390	1163.1
22.300	22.300	1172.8	52.593	1172.8
22.400	22.400	1182.6	52.797	1182.6
22.500	22.500	1192.5	53.000	1192.5
22.600	22.600	1202.4	53.203	1202.4
22.700	22.700	1212.3	53.407	1212.3
22.800	22.800	1222.3	53.610	1222.3
22.900	22.900	1232.3	53.813	1232.3
23.000	23.000	1242.4	54.016	1242.4
23.100	23.100	1252.4	54.218	1252.4
23.200	23.200	1262.6	54.421	1262.6
23.300	23.300	1272.7	54.624	1272.7
23.400	23.400	1282.9	54.826	1282.9
23.500	23.500	1293.2	55.029	1293.2
23.600	23.600	1303.5	55.231	1303.5
23.700	23.700	1313.8	55.433	1313.8
23.800	23.800	1324.1	55.636	1324.1
23.900	23.900	1334.5	55.838	1334.5
24.000	24.000	1345.0	56.040	1345.0
24.100	24.100	1355.4	56.242	1355.4
24.200	24.200	1365.9	56.444	1365.9
24.300	24.300	1376.5	56.646	1376.5
24.400	24.400	1387.1	56.848	1387.1
24.500	24.500	1397.7	57.049	1397.7



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
24.600	24.600	1408.4	57.251	1408.4
24.700	24.700	1419.1	57.452	1419.1
24.800	24.800	1429.8	57.654	1429.8
24.900	24.900	1440.6	57.855	1440.6
25.000	25.000	1451.4	58.057	1451.4
25.100	25.100	1462.3	58.257	1462.3
25.200	25.200	1473.1	58.456	1473.1
25.300	25.300	1483.9	58.653	1483.9
25.400	25.400	1494.8	58.849	1494.8
25.500	25.500	1505.6	59.043	1505.6
25.600	25.600	1516.4	59.236	1516.4
25.700	25.700	1527.3	59.427	1527.3
25.800	25.800	1538.1	59.617	1538.1
25.900	25.900	1549.0	59.806	1549.0
26.000	26.000	1559.8	59.992	1559.8
26.100	26.100	1570.6	60.178	1570.6
26.200	26.200	1581.5	60.362	1581.5
26.300	26.300	1592.3	60.544	1592.3
26.400	26.400	1603.2	60.726	1603.2
26.500	26.500	1614.0	60.905	1614.0
26.600	26.600	1624.8	61.084	1624.8
26.700	26.700	1635.7	61.261	1635.7
26.800	26.800	1646.5	61.437	1646.5
26.900	26.900	1657.3	61.611	1657.3
27.000	27.000	1668.2	61.785	1668.2
27.100	27.100	1679.0	61.957	1679.0
27.200	27.200	1689.9	62.127	1689.9
27.300	27.300	1700.7	62.297	1700.7
27.400	27.400	1711.5	62.465	1711.5
27.500	27.500	1722.4	62.632	1722.4
27.600	27.600	1733.2	62.798	1733.2
27.700	27.700	1744.1	62.962	1744.1
27.800	27.800	1754.9	63.126	1754.9
27.900	27.900	1765.7	63.288	1765.7
28.000	28.000	1776.6	63.449	1776.6
28.100	28.100	1787.4	63.609	1787.4
28.200	28.200	1798.2	63.768	1798.2
28.300	28.300	1809.1	63.925	1809.1
28.400	28.400	1819.9	64.082	1819.9
28.500	28.500	1830.8	64.237	1830.8
28.600	28.600	1841.6	64.392	1841.6
28.700	28.700	1852.4	64.545	1852.4
28.800	28.800	1863.3	64.697	1863.3
28.900	28.900	1874.1	64.848	1874.1
29.000	29.000	1885.0	64.998	1885.0
29.100	29.100	1895.8	65.148	1895.8
29.200	29.200	1906.6	65.296	1906.6
29.300	29.300	1917.5	65.443	1917.5
29.400	29.400	1928.3	65.589	1928.3
29.500	29.500	1939.1	65.734	1939.1
29.600	29.600	1950.0	65.878	1950.0
29.700	29.700	1960.8	66.021	1960.8
29.800	29.800	1971.7	66.163	1971.7
29.900	29.900	1982.5	66.304	1982.5
30.000	30.000	1993.3	66.445	1993.3

Depth	Pile length	Design resistance			Combination with least resistance	Factored load*	
		DA1-C1	DA1-C2	BS8004-SLS			
[m]	[m]	[kN]	[kN]	[kN]	[kN]		
6.0000	6.0000	62.883	31.441	2	N.A.	N.A.	0.0 (C)
6.1000	6.1000	65.406	32.703	2	N.A.	N.A.	0.0 (C)
6.2000	6.2000	67.956	33.978	2	N.A.	N.A.	0.0 (C)
6.3000	6.3000	70.534	35.267	2	N.A.	N.A.	0.0 (C)
6.4000	6.4000	73.140	36.570	2	N.A.	N.A.	0.0 (C)
6.5000	6.5000	75.773	37.887	2	N.A.	N.A.	0.0 (C)
6.6000	6.6000	78.434	39.217	2	N.A.	N.A.	0.0 (C)
6.7000	6.7000	81.122	40.561	2	N.A.	N.A.	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

300mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
6.8000	6.8000	83.838	41.919	2 N.A. N.A. 0.0 (C)
6.9000	6.9000	86.581	43.290	2 N.A. N.A. 0.0 (C)
7.0000	7.0000	89.352	44.676	2 N.A. N.A. 0.0 (C)
7.1000	7.1000	92.150	46.075	2 N.A. N.A. 0.0 (C)
7.2000	7.2000	94.976	47.488	2 N.A. N.A. 0.0 (C)
7.3000	7.3000	97.830	48.915	2 N.A. N.A. 0.0 (C)
7.4000	7.4000	100.71	50.355	2 N.A. N.A. 0.0 (C)
7.5000	7.5000	103.62	51.810	2 N.A. N.A. 0.0 (C)
7.6000	7.6000	106.56	53.278	2 N.A. N.A. 0.0 (C)
7.7000	7.7000	109.52	54.759	2 N.A. N.A. 0.0 (C)
7.8000	7.8000	112.51	56.255	2 N.A. N.A. 0.0 (C)
7.9000	7.9000	115.53	57.764	2 N.A. N.A. 0.0 (C)
8.0000	8.0000	118.57	59.287	2 N.A. N.A. 0.0 (C)
8.1000	8.1000	121.65	60.824	2 N.A. N.A. 0.0 (C)
8.2000	8.2000	124.75	62.375	2 N.A. N.A. 0.0 (C)
8.3000	8.3000	127.88	63.939	2 N.A. N.A. 0.0 (C)
8.4000	8.4000	131.04	65.518	2 N.A. N.A. 0.0 (C)
8.5000	8.5000	134.22	67.109	2 N.A. N.A. 0.0 (C)
8.6000	8.6000	137.43	68.715	2 N.A. N.A. 0.0 (C)
8.7000	8.7000	140.67	70.335	2 N.A. N.A. 0.0 (C)
8.8000	8.8000	143.94	71.968	2 N.A. N.A. 0.0 (C)
8.9000	8.9000	147.23	73.615	2 N.A. N.A. 0.0 (C)
9.0000	9.0000	150.55	75.276	2 N.A. N.A. 0.0 (C)
9.1000	9.1000	153.90	76.950	2 N.A. N.A. 0.0 (C)
9.2000	9.2000	157.28	78.639	2 N.A. N.A. 0.0 (C)
9.3000	9.3000	160.68	80.341	2 N.A. N.A. 0.0 (C)
9.4000	9.4000	164.11	82.057	2 N.A. N.A. 0.0 (C)
9.5000	9.5000	167.57	83.786	2 N.A. N.A. 0.0 (C)
9.6000	9.6000	171.06	85.530	2 N.A. N.A. 0.0 (C)
9.7000	9.7000	174.57	87.287	2 N.A. N.A. 0.0 (C)
9.8000	9.8000	178.12	89.058	2 N.A. N.A. 0.0 (C)
9.9000	9.9000	181.69	90.843	2 N.A. N.A. 0.0 (C)
10.000	10.000	185.28	92.641	2 N.A. N.A. 0.0 (C)
10.100	10.100	188.91	94.454	2 N.A. N.A. 0.0 (C)
10.200	10.200	192.56	96.280	2 N.A. N.A. 0.0 (C)
10.300	10.300	196.24	98.119	2 N.A. N.A. 0.0 (C)
10.400	10.400	199.95	99.973	2 N.A. N.A. 0.0 (C)
10.500	10.500	203.68	101.84	2 N.A. N.A. 0.0 (C)
10.600	10.600	207.44	103.72	2 N.A. N.A. 0.0 (C)
10.700	10.700	211.23	105.62	2 N.A. N.A. 0.0 (C)
10.800	10.800	215.05	107.53	2 N.A. N.A. 0.0 (C)
10.900	10.900	218.90	109.45	2 N.A. N.A. 0.0 (C)
11.000	11.000	222.77	111.38	2 N.A. N.A. 0.0 (C)
11.100	11.100	226.67	113.33	2 N.A. N.A. 0.0 (C)
11.200	11.200	230.59	115.30	2 N.A. N.A. 0.0 (C)
11.300	11.300	234.55	117.28	2 N.A. N.A. 0.0 (C)
11.400	11.400	238.53	119.27	2 N.A. N.A. 0.0 (C)
11.500	11.500	242.54	121.27	2 N.A. N.A. 0.0 (C)
11.600	11.600	246.58	123.29	2 N.A. N.A. 0.0 (C)
11.700	11.700	250.65	125.32	2 N.A. N.A. 0.0 (C)
11.800	11.800	254.74	127.37	2 N.A. N.A. 0.0 (C)
11.900	11.900	258.86	129.43	2 N.A. N.A. 0.0 (C)
12.000	12.000	263.01	131.50	2 N.A. N.A. 0.0 (C)
12.100	12.100	267.18	133.59	2 N.A. N.A. 0.0 (C)
12.200	12.200	271.38	135.69	2 N.A. N.A. 0.0 (C)
12.300	12.300	275.62	137.81	2 N.A. N.A. 0.0 (C)
12.400	12.400	279.87	139.94	2 N.A. N.A. 0.0 (C)
12.500	12.500	284.16	142.08	2 N.A. N.A. 0.0 (C)
12.600	12.600	288.47	144.24	2 N.A. N.A. 0.0 (C)
12.700	12.700	292.81	146.41	2 N.A. N.A. 0.0 (C)
12.800	12.800	297.18	148.59	2 N.A. N.A. 0.0 (C)
12.900	12.900	301.58	150.79	2 N.A. N.A. 0.0 (C)
13.000	13.000	306.00	153.00	2 N.A. N.A. 0.0 (C)
13.100	13.100	310.45	155.23	2 N.A. N.A. 0.0 (C)
13.200	13.200	314.93	157.46	2 N.A. N.A. 0.0 (C)
13.300	13.300	319.43	159.72	2 N.A. N.A. 0.0 (C)
13.400	13.400	323.97	161.98	2 N.A. N.A. 0.0 (C)
13.500	13.500	328.53	164.26	2 N.A. N.A. 0.0 (C)
13.600	13.600	333.12	166.56	2 N.A. N.A. 0.0 (C)
13.700	13.700	337.73	168.87	2 N.A. N.A. 0.0 (C)
13.800	13.800	342.38	171.19	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
13.900	13.900	347.05	173.52	2 N.A. N.A. 0.0 (C)
14.000	14.000	351.75	175.87	2 N.A. N.A. 0.0 (C)
14.100	14.100	356.47	178.24	2 N.A. N.A. 0.0 (C)
14.200	14.200	361.23	180.61	2 N.A. N.A. 0.0 (C)
14.300	14.300	366.01	183.00	2 N.A. N.A. 0.0 (C)
14.400	14.400	370.82	185.41	2 N.A. N.A. 0.0 (C)
14.500	14.500	375.65	187.83	2 N.A. N.A. 0.0 (C)
14.600	14.600	380.52	190.26	2 N.A. N.A. 0.0 (C)
14.700	14.700	385.41	192.70	2 N.A. N.A. 0.0 (C)
14.800	14.800	390.33	195.16	2 N.A. N.A. 0.0 (C)
14.900	14.900	395.27	197.64	2 N.A. N.A. 0.0 (C)
15.000	15.000	400.25	200.12	2 N.A. N.A. 0.0 (C)
15.100	15.100	405.25	202.62	2 N.A. N.A. 0.0 (C)
15.200	15.200	410.28	205.14	2 N.A. N.A. 0.0 (C)
15.300	15.300	415.33	207.67	2 N.A. N.A. 0.0 (C)
15.400	15.400	420.42	210.21	2 N.A. N.A. 0.0 (C)
15.500	15.500	425.53	212.77	2 N.A. N.A. 0.0 (C)
15.600	15.600	430.67	215.33	2 N.A. N.A. 0.0 (C)
15.700	15.700	435.84	217.92	2 N.A. N.A. 0.0 (C)
15.800	15.800	441.03	220.52	2 N.A. N.A. 0.0 (C)
15.900	15.900	446.25	223.13	2 N.A. N.A. 0.0 (C)
16.000	16.000	451.50	225.75	2 N.A. N.A. 0.0 (C)
16.100	16.100	456.78	228.39	2 N.A. N.A. 0.0 (C)
16.200	16.200	462.08	231.04	2 N.A. N.A. 0.0 (C)
16.300	16.300	467.42	233.71	2 N.A. N.A. 0.0 (C)
16.400	16.400	472.78	236.39	2 N.A. N.A. 0.0 (C)
16.500	16.500	478.16	239.08	2 N.A. N.A. 0.0 (C)
16.600	16.600	483.58	241.79	2 N.A. N.A. 0.0 (C)
16.700	16.700	489.02	244.51	2 N.A. N.A. 0.0 (C)
16.800	16.800	494.49	247.24	2 N.A. N.A. 0.0 (C)
16.900	16.900	499.99	249.99	2 N.A. N.A. 0.0 (C)
17.000	17.000	505.51	252.76	2 N.A. N.A. 0.0 (C)
17.100	17.100	511.06	255.53	2 N.A. N.A. 0.0 (C)
17.200	17.200	516.64	258.32	2 N.A. N.A. 0.0 (C)
17.300	17.300	522.25	261.13	2 N.A. N.A. 0.0 (C)
17.400	17.400	527.89	263.94	2 N.A. N.A. 0.0 (C)
17.500	17.500	533.55	266.77	2 N.A. N.A. 0.0 (C)
17.600	17.600	539.24	269.62	2 N.A. N.A. 0.0 (C)
17.700	17.700	544.96	272.48	2 N.A. N.A. 0.0 (C)
17.800	17.800	550.70	275.35	2 N.A. N.A. 0.0 (C)
17.900	17.900	556.47	278.24	2 N.A. N.A. 0.0 (C)
18.000	18.000	562.27	281.14	2 N.A. N.A. 0.0 (C)
18.100	18.100	568.10	284.05	2 N.A. N.A. 0.0 (C)
18.200	18.200	573.96	286.98	2 N.A. N.A. 0.0 (C)
18.300	18.300	579.84	289.92	2 N.A. N.A. 0.0 (C)
18.400	18.400	585.75	292.88	2 N.A. N.A. 0.0 (C)
18.500	18.500	591.69	295.84	2 N.A. N.A. 0.0 (C)
18.600	18.600	597.65	298.83	2 N.A. N.A. 0.0 (C)
18.700	18.700	603.65	301.82	2 N.A. N.A. 0.0 (C)
18.800	18.800	609.67	304.83	2 N.A. N.A. 0.0 (C)
18.900	18.900	615.72	307.86	2 N.A. N.A. 0.0 (C)
19.000	19.000	621.79	310.90	2 N.A. N.A. 0.0 (C)
19.100	19.100	627.89	313.95	2 N.A. N.A. 0.0 (C)
19.200	19.200	634.02	317.01	2 N.A. N.A. 0.0 (C)
19.300	19.300	640.18	320.09	2 N.A. N.A. 0.0 (C)
19.400	19.400	646.37	323.18	2 N.A. N.A. 0.0 (C)
19.500	19.500	652.58	326.29	2 N.A. N.A. 0.0 (C)
19.600	19.600	658.82	329.41	2 N.A. N.A. 0.0 (C)
19.700	19.700	665.09	332.55	2 N.A. N.A. 0.0 (C)
19.800	19.800	671.39	335.69	2 N.A. N.A. 0.0 (C)
19.900	19.900	677.71	338.86	2 N.A. N.A. 0.0 (C)
20.000	20.000	684.06	342.03	2 N.A. N.A. 0.0 (C)
20.100	20.100	690.44	345.22	2 N.A. N.A. 0.0 (C)
20.200	20.200	696.85	348.42	2 N.A. N.A. 0.0 (C)
20.300	20.300	703.28	351.64	2 N.A. N.A. 0.0 (C)
20.400	20.400	709.74	354.87	2 N.A. N.A. 0.0 (C)
20.500	20.500	716.23	358.11	2 N.A. N.A. 0.0 (C)
20.600	20.600	722.75	361.37	2 N.A. N.A. 0.0 (C)
20.700	20.700	729.29	364.64	2 N.A. N.A. 0.0 (C)
20.800	20.800	735.86	367.93	2 N.A. N.A. 0.0 (C)
20.900	20.900	742.46	371.23	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

300mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
21.000	21.000	749.09	374.54	2 N.A. N.A. 0.0 (C)
21.100	21.100	755.74	377.87	2 N.A. N.A. 0.0 (C)
21.200	21.200	762.42	381.21	2 N.A. N.A. 0.0 (C)
21.300	21.300	769.13	384.57	2 N.A. N.A. 0.0 (C)
21.400	21.400	775.87	387.93	2 N.A. N.A. 0.0 (C)
21.500	21.500	782.63	391.32	2 N.A. N.A. 0.0 (C)
21.600	21.600	789.42	394.71	2 N.A. N.A. 0.0 (C)
21.700	21.700	796.24	398.12	2 N.A. N.A. 0.0 (C)
21.800	21.800	803.09	401.54	2 N.A. N.A. 0.0 (C)
21.900	21.900	809.96	404.98	2 N.A. N.A. 0.0 (C)
22.000	22.000	816.87	408.43	2 N.A. N.A. 0.0 (C)
22.100	22.100	823.79	411.90	2 N.A. N.A. 0.0 (C)
22.200	22.200	830.75	415.38	2 N.A. N.A. 0.0 (C)
22.300	22.300	837.74	418.87	2 N.A. N.A. 0.0 (C)
22.400	22.400	844.75	422.37	2 N.A. N.A. 0.0 (C)
22.500	22.500	851.79	425.89	2 N.A. N.A. 0.0 (C)
22.600	22.600	858.85	429.43	2 N.A. N.A. 0.0 (C)
22.700	22.700	865.95	432.97	2 N.A. N.A. 0.0 (C)
22.800	22.800	873.07	436.54	2 N.A. N.A. 0.0 (C)
22.900	22.900	880.22	440.11	2 N.A. N.A. 0.0 (C)
23.000	23.000	887.40	443.70	2 N.A. N.A. 0.0 (C)
23.100	23.100	894.60	447.30	2 N.A. N.A. 0.0 (C)
23.200	23.200	901.84	450.92	2 N.A. N.A. 0.0 (C)
23.300	23.300	909.09	454.55	2 N.A. N.A. 0.0 (C)
23.400	23.400	916.38	458.19	2 N.A. N.A. 0.0 (C)
23.500	23.500	923.70	461.85	2 N.A. N.A. 0.0 (C)
23.600	23.600	931.04	465.52	2 N.A. N.A. 0.0 (C)
23.700	23.700	938.41	469.20	2 N.A. N.A. 0.0 (C)
23.800	23.800	945.81	472.90	2 N.A. N.A. 0.0 (C)
23.900	23.900	953.23	476.62	2 N.A. N.A. 0.0 (C)
24.000	24.000	960.68	480.34	2 N.A. N.A. 0.0 (C)
24.100	24.100	968.17	484.08	2 N.A. N.A. 0.0 (C)
24.200	24.200	975.67	487.84	2 N.A. N.A. 0.0 (C)
24.300	24.300	983.21	491.60	2 N.A. N.A. 0.0 (C)
24.400	24.400	990.77	495.39	2 N.A. N.A. 0.0 (C)
24.500	24.500	998.36	499.18	2 N.A. N.A. 0.0 (C)
24.600	24.600	1006.0	502.99	2 N.A. N.A. 0.0 (C)
24.700	24.700	1013.6	506.81	2 N.A. N.A. 0.0 (C)
24.800	24.800	1021.3	510.65	2 N.A. N.A. 0.0 (C)
24.900	24.900	1029.0	514.50	2 N.A. N.A. 0.0 (C)
25.000	25.000	1036.7	518.36	2 N.A. N.A. 0.0 (C)
25.000	25.000	1036.7	518.36	2 N.A. N.A. 0.0 (C)
25.100	25.100	1044.5	522.23	2 N.A. N.A. 0.0 (C)
25.200	25.200	1052.2	526.10	2 N.A. N.A. 0.0 (C)
25.300	25.300	1060.0	529.98	2 N.A. N.A. 0.0 (C)
25.400	25.400	1067.7	533.85	2 N.A. N.A. 0.0 (C)
25.500	25.500	1075.4	537.72	2 N.A. N.A. 0.0 (C)
25.600	25.600	1083.2	541.59	2 N.A. N.A. 0.0 (C)
25.700	25.700	1090.9	545.46	2 N.A. N.A. 0.0 (C)
25.800	25.800	1098.7	549.33	2 N.A. N.A. 0.0 (C)
25.900	25.900	1106.4	553.20	2 N.A. N.A. 0.0 (C)
26.000	26.000	1114.1	557.07	2 N.A. N.A. 0.0 (C)
26.100	26.100	1121.9	560.94	2 N.A. N.A. 0.0 (C)
26.200	26.200	1129.6	564.81	2 N.A. N.A. 0.0 (C)
26.300	26.300	1137.4	568.68	2 N.A. N.A. 0.0 (C)
26.400	26.400	1145.1	572.56	2 N.A. N.A. 0.0 (C)
26.500	26.500	1152.9	576.43	2 N.A. N.A. 0.0 (C)
26.600	26.600	1160.6	580.30	2 N.A. N.A. 0.0 (C)
26.700	26.700	1168.3	584.17	2 N.A. N.A. 0.0 (C)
26.800	26.800	1176.1	588.04	2 N.A. N.A. 0.0 (C)
26.900	26.900	1183.8	591.91	2 N.A. N.A. 0.0 (C)
27.000	27.000	1191.6	595.78	2 N.A. N.A. 0.0 (C)
27.100	27.100	1199.3	599.65	2 N.A. N.A. 0.0 (C)
27.200	27.200	1207.0	603.52	2 N.A. N.A. 0.0 (C)
27.300	27.300	1214.8	607.39	2 N.A. N.A. 0.0 (C)
27.400	27.400	1222.5	611.26	2 N.A. N.A. 0.0 (C)
27.500	27.500	1230.3	615.14	2 N.A. N.A. 0.0 (C)
27.600	27.600	1238.0	619.01	2 N.A. N.A. 0.0 (C)
27.700	27.700	1245.8	622.88	2 N.A. N.A. 0.0 (C)
27.800	27.800	1253.5	626.75	2 N.A. N.A. 0.0 (C)
27.900	27.900	1261.2	630.62	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

300mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	#	Factored load*		
28.000	28.000	1269.0	634.49	2	N.A.	N.A.	0.0 (C)
28.100	28.100	1276.7	638.36	2	N.A.	N.A.	0.0 (C)
28.200	28.200	1284.5	642.23	2	N.A.	N.A.	0.0 (C)
28.300	28.300	1292.2	646.10	2	N.A.	N.A.	0.0 (C)
28.400	28.400	1299.9	649.97	2	N.A.	N.A.	0.0 (C)
28.500	28.500	1307.7	653.84	2	N.A.	N.A.	0.0 (C)
28.600	28.600	1315.4	657.71	2	N.A.	N.A.	0.0 (C)
28.700	28.700	1323.2	661.59	2	N.A.	N.A.	0.0 (C)
28.800	28.800	1330.9	665.46	2	N.A.	N.A.	0.0 (C)
28.900	28.900	1338.7	669.33	2	N.A.	N.A.	0.0 (C)
29.000	29.000	1346.4	673.20	2	N.A.	N.A.	0.0 (C)
29.100	29.100	1354.1	677.07	2	N.A.	N.A.	0.0 (C)
29.200	29.200	1361.9	680.94	2	N.A.	N.A.	0.0 (C)
29.300	29.300	1369.6	684.81	2	N.A.	N.A.	0.0 (C)
29.400	29.400	1377.4	688.68	2	N.A.	N.A.	0.0 (C)
29.500	29.500	1385.1	692.55	2	N.A.	N.A.	0.0 (C)
29.600	29.600	1392.8	696.42	2	N.A.	N.A.	0.0 (C)
29.700	29.700	1400.6	700.29	2	N.A.	N.A.	0.0 (C)
29.800	29.800	1408.3	704.17	2	N.A.	N.A.	0.0 (C)
29.900	29.900	1416.1	708.04	2	N.A.	N.A.	0.0 (C)
30.000	30.000	1423.8	711.91	2	N.A.	N.A.	0.0 (C)

Note - The weight of the pile has not been included in the factored load.

# Limiting criteria :

1 : DA1 C1 [Shaft Tension]

2 : DA1 C2 [Shaft Tension]

3 : BS8004:2015 SLS Check [Shaft Tension]

\*(C)-> Compression load, (T)-> Tension load

Note: Design resistance does not include any consideration of negative skin friction.





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

350mm diameter load bearing pile design revision A

Job No. Sheet No. Rev.

**P755**

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Made by Date Checked Date  
JW

**Analysis Options**

Design approach: DA1(C1 + C2)  
 File type: CFA  
 Model factor: 1.40  
 Partial factor on negative skin friction - Set A1: 1.00  
 Partial factor on negative skin friction - Set A2: 1.00  
 Serviceability verified by load tests (preliminary/working) No  
 carried out on more than 1% of constructed piles to loads not less than 1.5 times the representative load for which they are designed?  
 Resistance verified by a maintained load test taken to the calculated, unfactored, ultimate resistance? No  
 Is BS8004 SLS check enabled? Yes  
 Shaft only FoS (Compression): 1.00  
 Shaft only FoS (Tension): 0.00  
 Is pile capacity limited by pile material compressive strength? No  
 Pile material compressive strength calculation type Grade based  
 Limiting pile material compressive strength[kPa] 0.000000  
 Datum type Depth based  
 Effective stress profile Calculated

**Pile Properties**

File type Solid  
 Material type User-defined  
 Pile cross-section Circular  
 Under-ream No  
 Calculation profile Range  
 Minimum pile length 6.0000 m  
 Maximum pile length 30.000 m  
 Increment size 0.10000

Cross-section	Number of cross sections	Top Diameter [m]	Second Diameter location [m]	Second Diameter [m]	Third Diameter location [m]	Third Diameter [m]
Cross-section 1	1	0.35000				

**Undrained Materials - General Data**

No.	Material description	Bulk unit weight [kN/m³]	Cu material factor	Top Cu [kPa]	Base Cu [kPa]
1	London Clay	20.000	NA	50.000	230.00
2	London Clay	20.000	NA	230.00	230.00

**Undrained Materials - Skin Friction Data**

No.	Material description	Skin friction computation	Alpha	q <sub>s</sub>	q <sub>s,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]
1	London Clay	Alpha specified	0.50000	NA	NA No NA
2	London Clay	Alpha specified	0.50000	NA	NA No NA

**Undrained Materials - End Bearing Data**

No.	Material description	End bearing computation	Nc	q <sub>b</sub>	q <sub>b,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]



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No.	Material description	End bearing computation	Nc	Qb	Qb,lim
				Top [kPa]	Base Spec. Value [kPa]
1	London Clay	Nc specified	9.0000	NA	NA No NA
2	London Clay	Nc specified	9.0000	NA	NA No NA

**Undrained Materials - Material Factors (Code Based)**

No.	Material description	Qs factors		Nc factors		Qb factors	
		M1	M2	M1	M2	M1	M2
1	London Clay	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.
2	London Clay 2	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.

**STAGE SPECIFIC DATA**

**Stage 0 : Initial Stage**

**Groundwater**

No.	Level [m]	Pressure [kPa]	Unit weight of water [kN/m³]
1	0.50000	0.0	10.000

**Soil Profiles**

**Soil Profile 1: Soil Profile 1**

No.	Depth [m]	Material description	Contributes to negative skin friction
1	0.0	Air/Void	No
2	3.0000	London Clay	No
3	25.000	London Clay 2	No

**Soil Profile - Groundwater Map**

No.	Soil Profile	Groundwater
1	Soil Profile 1	Groundwater Profile 1

**Stage specific warnings**

1 - Stage 0 - The bottom most layer in Soil Profile 1 is assigned "Total stress" material. For this layer the cohesion is assumed to be constant at "Cu-Top", i.e cohesion specified at the top of this layer. The user specified value of cohesion at the bottom of this layer, "Cu-Bottom" is ignored. (Material Properties)

**CAPACITY RESULTS**

**Partial Resistance Factors Used:**

**DA1 C1**  
 Shaft resistance factor for set R1 (Compression): 1.00  
 Base resistance factor for set R1: 1.00  
 Shaft resistance factor for set R1 (Tension): 1.00

**DA1 C2**



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No. Soil Profile Groundwater

Shaft resistance factor for set R4 (Compression): 1.60  
 Base resistance factor for set R4: 2.00  
 Shaft resistance factor for set R4 (Tension): 2.00  
 Model factor: 1.40

**Stress Profiles**

**Soil Profile 1: Soil Profile 1**

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit perimeter
[m]		[kN/m <sup>3</sup> ]	[kPa]		[kPa]	[kPa]	[kPa]	[kPa]	[kN/m]
0.0	H	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0
0.50000	-	10.000	0.0	0.0	0.0	0.0	0.0	NA	0.0
3.0000	-	10.000	0.0	0.0	25.000	25.000	0.0	NA	0.0
3.0000	-	20.000	50.000	N.A.	25.000	25.000	0.0	NA	0.0
6.0000	T	20.000	74.545	N.A.	85.000	55.000	30.000	NA	93.409
6.1000	T	20.000	75.364	N.A.	87.000	56.000	31.000	NA	97.157
6.2000	T	20.000	76.182	N.A.	89.000	57.000	32.000	NA	100.95
6.3000	T	20.000	77.000	N.A.	91.000	58.000	33.000	NA	104.78
6.4000	T	20.000	77.818	N.A.	93.000	59.000	34.000	NA	108.65
6.5000	T	20.000	78.636	N.A.	95.000	60.000	35.000	NA	112.56
6.6000	T	20.000	79.455	N.A.	97.000	61.000	36.000	NA	116.51
6.7000	T	20.000	80.273	N.A.	99.000	62.000	37.000	NA	120.50
6.8000	T	20.000	81.091	N.A.	101.00	63.000	38.000	NA	124.54
6.9000	T	20.000	81.909	N.A.	103.00	64.000	39.000	NA	128.61
7.0000	T	20.000	82.727	N.A.	105.00	65.000	40.000	NA	132.73
7.1000	T	20.000	83.545	N.A.	107.00	66.000	41.000	NA	136.88
7.2000	T	20.000	84.364	N.A.	109.00	67.000	42.000	NA	141.08
7.3000	T	20.000	85.182	N.A.	111.00	68.000	43.000	NA	145.32
7.4000	T	20.000	86.000	N.A.	113.00	69.000	44.000	NA	149.60
7.5000	T	20.000	86.818	N.A.	115.00	70.000	45.000	NA	153.92
7.6000	T	20.000	87.636	N.A.	117.00	71.000	46.000	NA	158.28
7.7000	T	20.000	88.455	N.A.	119.00	72.000	47.000	NA	162.68
7.8000	T	20.000	89.273	N.A.	121.00	73.000	48.000	NA	167.13
7.9000	T	20.000	90.091	N.A.	123.00	74.000	49.000	NA	171.61
8.0000	T	20.000	90.909	N.A.	125.00	75.000	50.000	NA	176.14
8.1000	T	20.000	91.727	N.A.	127.00	76.000	51.000	NA	180.70
8.2000	T	20.000	92.545	N.A.	129.00	77.000	52.000	NA	185.31
8.3000	T	20.000	93.364	N.A.	131.00	78.000	53.000	NA	189.96
8.4000	T	20.000	94.182	N.A.	133.00	79.000	54.000	NA	194.65
8.5000	T	20.000	95.000	N.A.	135.00	80.000	55.000	NA	199.38
8.6000	T	20.000	95.818	N.A.	137.00	81.000	56.000	NA	204.15
8.7000	T	20.000	96.636	N.A.	139.00	82.000	57.000	NA	208.96
8.8000	T	20.000	97.455	N.A.	141.00	83.000	58.000	NA	213.81
8.9000	T	20.000	98.273	N.A.	143.00	84.000	59.000	NA	218.70
9.0000	T	20.000	99.091	N.A.	145.00	85.000	60.000	NA	223.64
9.1000	T	20.000	99.909	N.A.	147.00	86.000	61.000	NA	228.61
9.2000	T	20.000	100.73	N.A.	149.00	87.000	62.000	NA	233.63
9.3000	T	20.000	101.55	N.A.	151.00	88.000	63.000	NA	238.68
9.4000	T	20.000	102.36	N.A.	153.00	89.000	64.000	NA	243.78
9.5000	T	20.000	103.18	N.A.	155.00	90.000	65.000	NA	248.92
9.6000	T	20.000	104.00	N.A.	157.00	91.000	66.000	NA	254.10
9.7000	T	20.000	104.82	N.A.	159.00	92.000	67.000	NA	259.32
9.8000	T	20.000	105.64	N.A.	161.00	93.000	68.000	NA	264.58
9.9000	T	20.000	106.45	N.A.	163.00	94.000	69.000	NA	269.88
10.000	T	20.000	107.27	N.A.	165.00	95.000	70.000	NA	275.23
10.100	T	20.000	108.09	N.A.	167.00	96.000	71.000	NA	280.61
10.200	T	20.000	108.91	N.A.	169.00	97.000	72.000	NA	286.04
10.300	T	20.000	109.73	N.A.	171.00	98.000	73.000	NA	291.50
10.400	T	20.000	110.55	N.A.	173.00	99.000	74.000	NA	297.01
10.500	T	20.000	111.36	N.A.	175.00	100.00	75.000	NA	302.56
10.600	T	20.000	112.18	N.A.	177.00	101.00	76.000	NA	308.15
10.700	T	20.000	113.00	N.A.	179.00	102.00	77.000	NA	313.78
10.800	T	20.000	113.82	N.A.	181.00	103.00	78.000	NA	319.45



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Made by JW	Date	Checked Date

350mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
10.900	T	20.000	114.64	N.A.	183.00	104.00	79.000	NA	325.16
11.000	T	20.000	115.45	N.A.	185.00	105.00	80.000	NA	330.91
11.100	T	20.000	116.27	N.A.	187.00	106.00	81.000	NA	336.70
11.200	T	20.000	117.09	N.A.	189.00	107.00	82.000	NA	342.54
11.300	T	20.000	117.91	N.A.	191.00	108.00	83.000	NA	348.41
11.400	T	20.000	118.73	N.A.	193.00	109.00	84.000	NA	354.33
11.500	T	20.000	119.55	N.A.	195.00	110.00	85.000	NA	360.28
11.600	T	20.000	120.36	N.A.	197.00	111.00	86.000	NA	366.28
11.700	T	20.000	121.18	N.A.	199.00	112.00	87.000	NA	372.32
11.800	T	20.000	122.00	N.A.	201.00	113.00	88.000	NA	378.40
11.900	T	20.000	122.82	N.A.	203.00	114.00	89.000	NA	384.52
12.000	T	20.000	123.64	N.A.	205.00	115.00	90.000	NA	390.68
12.100	T	20.000	124.45	N.A.	207.00	116.00	91.000	NA	396.88
12.200	T	20.000	125.27	N.A.	209.00	117.00	92.000	NA	403.13
12.300	T	20.000	126.09	N.A.	211.00	118.00	93.000	NA	409.41
12.400	T	20.000	126.91	N.A.	213.00	119.00	94.000	NA	415.74
12.500	T	20.000	127.73	N.A.	215.00	120.00	95.000	NA	422.10
12.600	T	20.000	128.55	N.A.	217.00	121.00	96.000	NA	428.51
12.700	T	20.000	129.36	N.A.	219.00	122.00	97.000	NA	434.96
12.800	T	20.000	130.18	N.A.	221.00	123.00	98.000	NA	441.45
12.900	T	20.000	131.00	N.A.	223.00	124.00	99.000	NA	447.98
13.000	T	20.000	131.82	N.A.	225.00	125.00	100.000	NA	454.55
13.100	T	20.000	132.64	N.A.	227.00	126.00	101.000	NA	461.16
13.200	T	20.000	133.45	N.A.	229.00	127.00	102.000	NA	467.81
13.300	T	20.000	134.27	N.A.	231.00	128.00	103.000	NA	474.50
13.400	T	20.000	135.09	N.A.	233.00	129.00	104.000	NA	481.24
13.500	T	20.000	135.91	N.A.	235.00	130.00	105.000	NA	488.01
13.600	T	20.000	136.73	N.A.	237.00	131.00	106.000	NA	494.83
13.700	T	20.000	137.55	N.A.	239.00	132.00	107.000	NA	501.68
13.800	T	20.000	138.36	N.A.	241.00	133.00	108.000	NA	508.58
13.900	T	20.000	139.18	N.A.	243.00	134.00	109.000	NA	515.52
14.000	T	20.000	140.00	N.A.	245.00	135.00	110.000	NA	522.50
14.100	T	20.000	140.82	N.A.	247.00	136.00	111.000	NA	529.52
14.200	T	20.000	141.64	N.A.	249.00	137.00	112.000	NA	536.58
14.300	T	20.000	142.45	N.A.	251.00	138.00	113.000	NA	543.68
14.400	T	20.000	143.27	N.A.	253.00	139.00	114.000	NA	550.83
14.500	T	20.000	144.09	N.A.	255.00	140.00	115.000	NA	558.01
14.600	T	20.000	144.91	N.A.	257.00	141.00	116.000	NA	565.24
14.700	T	20.000	145.73	N.A.	259.00	142.00	117.000	NA	572.50
14.800	T	20.000	146.55	N.A.	261.00	143.00	118.000	NA	579.81
14.900	T	20.000	147.36	N.A.	263.00	144.00	119.000	NA	587.16
15.000	T	20.000	148.18	N.A.	265.00	145.00	120.000	NA	594.55
15.100	T	20.000	149.00	N.A.	267.00	146.00	121.000	NA	601.98
15.200	T	20.000	149.82	N.A.	269.00	147.00	122.000	NA	609.45
15.300	T	20.000	150.64	N.A.	271.00	148.00	123.000	NA	616.96
15.400	T	20.000	151.45	N.A.	273.00	149.00	124.000	NA	624.51
15.500	T	20.000	152.27	N.A.	275.00	150.00	125.000	NA	632.10
15.600	T	20.000	153.09	N.A.	277.00	151.00	126.000	NA	639.74
15.700	T	20.000	153.91	N.A.	279.00	152.00	127.000	NA	647.41
15.800	T	20.000	154.73	N.A.	281.00	153.00	128.000	NA	655.13
15.900	T	20.000	155.55	N.A.	283.00	154.00	129.000	NA	662.88
16.000	T	20.000	156.36	N.A.	285.00	155.00	130.000	NA	670.68
16.100	T	20.000	157.18	N.A.	287.00	156.00	131.000	NA	678.52
16.200	T	20.000	158.00	N.A.	289.00	157.00	132.000	NA	686.40
16.300	T	20.000	158.82	N.A.	291.00	158.00	133.000	NA	694.32
16.400	-	20.000	159.64	N.A.	293.00	159.00	134.000	NA	702.28
16.500	T	20.000	160.45	N.A.	295.00	160.00	135.000	NA	710.28
16.600	T	20.000	161.27	N.A.	297.00	161.00	136.000	NA	718.33
16.700	T	20.000	162.09	N.A.	299.00	162.00	137.000	NA	726.41
16.800	T	20.000	162.91	N.A.	301.00	163.00	138.000	NA	734.54
16.900	-	20.000	163.73	N.A.	303.00	164.00	139.000	NA	742.70
17.000	T	20.000	164.55	N.A.	305.00	165.00	140.000	NA	750.91
17.100	T	20.000	165.36	N.A.	307.00	166.00	141.000	NA	759.16
17.200	T	20.000	166.18	N.A.	309.00	167.00	142.000	NA	767.45
17.300	T	20.000	167.00	N.A.	311.00	168.00	143.000	NA	775.78
17.400	-	20.000	167.82	N.A.	313.00	169.00	144.000	NA	784.15
17.500	T	20.000	168.64	N.A.	315.00	170.00	145.000	NA	792.56
17.600	T	20.000	169.45	N.A.	317.00	171.00	146.000	NA	801.01
17.700	T	20.000	170.27	N.A.	319.00	172.00	147.000	NA	809.50
17.800	T	20.000	171.09	N.A.	321.00	173.00	148.000	NA	818.04
17.900	-	20.000	171.91	N.A.	323.00	174.00	149.000	NA	826.61



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Job No.	Sheet No.	Rev.
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Drg. Ref.		
Made by JW	Date	Checked Date

350mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
18.000	T	20.000	172.73	N.A.	325.00	175.00	150.00	NA	835.23
18.100	T	20.000	173.55	N.A.	327.00	176.00	151.00	NA	843.88
18.200	T	20.000	174.36	N.A.	329.00	177.00	152.00	NA	852.58
18.300	T	20.000	175.18	N.A.	331.00	178.00	153.00	NA	861.32
18.400	-	20.000	176.00	N.A.	333.00	179.00	154.00	NA	870.10
18.500	T	20.000	176.82	N.A.	335.00	180.00	155.00	NA	878.92
18.600	T	20.000	177.64	N.A.	337.00	181.00	156.00	NA	887.78
18.700	T	20.000	178.45	N.A.	339.00	182.00	157.00	NA	896.68
18.800	T	20.000	179.27	N.A.	341.00	183.00	158.00	NA	905.63
18.900	-	20.000	180.09	N.A.	343.00	184.00	159.00	NA	914.61
19.000	T	20.000	180.91	N.A.	345.00	185.00	160.00	NA	923.64
19.100	T	20.000	181.73	N.A.	347.00	186.00	161.00	NA	932.70
19.200	T	20.000	182.55	N.A.	349.00	187.00	162.00	NA	941.81
19.300	T	20.000	183.36	N.A.	351.00	188.00	163.00	NA	950.96
19.400	-	20.000	184.18	N.A.	353.00	189.00	164.00	NA	960.15
19.500	T	20.000	185.00	N.A.	355.00	190.00	165.00	NA	969.38
19.600	T	20.000	185.82	N.A.	357.00	191.00	166.00	NA	978.65
19.700	T	20.000	186.64	N.A.	359.00	192.00	167.00	NA	987.92
19.800	T	20.000	187.45	N.A.	361.00	193.00	168.00	NA	997.31
19.900	-	20.000	188.27	N.A.	363.00	194.00	169.00	NA	1006.7
20.000	T	20.000	189.09	N.A.	365.00	195.00	170.00	NA	1016.1
20.100	T	20.000	189.91	N.A.	367.00	196.00	171.00	NA	1025.6
20.200	T	20.000	190.73	N.A.	369.00	197.00	172.00	NA	1035.1
20.300	T	20.000	191.55	N.A.	371.00	198.00	173.00	NA	1044.7
20.400	-	20.000	192.36	N.A.	373.00	199.00	174.00	NA	1054.3
20.500	T	20.000	193.18	N.A.	375.00	200.00	175.00	NA	1063.9
20.600	T	20.000	194.00	N.A.	377.00	201.00	176.00	NA	1073.6
20.700	T	20.000	194.82	N.A.	379.00	202.00	177.00	NA	1083.3
20.800	T	20.000	195.64	N.A.	381.00	203.00	178.00	NA	1093.1
20.900	-	20.000	196.45	N.A.	383.00	204.00	179.00	NA	1102.9
21.000	T	20.000	197.27	N.A.	385.00	205.00	180.00	NA	1112.7
21.100	T	20.000	198.09	N.A.	387.00	206.00	181.00	NA	1122.6
21.200	T	20.000	198.91	N.A.	389.00	207.00	182.00	NA	1132.5
21.300	T	20.000	199.73	N.A.	391.00	208.00	183.00	NA	1142.5
21.400	-	20.000	200.55	N.A.	393.00	209.00	184.00	NA	1152.5
21.500	T	20.000	201.36	N.A.	395.00	210.00	185.00	NA	1162.6
21.600	T	20.000	202.18	N.A.	397.00	211.00	186.00	NA	1172.6
21.700	T	20.000	203.00	N.A.	399.00	212.00	187.00	NA	1182.8
21.800	T	20.000	203.82	N.A.	401.00	213.00	188.00	NA	1192.9
21.900	-	20.000	204.64	N.A.	403.00	214.00	189.00	NA	1203.2
22.000	T	20.000	205.45	N.A.	405.00	215.00	190.00	NA	1213.4
22.100	T	20.000	206.27	N.A.	407.00	216.00	191.00	NA	1223.7
22.200	T	20.000	207.09	N.A.	409.00	217.00	192.00	NA	1234.0
22.300	-	20.000	207.91	N.A.	411.00	218.00	193.00	NA	1244.4
22.400	T	20.000	208.73	N.A.	413.00	219.00	194.00	NA	1254.8
22.500	T	20.000	209.55	N.A.	415.00	220.00	195.00	NA	1265.3
22.600	T	20.000	210.36	N.A.	417.00	221.00	196.00	NA	1275.8
22.700	T	20.000	211.18	N.A.	419.00	222.00	197.00	NA	1286.3
22.800	-	20.000	212.00	N.A.	421.00	223.00	198.00	NA	1296.9
22.900	T	20.000	212.82	N.A.	423.00	224.00	199.00	NA	1307.5
23.000	T	20.000	213.64	N.A.	425.00	225.00	200.00	NA	1318.2
23.100	T	20.000	214.45	N.A.	427.00	226.00	201.00	NA	1328.9
23.200	T	20.000	215.27	N.A.	429.00	227.00	202.00	NA	1339.6
23.300	-	20.000	216.09	N.A.	431.00	228.00	203.00	NA	1350.4
23.400	T	20.000	216.91	N.A.	433.00	229.00	204.00	NA	1361.2
23.500	T	20.000	217.73	N.A.	435.00	230.00	205.00	NA	1372.1
23.600	T	20.000	218.55	N.A.	437.00	231.00	206.00	NA	1383.0
23.700	T	20.000	219.36	N.A.	439.00	232.00	207.00	NA	1394.0
23.800	-	20.000	220.18	N.A.	441.00	233.00	208.00	NA	1404.9
23.900	T	20.000	221.00	N.A.	443.00	234.00	209.00	NA	1416.0
24.000	T	20.000	221.82	N.A.	445.00	235.00	210.00	NA	1427.0
24.100	T	20.000	222.64	N.A.	447.00	236.00	211.00	NA	1438.2
24.200	T	20.000	223.45	N.A.	449.00	237.00	212.00	NA	1449.3
24.300	-	20.000	224.27	N.A.	451.00	238.00	213.00	NA	1460.5
24.400	T	20.000	225.09	N.A.	453.00	239.00	214.00	NA	1471.7
24.500	T	20.000	225.91	N.A.	455.00	240.00	215.00	NA	1483.0
24.600	T	20.000	226.73	N.A.	457.00	241.00	216.00	NA	1494.3
24.700	T	20.000	227.55	N.A.	459.00	242.00	217.00	NA	1505.7
24.800	-	20.000	228.36	N.A.	461.00	243.00	218.00	NA	1517.1
24.900	T	20.000	229.18	N.A.	463.00	244.00	219.00	NA	1528.5
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

350mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0
25.100	T	20.000	230.00	N.A.	467.00	246.00	221.00	NA	1551.5
25.200	T	20.000	230.00	N.A.	469.00	247.00	222.00	NA	1563.0
25.300	-	20.000	230.00	N.A.	471.00	248.00	223.00	NA	1574.5
25.400	T	20.000	230.00	N.A.	473.00	249.00	224.00	NA	1586.0
25.500	T	20.000	230.00	N.A.	475.00	250.00	225.00	NA	1597.5
25.600	T	20.000	230.00	N.A.	477.00	251.00	226.00	NA	1609.0
25.700	T	20.000	230.00	N.A.	479.00	252.00	227.00	NA	1620.5
25.800	-	20.000	230.00	N.A.	481.00	253.00	228.00	NA	1632.0
25.900	T	20.000	230.00	N.A.	483.00	254.00	229.00	NA	1643.5
26.000	T	20.000	230.00	N.A.	485.00	255.00	230.00	NA	1655.0
26.100	T	20.000	230.00	N.A.	487.00	256.00	231.00	NA	1666.5
26.200	T	20.000	230.00	N.A.	489.00	257.00	232.00	NA	1678.0
26.300	-	20.000	230.00	N.A.	491.00	258.00	233.00	NA	1689.5
26.400	T	20.000	230.00	N.A.	493.00	259.00	234.00	NA	1701.0
26.500	T	20.000	230.00	N.A.	495.00	260.00	235.00	NA	1712.5
26.600	T	20.000	230.00	N.A.	497.00	261.00	236.00	NA	1724.0
26.700	T	20.000	230.00	N.A.	499.00	262.00	237.00	NA	1735.5
26.800	-	20.000	230.00	N.A.	501.00	263.00	238.00	NA	1747.0
26.900	T	20.000	230.00	N.A.	503.00	264.00	239.00	NA	1758.5
27.000	T	20.000	230.00	N.A.	505.00	265.00	240.00	NA	1770.0
27.100	T	20.000	230.00	N.A.	507.00	266.00	241.00	NA	1781.5
27.200	T	20.000	230.00	N.A.	509.00	267.00	242.00	NA	1793.0
27.300	-	20.000	230.00	N.A.	511.00	268.00	243.00	NA	1804.5
27.400	T	20.000	230.00	N.A.	513.00	269.00	244.00	NA	1816.0
27.500	T	20.000	230.00	N.A.	515.00	270.00	245.00	NA	1827.5
27.600	T	20.000	230.00	N.A.	517.00	271.00	246.00	NA	1839.0
27.700	T	20.000	230.00	N.A.	519.00	272.00	247.00	NA	1850.5
27.800	-	20.000	230.00	N.A.	521.00	273.00	248.00	NA	1862.0
27.900	T	20.000	230.00	N.A.	523.00	274.00	249.00	NA	1873.5
28.000	T	20.000	230.00	N.A.	525.00	275.00	250.00	NA	1885.0
28.100	T	20.000	230.00	N.A.	527.00	276.00	251.00	NA	1896.5
28.200	T	20.000	230.00	N.A.	529.00	277.00	252.00	NA	1908.0
28.300	-	20.000	230.00	N.A.	531.00	278.00	253.00	NA	1919.5
28.400	T	20.000	230.00	N.A.	533.00	279.00	254.00	NA	1931.0
28.500	T	20.000	230.00	N.A.	535.00	280.00	255.00	NA	1942.5
28.600	T	20.000	230.00	N.A.	537.00	281.00	256.00	NA	1954.0
28.700	T	20.000	230.00	N.A.	539.00	282.00	257.00	NA	1965.5
28.800	-	20.000	230.00	N.A.	541.00	283.00	258.00	NA	1977.0
28.900	T	20.000	230.00	N.A.	543.00	284.00	259.00	NA	1988.5
29.000	T	20.000	230.00	N.A.	545.00	285.00	260.00	NA	2000.0
29.100	T	20.000	230.00	N.A.	547.00	286.00	261.00	NA	2011.5
29.200	T	20.000	230.00	N.A.	549.00	287.00	262.00	NA	2023.0
29.300	-	20.000	230.00	N.A.	551.00	288.00	263.00	NA	2034.5
29.400	T	20.000	230.00	N.A.	553.00	289.00	264.00	NA	2046.0
29.500	T	20.000	230.00	N.A.	555.00	290.00	265.00	NA	2057.5
29.600	T	20.000	230.00	N.A.	557.00	291.00	266.00	NA	2069.0
29.700	T	20.000	230.00	N.A.	559.00	292.00	267.00	NA	2080.5
29.800	-	20.000	230.00	N.A.	561.00	293.00	268.00	NA	2092.0
29.900	T	20.000	230.00	N.A.	563.00	294.00	269.00	NA	2103.5
30.000	T	20.000	230.00	N.A.	565.00	295.00	270.00	NA	2115.0

\* Annotation:

H: Pile head location

T: Pile toe locations corresponding to different pile lengths

\* Effective horizontal stress not calculated for "Total Stress" materials and for Beta Method.

**Cross-section 1 results:**

Uniform pile with top shaft diameter = 0.35 m

**Results - Compression**

**Soil Profile 1: Soil Profile 1**

Depth	Pile length	Ultimate base capacity	Cumulative external Friction	Average Negative external Friction	Net skin friction	Net ultimate resistance



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date  
JW

350mm diameter load bearing pile design revision A

		(Q <sub>p</sub> )	(Q <sub>s</sub> )	(q <sub>s</sub> )	(Q <sub>nsf</sub> )	
[m]	[m]	[kN]	[kN]	[kN/m]	[kN]	[kN]
6.0000	6.0000	64.549	102.71	17.118	0.0	167.26
6.1000	6.1000	65.257	106.83	17.513	0.0	172.09
6.2000	6.2000	65.966	111.00	17.902	0.0	176.96
6.3000	6.3000	66.674	115.21	18.287	0.0	181.88
6.4000	6.4000	67.383	119.46	18.666	0.0	186.84
6.5000	6.5000	68.091	123.76	19.040	0.0	191.85
6.6000	6.6000	68.800	128.11	19.410	0.0	196.91
6.7000	6.7000	69.508	132.50	19.776	0.0	202.01
6.8000	6.8000	70.217	136.93	20.137	0.0	207.15
6.9000	6.9000	70.925	141.42	20.495	0.0	212.34
7.0000	7.0000	71.634	145.94	20.849	0.0	217.57
7.1000	7.1000	72.342	150.51	21.199	0.0	222.85
7.2000	7.2000	73.051	155.13	21.545	0.0	228.18
7.3000	7.3000	73.759	159.79	21.889	0.0	233.55
7.4000	7.4000	74.468	164.49	22.229	0.0	238.96
7.5000	7.5000	75.176	169.24	22.566	0.0	244.42
7.6000	7.6000	75.884	174.04	22.900	0.0	249.92
7.7000	7.7000	76.593	178.88	23.231	0.0	255.47
7.8000	7.8000	77.301	183.77	23.560	0.0	261.07
7.9000	7.9000	78.010	188.70	23.886	0.0	266.71
8.0000	8.0000	78.718	193.67	24.209	0.0	272.39
8.1000	8.1000	79.427	198.69	24.530	0.0	278.12
8.2000	8.2000	80.135	203.76	24.849	0.0	283.89
8.3000	8.3000	80.844	208.87	25.165	0.0	289.71
8.4000	8.4000	81.552	214.02	25.479	0.0	295.58
8.5000	8.5000	82.261	219.22	25.791	0.0	301.48
8.6000	8.6000	82.969	224.47	26.101	0.0	307.44
8.7000	8.7000	83.678	229.76	26.409	0.0	313.44
8.8000	8.8000	84.386	235.10	26.715	0.0	319.48
8.9000	8.9000	85.094	240.48	27.020	0.0	325.57
9.0000	9.0000	85.803	245.90	27.322	0.0	331.70
9.1000	9.1000	86.511	251.37	27.623	0.0	337.88
9.2000	9.2000	87.220	256.89	27.922	0.0	344.11
9.3000	9.3000	87.928	262.45	28.220	0.0	350.38
9.4000	9.4000	88.637	268.05	28.516	0.0	356.69
9.5000	9.5000	89.345	273.70	28.811	0.0	363.05
9.6000	9.6000	90.054	279.40	29.104	0.0	369.45
9.7000	9.7000	90.762	285.14	29.396	0.0	375.90
9.8000	9.8000	91.471	290.92	29.686	0.0	382.39
9.9000	9.9000	92.179	296.75	29.975	0.0	388.93
10.000	10.000	92.888	302.63	30.263	0.0	395.52
10.100	10.100	93.596	308.55	30.549	0.0	402.14
10.200	10.200	94.305	314.51	30.835	0.0	408.82
10.300	10.300	95.013	320.52	31.119	0.0	415.54
10.400	10.400	95.721	326.58	31.402	0.0	422.30
10.500	10.500	96.430	332.68	31.684	0.0	429.11
10.600	10.600	97.138	338.82	31.964	0.0	435.96
10.700	10.700	97.847	345.01	32.244	0.0	442.86
10.800	10.800	98.555	351.25	32.523	0.0	449.80
10.900	10.900	99.264	357.53	32.801	0.0	456.79
11.000	11.000	99.972	363.85	33.078	0.0	463.83
11.100	11.100	100.68	370.22	33.353	0.0	470.90
11.200	11.200	101.39	376.64	33.628	0.0	478.03
11.300	11.300	102.10	383.10	33.903	0.0	485.20
11.400	11.400	102.81	389.60	34.176	0.0	492.41
11.500	11.500	103.51	396.15	34.448	0.0	499.67
11.600	11.600	104.22	402.75	34.720	0.0	506.97
11.700	11.700	104.93	409.39	34.990	0.0	514.32
11.800	11.800	105.64	416.07	35.260	0.0	521.71
11.900	11.900	106.35	422.80	35.530	0.0	529.15
12.000	12.000	107.06	429.58	35.798	0.0	536.63
12.100	12.100	107.77	436.40	36.066	0.0	544.16
12.200	12.200	108.47	443.26	36.333	0.0	551.74
12.300	12.300	109.18	450.17	36.599	0.0	559.35
12.400	12.400	109.89	457.13	36.865	0.0	567.02
12.500	12.500	110.60	464.13	37.130	0.0	574.72
12.600	12.600	111.31	471.17	37.394	0.0	582.48
12.700	12.700	112.02	478.26	37.658	0.0	590.28
12.800	12.800	112.72	485.39	37.921	0.0	598.12



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date

350mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
12.900	12.900	113.43	492.57	38.184	0.0	606.01
13.000	13.000	114.14	499.80	38.446	0.0	613.94
13.100	13.100	114.85	507.07	38.708	0.0	621.92
13.200	13.200	115.56	514.38	38.968	0.0	629.94
13.300	13.300	116.27	521.74	39.229	0.0	638.01
13.400	13.400	116.98	529.15	39.489	0.0	646.12
13.500	13.500	117.68	536.60	39.748	0.0	654.28
13.600	13.600	118.39	544.09	40.007	0.0	662.48
13.700	13.700	119.10	551.63	40.265	0.0	670.73
13.800	13.800	119.81	559.21	40.523	0.0	679.02
13.900	13.900	120.52	566.84	40.780	0.0	687.36
14.000	14.000	121.23	574.52	41.037	0.0	695.74
14.100	14.100	121.93	582.24	41.293	0.0	704.17
14.200	14.200	122.64	590.00	41.549	0.0	712.65
14.300	14.300	123.35	597.81	41.805	0.0	721.16
14.400	14.400	124.06	605.67	42.060	0.0	729.73
14.500	14.500	124.77	613.57	42.315	0.0	738.33
14.600	14.600	125.48	621.51	42.569	0.0	746.99
14.700	14.700	126.19	629.50	42.823	0.0	755.68
14.800	14.800	126.89	637.53	43.077	0.0	764.43
14.900	14.900	127.60	645.61	43.330	0.0	773.21
15.000	15.000	128.31	653.74	43.582	0.0	782.05
15.100	15.100	129.02	661.91	43.835	0.0	790.93
15.200	15.200	129.73	670.12	44.087	0.0	799.85
15.300	15.300	130.44	678.38	44.339	0.0	808.82
15.400	15.400	131.14	686.68	44.590	0.0	817.83
15.500	15.500	131.85	695.03	44.841	0.0	826.89
15.600	15.600	132.56	703.43	45.091	0.0	835.99
15.700	15.700	133.27	711.87	45.342	0.0	845.14
15.800	15.800	133.98	720.35	45.592	0.0	854.33
15.900	15.900	134.69	728.88	45.841	0.0	863.57
16.000	16.000	135.40	737.45	46.091	0.0	872.85
16.100	16.100	136.10	746.07	46.340	0.0	882.18
16.200	16.200	136.81	754.74	46.589	0.0	891.55
16.300	16.300	137.52	763.45	46.837	0.0	900.97
16.400	16.400	138.23	772.20	47.085	0.0	910.43
16.500	16.500	138.94	781.00	47.333	0.0	919.94
16.600	16.600	139.65	789.84	47.581	0.0	929.49
16.700	16.700	140.35	798.73	47.828	0.0	939.09
16.800	16.800	141.06	807.66	48.075	0.0	948.73
16.900	16.900	141.77	816.64	48.322	0.0	958.42
17.000	17.000	142.48	825.67	48.569	0.0	968.15
17.100	17.100	143.19	834.74	48.815	0.0	977.92
17.200	17.200	143.90	843.85	49.061	0.0	987.75
17.300	17.300	144.61	853.01	49.307	0.0	997.61
17.400	17.400	145.31	862.21	49.552	0.0	1007.5
17.500	17.500	146.02	871.46	49.798	0.0	1017.5
17.600	17.600	146.73	880.76	50.043	0.0	1027.5
17.700	17.700	147.44	890.09	50.288	0.0	1037.5
17.800	17.800	148.15	899.48	50.532	0.0	1047.6
17.900	17.900	148.86	908.91	50.777	0.0	1057.8
18.000	18.000	149.56	918.38	51.021	0.0	1067.9
18.100	18.100	150.27	927.90	51.265	0.0	1078.2
18.200	18.200	150.98	937.46	51.509	0.0	1088.4
18.300	18.300	151.69	947.07	51.753	0.0	1098.8
18.400	18.400	152.40	956.72	51.996	0.0	1109.1
18.500	18.500	153.11	966.42	52.239	0.0	1119.5
18.600	18.600	153.82	976.17	52.482	0.0	1130.0
18.700	18.700	154.52	985.96	52.725	0.0	1140.5
18.800	18.800	155.23	995.79	52.968	0.0	1151.0
18.900	18.900	155.94	1005.7	53.210	0.0	1161.6
19.000	19.000	156.65	1015.6	53.452	0.0	1172.2
19.100	19.100	157.36	1025.6	53.694	0.0	1182.9
19.200	19.200	158.07	1035.6	53.936	0.0	1193.6
19.300	19.300	158.77	1045.6	54.178	0.0	1204.4
19.400	19.400	159.48	1055.7	54.419	0.0	1215.2
19.500	19.500	160.19	1065.9	54.661	0.0	1226.1
19.600	19.600	160.90	1076.1	54.902	0.0	1237.0
19.700	19.700	161.61	1086.3	55.143	0.0	1247.9
19.800	19.800	162.32	1096.6	55.384	0.0	1258.9
19.900	19.900	163.03	1106.9	55.624	0.0	1270.0





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date  
JW

350mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
20.000	20.000	163.73	1117.3	55.865	0.0	1281.0
20.100	20.100	164.44	1127.7	56.105	0.0	1292.2
20.200	20.200	165.15	1138.2	56.346	0.0	1303.3
20.300	20.300	165.86	1148.7	56.586	0.0	1314.5
20.400	20.400	166.57	1159.2	56.826	0.0	1325.8
20.500	20.500	167.28	1169.8	57.065	0.0	1337.1
20.600	20.600	167.98	1180.5	57.305	0.0	1348.5
20.700	20.700	168.69	1191.2	57.545	0.0	1359.9
20.800	20.800	169.40	1201.9	57.784	0.0	1371.3
20.900	20.900	170.11	1212.7	58.023	0.0	1382.8
21.000	21.000	170.82	1223.5	58.262	0.0	1394.3
21.100	21.100	171.53	1234.4	58.501	0.0	1405.9
21.200	21.200	172.24	1245.3	58.740	0.0	1417.5
21.300	21.300	172.94	1256.2	58.979	0.0	1429.2
21.400	21.400	173.65	1267.2	59.217	0.0	1440.9
21.500	21.500	174.36	1278.3	59.456	0.0	1452.7
21.600	21.600	175.07	1289.4	59.694	0.0	1464.5
21.700	21.700	175.78	1300.5	59.932	0.0	1476.3
21.800	21.800	176.49	1311.7	60.170	0.0	1488.2
21.900	21.900	177.19	1322.9	60.408	0.0	1500.1
22.000	22.000	177.90	1334.2	60.646	0.0	1512.1
22.100	22.100	178.61	1345.5	60.884	0.0	1524.1
22.200	22.200	179.32	1356.9	61.121	0.0	1536.2
22.300	22.300	180.03	1368.3	61.359	0.0	1548.3
22.400	22.400	180.74	1379.8	61.596	0.0	1560.5
22.500	22.500	181.45	1391.3	61.833	0.0	1572.7
22.600	22.600	182.15	1402.8	62.071	0.0	1584.9
22.700	22.700	182.86	1414.4	62.308	0.0	1597.2
22.800	22.800	183.57	1426.0	62.545	0.0	1609.6
22.900	22.900	184.28	1437.7	62.781	0.0	1622.0
23.000	23.000	184.99	1449.4	63.018	0.0	1634.4
23.100	23.100	185.70	1461.2	63.255	0.0	1646.9
23.200	23.200	186.40	1473.0	63.491	0.0	1659.4
23.300	23.300	187.11	1484.9	63.728	0.0	1672.0
23.400	23.400	187.82	1496.8	63.964	0.0	1684.6
23.500	23.500	188.53	1508.7	64.200	0.0	1697.2
23.600	23.600	189.24	1520.7	64.436	0.0	1709.9
23.700	23.700	189.95	1532.7	64.672	0.0	1722.7
23.800	23.800	190.66	1544.8	64.908	0.0	1735.5
23.900	23.900	191.36	1556.9	65.144	0.0	1748.3
24.000	24.000	192.07	1569.1	65.380	0.0	1761.2
24.100	24.100	192.78	1581.3	65.616	0.0	1774.1
24.200	24.200	193.49	1593.6	65.851	0.0	1787.1
24.300	24.300	194.20	1605.9	66.087	0.0	1800.1
24.400	24.400	194.91	1618.3	66.322	0.0	1813.2
24.500	24.500	195.62	1630.7	66.557	0.0	1826.3
24.600	24.600	196.32	1643.1	66.793	0.0	1839.4
24.700	24.700	197.03	1655.6	67.028	0.0	1852.6
24.800	24.800	197.74	1668.1	67.263	0.0	1865.9
24.900	24.900	198.45	1680.7	67.498	0.0	1879.1
25.000	25.000	199.16	1693.3	67.733	0.0	1892.5
25.000	25.000	199.16	1693.3	67.733	0.0	1892.5
25.100	25.100	199.16	1706.0	67.967	0.0	1905.1
25.200	25.200	199.16	1718.6	68.199	0.0	1917.8
25.300	25.300	199.16	1731.3	68.429	0.0	1930.4
25.400	25.400	199.16	1743.9	68.657	0.0	1943.1
25.500	25.500	199.16	1756.5	68.884	0.0	1955.7
25.600	25.600	199.16	1769.2	69.109	0.0	1968.3
25.700	25.700	199.16	1781.8	69.332	0.0	1981.0
25.800	25.800	199.16	1794.5	69.553	0.0	1993.6
25.900	25.900	199.16	1807.1	69.773	0.0	2006.3
26.000	26.000	199.16	1819.8	69.991	0.0	2018.9
26.100	26.100	199.16	1832.4	70.207	0.0	2031.6
26.200	26.200	199.16	1845.1	70.422	0.0	2044.2
26.300	26.300	199.16	1857.7	70.635	0.0	2056.9
26.400	26.400	199.16	1870.3	70.846	0.0	2069.5
26.500	26.500	199.16	1883.0	71.056	0.0	2082.1
26.600	26.600	199.16	1895.6	71.265	0.0	2094.8
26.700	26.700	199.16	1908.3	71.471	0.0	2107.4
26.800	26.800	199.16	1920.9	71.676	0.0	2120.1
26.900	26.900	199.16	1933.6	71.880	0.0	2132.7



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

350mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
27.000	27.000	199.16	1946.2	72.082	0.0	2145.4
27.100	27.100	199.16	1958.9	72.283	0.0	2158.0
27.200	27.200	199.16	1971.5	72.482	0.0	2170.7
27.300	27.300	199.16	1984.2	72.680	0.0	2183.3
27.400	27.400	199.16	1996.8	72.876	0.0	2196.0
27.500	27.500	199.16	2009.4	73.071	0.0	2208.6
27.600	27.600	199.16	2022.1	73.264	0.0	2221.2
27.700	27.700	199.16	2034.7	73.456	0.0	2233.9
27.800	27.800	199.16	2047.4	73.647	0.0	2246.5
27.900	27.900	199.16	2060.0	73.836	0.0	2259.2
28.000	28.000	199.16	2072.7	74.024	0.0	2271.8
28.100	28.100	199.16	2085.3	74.210	0.0	2284.5
28.200	28.200	199.16	2098.0	74.396	0.0	2297.1
28.300	28.300	199.16	2110.6	74.580	0.0	2309.8
28.400	28.400	199.16	2123.2	74.762	0.0	2322.4
28.500	28.500	199.16	2135.9	74.944	0.0	2335.0
28.600	28.600	199.16	2148.5	75.124	0.0	2347.7
28.700	28.700	199.16	2161.2	75.302	0.0	2360.3
28.800	28.800	199.16	2173.8	75.480	0.0	2373.0
28.900	28.900	199.16	2186.5	75.656	0.0	2385.6
29.000	29.000	199.16	2199.1	75.832	0.0	2398.3
29.100	29.100	199.16	2211.8	76.006	0.0	2410.9
29.200	29.200	199.16	2224.4	76.178	0.0	2423.6
29.300	29.300	199.16	2237.1	76.350	0.0	2436.2
29.400	29.400	199.16	2249.7	76.520	0.0	2448.9
29.500	29.500	199.16	2262.3	76.690	0.0	2461.5
29.600	29.600	199.16	2275.0	76.858	0.0	2474.1
29.700	29.700	199.16	2287.6	77.025	0.0	2486.8
29.800	29.800	199.16	2300.3	77.190	0.0	2499.4
29.900	29.900	199.16	2312.9	77.355	0.0	2512.1
30.000	30.000	199.16	2325.6	77.519	0.0	2524.7

Depth [m]	Pile length [m]	Design resistance [kN]			Combination with least resistance #	Factored load* [kN]		
		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]
6.0000	6.0000	119.47	68.905	102.71	2	0.0 (C)	0.0 (C)	0.0 (C)
6.1000	6.1000	122.92	70.998	106.83	2	0.0 (C)	0.0 (C)	0.0 (C)
6.2000	6.2000	126.40	73.111	111.00	2	0.0 (C)	0.0 (C)	0.0 (C)
6.3000	6.3000	129.91	75.244	115.21	2	0.0 (C)	0.0 (C)	0.0 (C)
6.4000	6.4000	133.46	77.397	119.46	2	0.0 (C)	0.0 (C)	0.0 (C)
6.5000	6.5000	137.04	79.570	123.76	2	0.0 (C)	0.0 (C)	0.0 (C)
6.6000	6.6000	140.65	81.763	128.11	2	0.0 (C)	0.0 (C)	0.0 (C)
6.7000	6.7000	144.29	83.976	132.50	2	0.0 (C)	0.0 (C)	0.0 (C)
6.8000	6.8000	147.97	86.209	136.93	2	0.0 (C)	0.0 (C)	0.0 (C)
6.9000	6.9000	151.67	88.462	141.42	2	0.0 (C)	0.0 (C)	0.0 (C)
7.0000	7.0000	155.41	90.736	145.94	2	0.0 (C)	0.0 (C)	0.0 (C)
7.1000	7.1000	159.18	93.029	150.51	2	0.0 (C)	0.0 (C)	0.0 (C)
7.2000	7.2000	162.98	95.343	155.13	2	0.0 (C)	0.0 (C)	0.0 (C)
7.3000	7.3000	166.82	97.677	159.79	2	0.0 (C)	0.0 (C)	0.0 (C)
7.4000	7.4000	170.69	100.03	164.49	2	0.0 (C)	0.0 (C)	0.0 (C)
7.5000	7.5000	174.59	102.40	169.24	2	0.0 (C)	0.0 (C)	0.0 (C)
7.6000	7.6000	178.52	104.80	174.04	2	0.0 (C)	0.0 (C)	0.0 (C)
7.7000	7.7000	182.48	107.21	178.88	2	0.0 (C)	0.0 (C)	0.0 (C)
7.8000	7.8000	186.48	109.65	183.77	2	0.0 (C)	0.0 (C)	0.0 (C)
7.9000	7.9000	190.50	112.10	188.70	2	0.0 (C)	0.0 (C)	0.0 (C)
8.0000	8.0000	194.56	114.57	193.67	2	0.0 (C)	0.0 (C)	0.0 (C)
8.1000	8.1000	198.66	117.07	198.69	2	0.0 (C)	0.0 (C)	0.0 (C)
8.2000	8.2000	202.78	119.58	203.76	2	0.0 (C)	0.0 (C)	0.0 (C)
8.3000	8.3000	206.94	122.12	208.87	2	0.0 (C)	0.0 (C)	0.0 (C)
8.4000	8.4000	211.13	124.67	214.02	2	0.0 (C)	0.0 (C)	0.0 (C)
8.5000	8.5000	215.35	127.25	219.22	2	0.0 (C)	0.0 (C)	0.0 (C)
8.6000	8.6000	219.60	129.84	224.47	2	0.0 (C)	0.0 (C)	0.0 (C)
8.7000	8.7000	223.88	132.46	229.76	2	0.0 (C)	0.0 (C)	0.0 (C)
8.8000	8.8000	228.20	135.09	235.10	2	0.0 (C)	0.0 (C)	0.0 (C)
8.9000	8.9000	232.55	137.75	240.48	2	0.0 (C)	0.0 (C)	0.0 (C)
9.0000	9.0000	236.93	140.42	245.90	2	0.0 (C)	0.0 (C)	0.0 (C)
9.1000	9.1000	241.34	143.12	251.37	2	0.0 (C)	0.0 (C)	0.0 (C)
9.2000	9.2000	245.79	145.83	256.89	2	0.0 (C)	0.0 (C)	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

350mm diameter load bearing pile design revision A

Made by Date Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
9.3000	9.3000	250.27	148.57 262.45	2 0.0 (C) 0.0 (C) 0.0 (C)
9.4000	9.4000	254.78	151.32 268.05	2 0.0 (C) 0.0 (C) 0.0 (C)
9.5000	9.5000	259.32	154.10 273.70	2 0.0 (C) 0.0 (C) 0.0 (C)
9.6000	9.6000	263.89	156.89 279.40	2 0.0 (C) 0.0 (C) 0.0 (C)
9.7000	9.7000	268.50	159.71 285.14	2 0.0 (C) 0.0 (C) 0.0 (C)
9.8000	9.8000	273.14	162.54 290.92	2 0.0 (C) 0.0 (C) 0.0 (C)
9.9000	9.9000	277.81	165.40 296.75	2 0.0 (C) 0.0 (C) 0.0 (C)
10.0000	10.0000	282.51	168.28 302.63	2 0.0 (C) 0.0 (C) 0.0 (C)
10.1000	10.1000	287.25	171.17 308.55	2 0.0 (C) 0.0 (C) 0.0 (C)
10.2000	10.2000	292.01	174.09 314.51	2 0.0 (C) 0.0 (C) 0.0 (C)
10.3000	10.3000	296.81	177.02 320.52	2 0.0 (C) 0.0 (C) 0.0 (C)
10.4000	10.4000	301.64	179.98 326.58	2 0.0 (C) 0.0 (C) 0.0 (C)
10.5000	10.5000	306.51	182.96 332.68	2 0.0 (C) 0.0 (C) 0.0 (C)
10.6000	10.6000	311.40	185.95 338.82	2 0.0 (C) 0.0 (C) 0.0 (C)
10.7000	10.7000	316.33	188.97 345.01	2 0.0 (C) 0.0 (C) 0.0 (C)
10.8000	10.8000	321.29	192.01 351.25	2 0.0 (C) 0.0 (C) 0.0 (C)
10.9000	10.9000	326.28	195.06 357.53	2 0.0 (C) 0.0 (C) 0.0 (C)
11.0000	11.0000	331.30	198.14 363.85	2 0.0 (C) 0.0 (C) 0.0 (C)
11.1000	11.1000	336.36	201.24 370.22	2 0.0 (C) 0.0 (C) 0.0 (C)
11.2000	11.2000	341.45	204.35 376.64	2 0.0 (C) 0.0 (C) 0.0 (C)
11.3000	11.3000	346.57	207.49 383.10	2 0.0 (C) 0.0 (C) 0.0 (C)
11.4000	11.4000	351.72	210.65 389.60	2 0.0 (C) 0.0 (C) 0.0 (C)
11.5000	11.5000	356.91	213.82 396.15	2 0.0 (C) 0.0 (C) 0.0 (C)
11.6000	11.6000	362.12	217.02 402.75	2 0.0 (C) 0.0 (C) 0.0 (C)
11.7000	11.7000	367.37	220.24 409.39	2 0.0 (C) 0.0 (C) 0.0 (C)
11.8000	11.8000	372.65	223.48 416.07	2 0.0 (C) 0.0 (C) 0.0 (C)
11.9000	11.9000	377.96	226.73 422.80	2 0.0 (C) 0.0 (C) 0.0 (C)
12.0000	12.0000	383.31	230.01 429.58	2 0.0 (C) 0.0 (C) 0.0 (C)
12.1000	12.1000	388.69	233.31 436.40	2 0.0 (C) 0.0 (C) 0.0 (C)
12.2000	12.2000	394.10	236.63 443.26	2 0.0 (C) 0.0 (C) 0.0 (C)
12.3000	12.3000	399.54	239.96 450.17	2 0.0 (C) 0.0 (C) 0.0 (C)
12.4000	12.4000	405.01	243.32 457.13	2 0.0 (C) 0.0 (C) 0.0 (C)
12.5000	12.5000	410.52	246.70 464.13	2 0.0 (C) 0.0 (C) 0.0 (C)
12.6000	12.6000	416.06	250.10 471.17	2 0.0 (C) 0.0 (C) 0.0 (C)
12.7000	12.7000	421.63	253.51 478.26	2 0.0 (C) 0.0 (C) 0.0 (C)
12.8000	12.8000	427.23	256.95 485.39	2 0.0 (C) 0.0 (C) 0.0 (C)
12.9000	12.9000	432.86	260.41 492.57	2 0.0 (C) 0.0 (C) 0.0 (C)
13.0000	13.0000	438.53	263.89 499.80	2 0.0 (C) 0.0 (C) 0.0 (C)
13.1000	13.1000	444.23	267.39 507.07	2 0.0 (C) 0.0 (C) 0.0 (C)
13.2000	13.2000	449.96	270.91 514.38	2 0.0 (C) 0.0 (C) 0.0 (C)
13.3000	13.3000	455.72	274.44 521.74	2 0.0 (C) 0.0 (C) 0.0 (C)
13.4000	13.4000	461.52	278.00 529.15	2 0.0 (C) 0.0 (C) 0.0 (C)
13.5000	13.5000	467.34	281.58 536.60	2 0.0 (C) 0.0 (C) 0.0 (C)
13.6000	13.6000	473.20	285.18 544.09	2 0.0 (C) 0.0 (C) 0.0 (C)
13.7000	13.7000	479.09	288.80 551.63	2 0.0 (C) 0.0 (C) 0.0 (C)
13.8000	13.8000	485.02	292.44 559.21	2 0.0 (C) 0.0 (C) 0.0 (C)
13.9000	13.9000	490.97	296.10 566.84	2 0.0 (C) 0.0 (C) 0.0 (C)
14.0000	14.0000	496.96	299.78 574.52	2 0.0 (C) 0.0 (C) 0.0 (C)
14.1000	14.1000	502.98	303.48 582.24	2 0.0 (C) 0.0 (C) 0.0 (C)
14.2000	14.2000	509.03	307.20 590.00	2 0.0 (C) 0.0 (C) 0.0 (C)
14.3000	14.3000	515.12	310.93 597.81	2 0.0 (C) 0.0 (C) 0.0 (C)
14.4000	14.4000	521.23	314.69 605.67	2 0.0 (C) 0.0 (C) 0.0 (C)
14.5000	14.5000	527.38	318.47 613.57	2 0.0 (C) 0.0 (C) 0.0 (C)
14.6000	14.6000	533.56	322.27 621.51	2 0.0 (C) 0.0 (C) 0.0 (C)
14.7000	14.7000	539.77	326.09 629.50	2 0.0 (C) 0.0 (C) 0.0 (C)
14.8000	14.8000	546.02	329.93 637.53	2 0.0 (C) 0.0 (C) 0.0 (C)
14.9000	14.9000	552.30	333.79 645.61	2 0.0 (C) 0.0 (C) 0.0 (C)
15.0000	15.0000	558.61	337.67 653.74	2 0.0 (C) 0.0 (C) 0.0 (C)
15.1000	15.1000	564.95	341.57 661.91	2 0.0 (C) 0.0 (C) 0.0 (C)
15.2000	15.2000	571.32	345.49 670.12	2 0.0 (C) 0.0 (C) 0.0 (C)
15.3000	15.3000	577.73	349.43 678.38	2 0.0 (C) 0.0 (C) 0.0 (C)
15.4000	15.4000	584.16	353.39 686.68	2 0.0 (C) 0.0 (C) 0.0 (C)
15.5000	15.5000	590.63	357.37 695.03	2 0.0 (C) 0.0 (C) 0.0 (C)
15.6000	15.6000	597.13	361.37 703.43	2 0.0 (C) 0.0 (C) 0.0 (C)
15.7000	15.7000	603.67	365.39 711.87	2 0.0 (C) 0.0 (C) 0.0 (C)
15.8000	15.8000	610.23	369.43 720.35	2 0.0 (C) 0.0 (C) 0.0 (C)
15.9000	15.9000	616.83	373.49 728.88	2 0.0 (C) 0.0 (C) 0.0 (C)
16.0000	16.0000	623.46	377.58 737.45	2 0.0 (C) 0.0 (C) 0.0 (C)
16.1000	16.1000	630.13	381.68 746.07	2 0.0 (C) 0.0 (C) 0.0 (C)
16.2000	16.2000	636.82	385.80 754.74	2 0.0 (C) 0.0 (C) 0.0 (C)
16.3000	16.3000	643.55	389.94 763.45	2 0.0 (C) 0.0 (C) 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

350mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design	resistance	Combination with least resistance	Factored load*
				#	
16.400	16.400	650.31	394.10	772.20	2 0.0 (C) 0.0 (C) 0.0 (C)
16.500	16.500	657.10	398.28	781.00	2 0.0 (C) 0.0 (C) 0.0 (C)
16.600	16.600	663.92	402.48	789.84	2 0.0 (C) 0.0 (C) 0.0 (C)
16.700	16.700	670.78	406.70	798.73	2 0.0 (C) 0.0 (C) 0.0 (C)
16.800	16.800	677.66	410.94	807.66	2 0.0 (C) 0.0 (C) 0.0 (C)
16.900	16.900	684.58	415.21	816.64	2 0.0 (C) 0.0 (C) 0.0 (C)
17.000	17.000	691.53	419.49	825.67	2 0.0 (C) 0.0 (C) 0.0 (C)
17.100	17.100	698.52	423.79	834.74	2 0.0 (C) 0.0 (C) 0.0 (C)
17.200	17.200	705.53	428.11	843.85	2 0.0 (C) 0.0 (C) 0.0 (C)
17.300	17.300	712.58	432.45	853.01	2 0.0 (C) 0.0 (C) 0.0 (C)
17.400	17.400	719.66	436.81	862.21	2 0.0 (C) 0.0 (C) 0.0 (C)
17.500	17.500	726.77	441.20	871.46	2 0.0 (C) 0.0 (C) 0.0 (C)
17.600	17.600	733.92	445.60	880.76	2 0.0 (C) 0.0 (C) 0.0 (C)
17.700	17.700	741.10	450.02	890.09	2 0.0 (C) 0.0 (C) 0.0 (C)
17.800	17.800	748.30	454.46	899.48	2 0.0 (C) 0.0 (C) 0.0 (C)
17.900	17.900	755.55	458.92	908.91	2 0.0 (C) 0.0 (C) 0.0 (C)
18.000	18.000	762.82	463.41	918.38	2 0.0 (C) 0.0 (C) 0.0 (C)
18.100	18.100	770.12	467.91	927.90	2 0.0 (C) 0.0 (C) 0.0 (C)
18.200	18.200	777.46	472.43	937.46	2 0.0 (C) 0.0 (C) 0.0 (C)
18.300	18.300	784.83	476.97	947.07	2 0.0 (C) 0.0 (C) 0.0 (C)
18.400	18.400	792.23	481.54	956.73	2 0.0 (C) 0.0 (C) 0.0 (C)
18.500	18.500	799.66	486.12	966.42	2 0.0 (C) 0.0 (C) 0.0 (C)
18.600	18.600	807.13	490.72	976.17	2 0.0 (C) 0.0 (C) 0.0 (C)
18.700	18.700	814.63	495.35	985.96	2 0.0 (C) 0.0 (C) 0.0 (C)
18.800	18.800	822.16	499.99	995.79	2 0.0 (C) 0.0 (C) 0.0 (C)
18.900	18.900	829.72	504.65	1005.7	2 0.0 (C) 0.0 (C) 0.0 (C)
19.000	19.000	837.31	509.34	1015.6	2 0.0 (C) 0.0 (C) 0.0 (C)
19.100	19.100	844.94	514.04	1025.6	2 0.0 (C) 0.0 (C) 0.0 (C)
19.200	19.200	852.60	518.76	1035.6	2 0.0 (C) 0.0 (C) 0.0 (C)
19.300	19.300	860.29	523.51	1045.6	2 0.0 (C) 0.0 (C) 0.0 (C)
19.400	19.400	868.01	528.27	1055.7	2 0.0 (C) 0.0 (C) 0.0 (C)
19.500	19.500	875.77	533.05	1065.9	2 0.0 (C) 0.0 (C) 0.0 (C)
19.600	19.600	883.56	537.86	1076.1	2 0.0 (C) 0.0 (C) 0.0 (C)
19.700	19.700	891.37	542.68	1086.3	2 0.0 (C) 0.0 (C) 0.0 (C)
19.800	19.800	899.23	547.52	1096.6	2 0.0 (C) 0.0 (C) 0.0 (C)
19.900	19.900	907.11	552.39	1106.9	2 0.0 (C) 0.0 (C) 0.0 (C)
20.000	20.000	915.02	557.27	1117.3	2 0.0 (C) 0.0 (C) 0.0 (C)
20.100	20.100	922.97	562.18	1127.7	2 0.0 (C) 0.0 (C) 0.0 (C)
20.200	20.200	930.95	567.10	1138.2	2 0.0 (C) 0.0 (C) 0.0 (C)
20.300	20.300	938.96	572.04	1148.7	2 0.0 (C) 0.0 (C) 0.0 (C)
20.400	20.400	947.01	577.01	1159.2	2 0.0 (C) 0.0 (C) 0.0 (C)
20.500	20.500	955.08	581.99	1169.8	2 0.0 (C) 0.0 (C) 0.0 (C)
20.600	20.600	963.19	587.00	1180.5	2 0.0 (C) 0.0 (C) 0.0 (C)
20.700	20.700	971.33	592.02	1191.2	2 0.0 (C) 0.0 (C) 0.0 (C)
20.800	20.800	979.51	597.07	1201.9	2 0.0 (C) 0.0 (C) 0.0 (C)
20.900	20.900	987.71	602.13	1212.7	2 0.0 (C) 0.0 (C) 0.0 (C)
21.000	21.000	995.95	607.22	1223.5	2 0.0 (C) 0.0 (C) 0.0 (C)
21.100	21.100	1004.2	612.32	1234.4	2 0.0 (C) 0.0 (C) 0.0 (C)
21.200	21.200	1012.5	617.45	1245.3	2 0.0 (C) 0.0 (C) 0.0 (C)
21.300	21.300	1020.9	622.59	1256.2	2 0.0 (C) 0.0 (C) 0.0 (C)
21.400	21.400	1029.2	627.76	1267.3	2 0.0 (C) 0.0 (C) 0.0 (C)
21.500	21.500	1037.6	632.94	1278.3	2 0.0 (C) 0.0 (C) 0.0 (C)
21.600	21.600	1046.0	638.15	1289.4	2 0.0 (C) 0.0 (C) 0.0 (C)
21.700	21.700	1054.5	643.37	1300.5	2 0.0 (C) 0.0 (C) 0.0 (C)
21.800	21.800	1063.0	648.62	1311.7	2 0.0 (C) 0.0 (C) 0.0 (C)
21.900	21.900	1071.5	653.88	1322.9	2 0.0 (C) 0.0 (C) 0.0 (C)
22.000	22.000	1080.1	659.17	1334.2	2 0.0 (C) 0.0 (C) 0.0 (C)
22.100	22.100	1088.7	664.47	1345.5	2 0.0 (C) 0.0 (C) 0.0 (C)
22.200	22.200	1097.3	669.80	1356.9	2 0.0 (C) 0.0 (C) 0.0 (C)
22.300	22.300	1106.0	675.15	1368.3	2 0.0 (C) 0.0 (C) 0.0 (C)
22.400	22.400	1114.6	680.51	1379.8	2 0.0 (C) 0.0 (C) 0.0 (C)
22.500	22.500	1123.4	685.90	1391.3	2 0.0 (C) 0.0 (C) 0.0 (C)
22.600	22.600	1132.1	691.30	1402.8	2 0.0 (C) 0.0 (C) 0.0 (C)
22.700	22.700	1140.9	696.73	1414.4	2 0.0 (C) 0.0 (C) 0.0 (C)
22.800	22.800	1149.7	702.18	1426.0	2 0.0 (C) 0.0 (C) 0.0 (C)
22.900	22.900	1158.6	707.64	1437.7	2 0.0 (C) 0.0 (C) 0.0 (C)
23.000	23.000	1167.4	713.13	1449.4	2 0.0 (C) 0.0 (C) 0.0 (C)
23.100	23.100	1176.3	718.63	1461.2	2 0.0 (C) 0.0 (C) 0.0 (C)
23.200	23.200	1185.3	724.16	1473.0	2 0.0 (C) 0.0 (C) 0.0 (C)
23.300	23.300	1194.3	729.71	1484.9	2 0.0 (C) 0.0 (C) 0.0 (C)
23.400	23.400	1203.3	735.27	1496.8	2 0.0 (C) 0.0 (C) 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

350mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
23.500	23.500	1212.3	740.86	1508.7
23.600	23.600	1221.4	746.47	1520.7
23.700	23.700	1230.5	752.10	1532.7
23.800	23.800	1239.6	757.74	1544.8
23.900	23.900	1248.8	763.41	1556.9
24.000	24.000	1258.0	769.10	1569.1
24.100	24.100	1267.2	774.80	1581.3
24.200	24.200	1276.5	780.53	1593.6
24.300	24.300	1285.8	786.28	1605.9
24.400	24.400	1295.1	792.05	1618.3
24.500	24.500	1304.5	797.83	1630.7
24.600	24.600	1313.9	803.64	1643.1
24.700	24.700	1323.3	809.47	1655.6
24.800	24.800	1332.8	815.32	1668.1
24.900	24.900	1342.2	821.19	1680.7
25.000	25.000	1351.8	827.07	1693.3
25.000	25.000	1351.8	827.07	1693.3
25.100	25.100	1360.8	832.72	1706.0
25.200	25.200	1369.8	838.36	1718.6
25.300	25.300	1378.9	844.01	1731.3
25.400	25.400	1387.9	849.65	1743.9
25.500	25.500	1396.9	855.30	1756.5
25.600	25.600	1406.0	860.94	1769.2
25.700	25.700	1415.0	866.59	1781.8
25.800	25.800	1424.0	872.23	1794.5
25.900	25.900	1433.1	877.88	1807.1
26.000	26.000	1442.1	883.52	1819.8
26.100	26.100	1451.1	889.17	1832.4
26.200	26.200	1460.2	894.81	1845.1
26.300	26.300	1469.2	900.46	1857.7
26.400	26.400	1478.2	906.10	1870.3
26.500	26.500	1487.2	911.75	1883.0
26.600	26.600	1496.3	917.39	1895.6
26.700	26.700	1505.3	923.04	1908.3
26.800	26.800	1514.3	928.68	1920.9
26.900	26.900	1523.4	934.33	1933.6
27.000	27.000	1532.4	939.97	1946.2
27.100	27.100	1541.4	945.62	1958.9
27.200	27.200	1550.5	951.26	1971.5
27.300	27.300	1559.5	956.91	1984.2
27.400	27.400	1568.5	962.55	1996.8
27.500	27.500	1577.6	968.20	2009.4
27.600	27.600	1586.6	973.84	2022.1
27.700	27.700	1595.6	979.49	2034.7
27.800	27.800	1604.7	985.13	2047.4
27.900	27.900	1613.7	990.78	2060.0
28.000	28.000	1622.7	996.42	2072.7
28.100	28.100	1631.8	1002.1	2085.3
28.200	28.200	1640.8	1007.7	2098.0
28.300	28.300	1649.8	1013.4	2110.6
28.400	28.400	1658.9	1019.0	2123.2
28.500	28.500	1667.9	1024.7	2135.9
28.600	28.600	1676.9	1030.3	2148.5
28.700	28.700	1686.0	1035.9	2161.2
28.800	28.800	1695.0	1041.6	2173.8
28.900	28.900	1704.0	1047.2	2186.5
29.000	29.000	1713.1	1052.9	2199.1
29.100	29.100	1722.1	1058.5	2211.8
29.200	29.200	1731.1	1064.2	2224.4
29.300	29.300	1740.1	1069.8	2237.0
29.400	29.400	1749.2	1075.5	2249.7
29.500	29.500	1758.2	1081.1	2262.3
29.600	29.600	1767.2	1086.7	2275.0
29.700	29.700	1776.3	1092.4	2287.6
29.800	29.800	1785.3	1098.0	2300.3
29.900	29.900	1794.3	1103.7	2312.9
30.000	30.000	1803.4	1109.3	2325.6

# Limiting criteria :  
1 : DA1 C1  
2 : DA1 C2



Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
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3 : BS8004:2015 SLS

\*(C)-> Compression load, (T)-> Tension load

Note: Design resistance does not include any consideration of negative skin friction.

## Nq Calculation Details

### Soil Profile 1: Soil Profile 1 - Material Factor Set - 1

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

### Soil Profile 1: Soil Profile 1 - Material Factor Set - 2

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

## Results - Tension

### Soil Profile 1: Soil Profile 1

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
[m]	[m]	[kN]	[kN/m]	[kN]
6.0000	6.0000	102.71	17.118	102.71
6.1000	6.1000	106.83	17.513	106.83
6.2000	6.2000	111.00	17.902	111.00
6.3000	6.3000	115.21	18.287	115.21
6.4000	6.4000	119.46	18.666	119.46
6.5000	6.5000	123.76	19.040	123.76
6.6000	6.6000	128.11	19.410	128.11
6.7000	6.7000	132.50	19.776	132.50
6.8000	6.8000	136.93	20.137	136.93
6.9000	6.9000	141.42	20.495	141.42
7.0000	7.0000	145.94	20.849	145.94
7.1000	7.1000	150.51	21.199	150.51
7.2000	7.2000	155.13	21.545	155.13
7.3000	7.3000	159.79	21.889	159.79
7.4000	7.4000	164.49	22.229	164.49
7.5000	7.5000	169.24	22.566	169.24
7.6000	7.6000	174.04	22.900	174.04
7.7000	7.7000	178.88	23.231	178.88
7.8000	7.8000	183.77	23.560	183.77
7.9000	7.9000	188.70	23.886	188.70
8.0000	8.0000	193.67	24.209	193.67
8.1000	8.1000	198.69	24.530	198.69
8.2000	8.2000	203.76	24.849	203.76
8.3000	8.3000	208.87	25.165	208.87
8.4000	8.4000	214.02	25.479	214.02
8.5000	8.5000	219.22	25.791	219.22
8.6000	8.6000	224.47	26.101	224.47
8.7000	8.7000	229.76	26.409	229.76
8.8000	8.8000	235.10	26.715	235.10
8.9000	8.9000	240.48	27.020	240.48
9.0000	9.0000	245.90	27.322	245.90
9.1000	9.1000	251.37	27.623	251.37
9.2000	9.2000	256.89	27.922	256.89
9.3000	9.3000	262.45	28.220	262.45
9.4000	9.4000	268.05	28.516	268.05
9.5000	9.5000	273.70	28.811	273.70
9.6000	9.6000	279.40	29.104	279.40
9.7000	9.7000	285.14	29.396	285.14
9.8000	9.8000	290.92	29.686	290.92
9.9000	9.9000	296.75	29.975	296.75
10.000	10.000	302.63	30.263	302.63
10.100	10.100	308.55	30.549	308.55
10.200	10.200	314.51	30.835	314.51
10.300	10.300	320.52	31.119	320.52



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

350mm diameter load bearing pile design revision A

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
10.400	10.400	326.58	31.402	326.58
10.500	10.500	332.68	31.684	332.68
10.600	10.600	338.82	31.964	338.82
10.700	10.700	345.01	32.244	345.01
10.800	10.800	351.25	32.523	351.25
10.900	10.900	357.53	32.801	357.53
11.000	11.000	363.85	33.078	363.85
11.100	11.100	370.22	33.353	370.22
11.200	11.200	376.64	33.628	376.64
11.300	11.300	383.10	33.903	383.10
11.400	11.400	389.60	34.176	389.60
11.500	11.500	396.15	34.448	396.15
11.600	11.600	402.75	34.720	402.75
11.700	11.700	409.39	34.990	409.39
11.800	11.800	416.07	35.260	416.07
11.900	11.900	422.80	35.530	422.80
12.000	12.000	429.58	35.798	429.58
12.100	12.100	436.40	36.066	436.40
12.200	12.200	443.26	36.333	443.26
12.300	12.300	450.17	36.599	450.17
12.400	12.400	457.13	36.865	457.13
12.500	12.500	464.13	37.130	464.13
12.600	12.600	471.17	37.394	471.17
12.700	12.700	478.26	37.658	478.26
12.800	12.800	485.39	37.921	485.39
12.900	12.900	492.57	38.184	492.57
13.000	13.000	499.80	38.446	499.80
13.100	13.100	507.07	38.708	507.07
13.200	13.200	514.38	38.968	514.38
13.300	13.300	521.74	39.229	521.74
13.400	13.400	529.15	39.489	529.15
13.500	13.500	536.60	39.748	536.60
13.600	13.600	544.09	40.007	544.09
13.700	13.700	551.63	40.265	551.63
13.800	13.800	559.21	40.523	559.21
13.900	13.900	566.84	40.780	566.84
14.000	14.000	574.52	41.037	574.52
14.100	14.100	582.24	41.293	582.24
14.200	14.200	590.00	41.549	590.00
14.300	14.300	597.81	41.805	597.81
14.400	14.400	605.67	42.060	605.67
14.500	14.500	613.57	42.315	613.57
14.600	14.600	621.51	42.569	621.51
14.700	14.700	629.50	42.823	629.50
14.800	14.800	637.53	43.077	637.53
14.900	14.900	645.61	43.330	645.61
15.000	15.000	653.74	43.582	653.74
15.100	15.100	661.91	43.835	661.91
15.200	15.200	670.12	44.087	670.12
15.300	15.300	678.38	44.339	678.38
15.400	15.400	686.68	44.590	686.68
15.500	15.500	695.03	44.841	695.03
15.600	15.600	703.43	45.091	703.43
15.700	15.700	711.87	45.342	711.87
15.800	15.800	720.35	45.592	720.35
15.900	15.900	728.88	45.841	728.88
16.000	16.000	737.45	46.091	737.45
16.100	16.100	746.07	46.340	746.07
16.200	16.200	754.74	46.589	754.74
16.300	16.300	763.45	46.837	763.45
16.400	16.400	772.20	47.085	772.20
16.500	16.500	781.00	47.333	781.00
16.600	16.600	789.84	47.581	789.84
16.700	16.700	798.73	47.828	798.73
16.800	16.800	807.66	48.075	807.66
16.900	16.900	816.64	48.322	816.64
17.000	17.000	825.67	48.569	825.67
17.100	17.100	834.74	48.815	834.74
17.200	17.200	843.85	49.061	843.85
17.300	17.300	853.01	49.307	853.01
17.400	17.400	862.21	49.552	862.21



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

350mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
17.500	17.500	871.46	49.798	871.46
17.600	17.600	880.76	50.043	880.76
17.700	17.700	890.09	50.288	890.09
17.800	17.800	899.48	50.532	899.48
17.900	17.900	908.91	50.777	908.91
18.000	18.000	918.38	51.021	918.38
18.100	18.100	927.90	51.265	927.90
18.200	18.200	937.46	51.509	937.46
18.300	18.300	947.07	51.753	947.07
18.400	18.400	956.72	51.996	956.72
18.500	18.500	966.42	52.239	966.42
18.600	18.600	976.17	52.482	976.17
18.700	18.700	985.96	52.725	985.96
18.800	18.800	995.79	52.968	995.79
18.900	18.900	1005.7	53.210	1005.7
19.000	19.000	1015.6	53.452	1015.6
19.100	19.100	1025.6	53.694	1025.6
19.200	19.200	1035.6	53.936	1035.6
19.300	19.300	1045.6	54.178	1045.6
19.400	19.400	1055.7	54.419	1055.7
19.500	19.500	1065.9	54.661	1065.9
19.600	19.600	1076.1	54.902	1076.1
19.700	19.700	1086.3	55.143	1086.3
19.800	19.800	1096.6	55.384	1096.6
19.900	19.900	1106.9	55.624	1106.9
20.000	20.000	1117.3	55.865	1117.3
20.100	20.100	1127.7	56.105	1127.7
20.200	20.200	1138.2	56.346	1138.2
20.300	20.300	1148.7	56.586	1148.7
20.400	20.400	1159.2	56.826	1159.2
20.500	20.500	1169.8	57.065	1169.8
20.600	20.600	1180.5	57.305	1180.5
20.700	20.700	1191.2	57.545	1191.2
20.800	20.800	1201.9	57.784	1201.9
20.900	20.900	1212.7	58.023	1212.7
21.000	21.000	1223.5	58.262	1223.5
21.100	21.100	1234.4	58.501	1234.4
21.200	21.200	1245.3	58.740	1245.3
21.300	21.300	1256.2	58.979	1256.2
21.400	21.400	1267.2	59.217	1267.2
21.500	21.500	1278.3	59.456	1278.3
21.600	21.600	1289.4	59.694	1289.4
21.700	21.700	1300.5	59.932	1300.5
21.800	21.800	1311.7	60.170	1311.7
21.900	21.900	1322.9	60.408	1322.9
22.000	22.000	1334.2	60.646	1334.2
22.100	22.100	1345.5	60.884	1345.5
22.200	22.200	1356.9	61.121	1356.9
22.300	22.300	1368.3	61.359	1368.3
22.400	22.400	1379.8	61.596	1379.8
22.500	22.500	1391.3	61.833	1391.3
22.600	22.600	1402.8	62.071	1402.8
22.700	22.700	1414.4	62.308	1414.4
22.800	22.800	1426.0	62.545	1426.0
22.900	22.900	1437.7	62.781	1437.7
23.000	23.000	1449.4	63.018	1449.4
23.100	23.100	1461.2	63.255	1461.2
23.200	23.200	1473.0	63.491	1473.0
23.300	23.300	1484.9	63.728	1484.9
23.400	23.400	1496.8	63.964	1496.8
23.500	23.500	1508.7	64.200	1508.7
23.600	23.600	1520.7	64.436	1520.7
23.700	23.700	1532.7	64.672	1532.7
23.800	23.800	1544.8	64.908	1544.8
23.900	23.900	1556.9	65.144	1556.9
24.000	24.000	1569.1	65.380	1569.1
24.100	24.100	1581.3	65.616	1581.3
24.200	24.200	1593.6	65.851	1593.6
24.300	24.300	1605.9	66.087	1605.9
24.400	24.400	1618.3	66.322	1618.3
24.500	24.500	1630.7	66.557	1630.7





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

350mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
24.600	24.600	1643.1	66.793	1643.1
24.700	24.700	1655.6	67.028	1655.6
24.800	24.800	1668.1	67.263	1668.1
24.900	24.900	1680.7	67.498	1680.7
25.000	25.000	1693.3	67.733	1693.3
25.100	25.100	1706.0	67.967	1706.0
25.200	25.200	1718.6	68.199	1718.6
25.300	25.300	1731.3	68.429	1731.3
25.400	25.400	1743.9	68.657	1743.9
25.500	25.500	1756.5	68.884	1756.5
25.600	25.600	1769.2	69.109	1769.2
25.700	25.700	1781.8	69.332	1781.8
25.800	25.800	1794.5	69.553	1794.5
25.900	25.900	1807.1	69.773	1807.1
26.000	26.000	1819.8	69.991	1819.8
26.100	26.100	1832.4	70.207	1832.4
26.200	26.200	1845.1	70.422	1845.1
26.300	26.300	1857.7	70.635	1857.7
26.400	26.400	1870.3	70.846	1870.3
26.500	26.500	1883.0	71.056	1883.0
26.600	26.600	1895.6	71.265	1895.6
26.700	26.700	1908.3	71.471	1908.3
26.800	26.800	1920.9	71.676	1920.9
26.900	26.900	1933.6	71.880	1933.6
27.000	27.000	1946.2	72.082	1946.2
27.100	27.100	1958.9	72.283	1958.9
27.200	27.200	1971.5	72.482	1971.5
27.300	27.300	1984.2	72.680	1984.2
27.400	27.400	1996.8	72.876	1996.8
27.500	27.500	2009.4	73.071	2009.4
27.600	27.600	2022.1	73.264	2022.1
27.700	27.700	2034.7	73.456	2034.7
27.800	27.800	2047.4	73.647	2047.4
27.900	27.900	2060.0	73.836	2060.0
28.000	28.000	2072.7	74.024	2072.7
28.100	28.100	2085.3	74.210	2085.3
28.200	28.200	2098.0	74.396	2098.0
28.300	28.300	2110.6	74.580	2110.6
28.400	28.400	2123.2	74.762	2123.2
28.500	28.500	2135.9	74.944	2135.9
28.600	28.600	2148.5	75.124	2148.5
28.700	28.700	2161.2	75.302	2161.2
28.800	28.800	2173.8	75.480	2173.8
28.900	28.900	2186.5	75.656	2186.5
29.000	29.000	2199.1	75.832	2199.1
29.100	29.100	2211.8	76.006	2211.8
29.200	29.200	2224.4	76.178	2224.4
29.300	29.300	2237.1	76.350	2237.1
29.400	29.400	2249.7	76.520	2249.7
29.500	29.500	2262.3	76.690	2262.3
29.600	29.600	2275.0	76.858	2275.0
29.700	29.700	2287.6	77.025	2287.6
29.800	29.800	2300.3	77.190	2300.3
29.900	29.900	2312.9	77.355	2312.9
30.000	30.000	2325.6	77.519	2325.6

Depth [m]	Pile length [m]	Design resistance			Combination with least resistance #	Factored load*		
		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]
6.0000	6.0000	73.363	36.682		2	N.A.	N.A.	0.0 (C)
6.1000	6.1000	76.307	38.153		2	N.A.	N.A.	0.0 (C)
6.2000	6.2000	79.282	39.641		2	N.A.	N.A.	0.0 (C)
6.3000	6.3000	82.290	41.145		2	N.A.	N.A.	0.0 (C)
6.4000	6.4000	85.330	42.665		2	N.A.	N.A.	0.0 (C)
6.5000	6.5000	88.402	44.201		2	N.A.	N.A.	0.0 (C)
6.6000	6.6000	91.506	45.753		2	N.A.	N.A.	0.0 (C)
6.7000	6.7000	94.642	47.321		2	N.A.	N.A.	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

350mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
6.8000	6.8000	97.811	48.905	2 N.A. N.A. 0.0 (C)
6.9000	6.9000	101.01	50.506	2 N.A. N.A. 0.0 (C)
7.0000	7.0000	104.24	52.122	2 N.A. N.A. 0.0 (C)
7.1000	7.1000	107.51	53.754	2 N.A. N.A. 0.0 (C)
7.2000	7.2000	110.81	55.403	2 N.A. N.A. 0.0 (C)
7.3000	7.3000	114.13	57.067	2 N.A. N.A. 0.0 (C)
7.4000	7.4000	117.50	58.748	2 N.A. N.A. 0.0 (C)
7.5000	7.5000	120.89	60.444	2 N.A. N.A. 0.0 (C)
7.6000	7.6000	124.31	62.157	2 N.A. N.A. 0.0 (C)
7.7000	7.7000	127.77	63.886	2 N.A. N.A. 0.0 (C)
7.8000	7.8000	131.26	65.631	2 N.A. N.A. 0.0 (C)
7.9000	7.9000	134.78	67.392	2 N.A. N.A. 0.0 (C)
8.0000	8.0000	138.34	69.169	2 N.A. N.A. 0.0 (C)
8.1000	8.1000	141.92	70.962	2 N.A. N.A. 0.0 (C)
8.2000	8.2000	145.54	72.771	2 N.A. N.A. 0.0 (C)
8.3000	8.3000	149.19	74.596	2 N.A. N.A. 0.0 (C)
8.4000	8.4000	152.87	76.437	2 N.A. N.A. 0.0 (C)
8.5000	8.5000	156.59	78.294	2 N.A. N.A. 0.0 (C)
8.6000	8.6000	160.34	80.168	2 N.A. N.A. 0.0 (C)
8.7000	8.7000	164.11	82.057	2 N.A. N.A. 0.0 (C)
8.8000	8.8000	167.93	83.963	2 N.A. N.A. 0.0 (C)
8.9000	8.9000	171.77	85.884	2 N.A. N.A. 0.0 (C)
9.0000	9.0000	175.64	87.822	2 N.A. N.A. 0.0 (C)
9.1000	9.1000	179.55	89.775	2 N.A. N.A. 0.0 (C)
9.2000	9.2000	183.49	91.745	2 N.A. N.A. 0.0 (C)
9.3000	9.3000	187.46	93.731	2 N.A. N.A. 0.0 (C)
9.4000	9.4000	191.47	95.733	2 N.A. N.A. 0.0 (C)
9.5000	9.5000	195.50	97.751	2 N.A. N.A. 0.0 (C)
9.6000	9.6000	199.57	99.785	2 N.A. N.A. 0.0 (C)
9.7000	9.7000	203.67	101.83	2 N.A. N.A. 0.0 (C)
9.8000	9.8000	207.80	103.90	2 N.A. N.A. 0.0 (C)
9.9000	9.9000	211.97	105.98	2 N.A. N.A. 0.0 (C)
10.000	10.000	216.16	108.08	2 N.A. N.A. 0.0 (C)
10.100	10.100	220.39	110.20	2 N.A. N.A. 0.0 (C)
10.200	10.200	224.65	112.33	2 N.A. N.A. 0.0 (C)
10.300	10.300	228.95	114.47	2 N.A. N.A. 0.0 (C)
10.400	10.400	233.27	116.64	2 N.A. N.A. 0.0 (C)
10.500	10.500	237.63	118.81	2 N.A. N.A. 0.0 (C)
10.600	10.600	242.02	121.01	2 N.A. N.A. 0.0 (C)
10.700	10.700	246.44	123.22	2 N.A. N.A. 0.0 (C)
10.800	10.800	250.89	125.45	2 N.A. N.A. 0.0 (C)
10.900	10.900	255.38	127.69	2 N.A. N.A. 0.0 (C)
11.000	11.000	259.90	129.95	2 N.A. N.A. 0.0 (C)
11.100	11.100	264.45	132.22	2 N.A. N.A. 0.0 (C)
11.200	11.200	269.03	134.51	2 N.A. N.A. 0.0 (C)
11.300	11.300	273.64	136.82	2 N.A. N.A. 0.0 (C)
11.400	11.400	278.29	139.14	2 N.A. N.A. 0.0 (C)
11.500	11.500	282.97	141.48	2 N.A. N.A. 0.0 (C)
11.600	11.600	287.68	143.84	2 N.A. N.A. 0.0 (C)
11.700	11.700	292.42	146.21	2 N.A. N.A. 0.0 (C)
11.800	11.800	297.19	148.60	2 N.A. N.A. 0.0 (C)
11.900	11.900	302.00	151.00	2 N.A. N.A. 0.0 (C)
12.000	12.000	306.84	153.42	2 N.A. N.A. 0.0 (C)
12.100	12.100	311.71	155.86	2 N.A. N.A. 0.0 (C)
12.200	12.200	316.62	158.31	2 N.A. N.A. 0.0 (C)
12.300	12.300	321.55	160.78	2 N.A. N.A. 0.0 (C)
12.400	12.400	326.52	163.26	2 N.A. N.A. 0.0 (C)
12.500	12.500	331.52	165.76	2 N.A. N.A. 0.0 (C)
12.600	12.600	336.55	168.28	2 N.A. N.A. 0.0 (C)
12.700	12.700	341.61	170.81	2 N.A. N.A. 0.0 (C)
12.800	12.800	346.71	173.36	2 N.A. N.A. 0.0 (C)
12.900	12.900	351.84	175.92	2 N.A. N.A. 0.0 (C)
13.000	13.000	357.00	178.50	2 N.A. N.A. 0.0 (C)
13.100	13.100	362.19	181.10	2 N.A. N.A. 0.0 (C)
13.200	13.200	367.42	183.71	2 N.A. N.A. 0.0 (C)
13.300	13.300	372.67	186.34	2 N.A. N.A. 0.0 (C)
13.400	13.400	377.96	188.98	2 N.A. N.A. 0.0 (C)
13.500	13.500	383.28	191.64	2 N.A. N.A. 0.0 (C)
13.600	13.600	388.64	194.32	2 N.A. N.A. 0.0 (C)
13.700	13.700	394.02	197.01	2 N.A. N.A. 0.0 (C)
13.800	13.800	399.44	199.72	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

350mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
13.900	13.900	404.89	202.44	2 N.A. N.A. 0.0 (C)
14.000	14.000	410.37	205.19	2 N.A. N.A. 0.0 (C)
14.100	14.100	415.88	207.94	2 N.A. N.A. 0.0 (C)
14.200	14.200	421.43	210.72	2 N.A. N.A. 0.0 (C)
14.300	14.300	427.01	213.50	2 N.A. N.A. 0.0 (C)
14.400	14.400	432.62	216.31	2 N.A. N.A. 0.0 (C)
14.500	14.500	438.26	219.13	2 N.A. N.A. 0.0 (C)
14.600	14.600	443.94	221.97	2 N.A. N.A. 0.0 (C)
14.700	14.700	449.64	224.82	2 N.A. N.A. 0.0 (C)
14.800	14.800	455.38	227.69	2 N.A. N.A. 0.0 (C)
14.900	14.900	461.15	230.58	2 N.A. N.A. 0.0 (C)
15.000	15.000	466.95	233.48	2 N.A. N.A. 0.0 (C)
15.100	15.100	472.79	236.40	2 N.A. N.A. 0.0 (C)
15.200	15.200	478.66	239.33	2 N.A. N.A. 0.0 (C)
15.300	15.300	484.56	242.28	2 N.A. N.A. 0.0 (C)
15.400	15.400	490.49	245.24	2 N.A. N.A. 0.0 (C)
15.500	15.500	496.45	248.23	2 N.A. N.A. 0.0 (C)
15.600	15.600	502.45	251.22	2 N.A. N.A. 0.0 (C)
15.700	15.700	508.48	254.24	2 N.A. N.A. 0.0 (C)
15.800	15.800	514.54	257.27	2 N.A. N.A. 0.0 (C)
15.900	15.900	520.63	260.31	2 N.A. N.A. 0.0 (C)
16.000	16.000	526.75	263.38	2 N.A. N.A. 0.0 (C)
16.100	16.100	532.91	266.45	2 N.A. N.A. 0.0 (C)
16.200	16.200	539.10	269.55	2 N.A. N.A. 0.0 (C)
16.300	16.300	545.32	272.66	2 N.A. N.A. 0.0 (C)
16.400	16.400	551.57	275.79	2 N.A. N.A. 0.0 (C)
16.500	16.500	557.86	278.93	2 N.A. N.A. 0.0 (C)
16.600	16.600	564.17	282.09	2 N.A. N.A. 0.0 (C)
16.700	16.700	570.52	285.26	2 N.A. N.A. 0.0 (C)
16.800	16.800	576.90	288.45	2 N.A. N.A. 0.0 (C)
16.900	16.900	583.32	291.66	2 N.A. N.A. 0.0 (C)
17.000	17.000	589.76	294.88	2 N.A. N.A. 0.0 (C)
17.100	17.100	596.24	298.12	2 N.A. N.A. 0.0 (C)
17.200	17.200	602.75	301.38	2 N.A. N.A. 0.0 (C)
17.300	17.300	609.29	304.65	2 N.A. N.A. 0.0 (C)
17.400	17.400	615.87	307.93	2 N.A. N.A. 0.0 (C)
17.500	17.500	622.47	311.24	2 N.A. N.A. 0.0 (C)
17.600	17.600	629.11	314.56	2 N.A. N.A. 0.0 (C)
17.700	17.700	635.78	317.89	2 N.A. N.A. 0.0 (C)
17.800	17.800	642.48	321.24	2 N.A. N.A. 0.0 (C)
17.900	17.900	649.22	324.61	2 N.A. N.A. 0.0 (C)
18.000	18.000	655.99	327.99	2 N.A. N.A. 0.0 (C)
18.100	18.100	662.79	331.39	2 N.A. N.A. 0.0 (C)
18.200	18.200	669.62	334.81	2 N.A. N.A. 0.0 (C)
18.300	18.300	676.48	338.24	2 N.A. N.A. 0.0 (C)
18.400	18.400	683.38	341.69	2 N.A. N.A. 0.0 (C)
18.500	18.500	690.30	345.15	2 N.A. N.A. 0.0 (C)
18.600	18.600	697.26	348.63	2 N.A. N.A. 0.0 (C)
18.700	18.700	704.25	352.13	2 N.A. N.A. 0.0 (C)
18.800	18.800	711.28	355.64	2 N.A. N.A. 0.0 (C)
18.900	18.900	718.33	359.17	2 N.A. N.A. 0.0 (C)
19.000	19.000	725.42	362.71	2 N.A. N.A. 0.0 (C)
19.100	19.100	732.54	366.27	2 N.A. N.A. 0.0 (C)
19.200	19.200	739.70	369.85	2 N.A. N.A. 0.0 (C)
19.300	19.300	746.88	373.44	2 N.A. N.A. 0.0 (C)
19.400	19.400	754.10	377.05	2 N.A. N.A. 0.0 (C)
19.500	19.500	761.35	380.67	2 N.A. N.A. 0.0 (C)
19.600	19.600	768.63	384.31	2 N.A. N.A. 0.0 (C)
19.700	19.700	775.94	387.97	2 N.A. N.A. 0.0 (C)
19.800	19.800	783.28	391.64	2 N.A. N.A. 0.0 (C)
19.900	19.900	790.66	395.33	2 N.A. N.A. 0.0 (C)
20.000	20.000	798.07	399.04	2 N.A. N.A. 0.0 (C)
20.100	20.100	805.51	402.76	2 N.A. N.A. 0.0 (C)
20.200	20.200	812.99	406.49	2 N.A. N.A. 0.0 (C)
20.300	20.300	820.49	410.25	2 N.A. N.A. 0.0 (C)
20.400	20.400	828.03	414.02	2 N.A. N.A. 0.0 (C)
20.500	20.500	835.60	417.80	2 N.A. N.A. 0.0 (C)
20.600	20.600	843.20	421.60	2 N.A. N.A. 0.0 (C)
20.700	20.700	850.84	425.42	2 N.A. N.A. 0.0 (C)
20.800	20.800	858.50	429.25	2 N.A. N.A. 0.0 (C)
20.900	20.900	866.20	433.10	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

350mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
21.000	21.000	873.93	436.97	2 N.A. N.A. 0.0 (C)
21.100	21.100	881.70	440.85	2 N.A. N.A. 0.0 (C)
21.200	21.200	889.49	444.75	2 N.A. N.A. 0.0 (C)
21.300	21.300	897.32	448.66	2 N.A. N.A. 0.0 (C)
21.400	21.400	905.18	452.59	2 N.A. N.A. 0.0 (C)
21.500	21.500	913.07	456.53	2 N.A. N.A. 0.0 (C)
21.600	21.600	920.99	460.50	2 N.A. N.A. 0.0 (C)
21.700	21.700	928.95	464.47	2 N.A. N.A. 0.0 (C)
21.800	21.800	936.94	468.47	2 N.A. N.A. 0.0 (C)
21.900	21.900	944.96	472.48	2 N.A. N.A. 0.0 (C)
22.000	22.000	953.01	476.50	2 N.A. N.A. 0.0 (C)
22.100	22.100	961.09	480.55	2 N.A. N.A. 0.0 (C)
22.200	22.200	969.21	484.60	2 N.A. N.A. 0.0 (C)
22.300	22.300	977.36	488.68	2 N.A. N.A. 0.0 (C)
22.400	22.400	985.54	492.77	2 N.A. N.A. 0.0 (C)
22.500	22.500	993.75	496.88	2 N.A. N.A. 0.0 (C)
22.600	22.600	1002.0	501.00	2 N.A. N.A. 0.0 (C)
22.700	22.700	1010.3	505.14	2 N.A. N.A. 0.0 (C)
22.800	22.800	1018.6	509.29	2 N.A. N.A. 0.0 (C)
22.900	22.900	1026.9	513.46	2 N.A. N.A. 0.0 (C)
23.000	23.000	1035.3	517.65	2 N.A. N.A. 0.0 (C)
23.100	23.100	1043.7	521.85	2 N.A. N.A. 0.0 (C)
23.200	23.200	1052.1	526.07	2 N.A. N.A. 0.0 (C)
23.300	23.300	1060.6	530.31	2 N.A. N.A. 0.0 (C)
23.400	23.400	1069.1	534.56	2 N.A. N.A. 0.0 (C)
23.500	23.500	1077.6	538.82	2 N.A. N.A. 0.0 (C)
23.600	23.600	1086.2	543.11	2 N.A. N.A. 0.0 (C)
23.700	23.700	1094.8	547.41	2 N.A. N.A. 0.0 (C)
23.800	23.800	1103.4	551.72	2 N.A. N.A. 0.0 (C)
23.900	23.900	1112.1	556.05	2 N.A. N.A. 0.0 (C)
24.000	24.000	1120.8	560.40	2 N.A. N.A. 0.0 (C)
24.100	24.100	1129.5	564.76	2 N.A. N.A. 0.0 (C)
24.200	24.200	1138.3	569.14	2 N.A. N.A. 0.0 (C)
24.300	24.300	1147.1	573.54	2 N.A. N.A. 0.0 (C)
24.400	24.400	1155.9	577.95	2 N.A. N.A. 0.0 (C)
24.500	24.500	1164.8	582.38	2 N.A. N.A. 0.0 (C)
24.600	24.600	1173.6	586.82	2 N.A. N.A. 0.0 (C)
24.700	24.700	1182.6	591.28	2 N.A. N.A. 0.0 (C)
24.800	24.800	1191.5	595.76	2 N.A. N.A. 0.0 (C)
24.900	24.900	1200.5	600.25	2 N.A. N.A. 0.0 (C)
25.000	25.000	1209.5	604.76	2 N.A. N.A. 0.0 (C)
25.100	25.100	1218.5	609.27	2 N.A. N.A. 0.0 (C)
25.200	25.200	1227.6	613.79	2 N.A. N.A. 0.0 (C)
25.300	25.300	1236.6	618.30	2 N.A. N.A. 0.0 (C)
25.400	25.400	1245.6	622.82	2 N.A. N.A. 0.0 (C)
25.500	25.500	1254.7	627.34	2 N.A. N.A. 0.0 (C)
25.600	25.600	1263.7	631.85	2 N.A. N.A. 0.0 (C)
25.700	25.700	1272.7	636.37	2 N.A. N.A. 0.0 (C)
25.800	25.800	1281.8	640.88	2 N.A. N.A. 0.0 (C)
25.900	25.900	1290.8	645.40	2 N.A. N.A. 0.0 (C)
26.000	26.000	1299.8	649.92	2 N.A. N.A. 0.0 (C)
26.100	26.100	1308.9	654.43	2 N.A. N.A. 0.0 (C)
26.200	26.200	1317.9	658.95	2 N.A. N.A. 0.0 (C)
26.300	26.300	1326.9	663.47	2 N.A. N.A. 0.0 (C)
26.400	26.400	1336.0	667.98	2 N.A. N.A. 0.0 (C)
26.500	26.500	1345.0	672.50	2 N.A. N.A. 0.0 (C)
26.600	26.600	1354.0	677.01	2 N.A. N.A. 0.0 (C)
26.700	26.700	1363.1	681.53	2 N.A. N.A. 0.0 (C)
26.800	26.800	1372.1	686.05	2 N.A. N.A. 0.0 (C)
26.900	26.900	1381.1	690.56	2 N.A. N.A. 0.0 (C)
27.000	27.000	1390.2	695.08	2 N.A. N.A. 0.0 (C)
27.100	27.100	1399.2	699.59	2 N.A. N.A. 0.0 (C)
27.200	27.200	1408.2	704.11	2 N.A. N.A. 0.0 (C)
27.300	27.300	1417.3	708.63	2 N.A. N.A. 0.0 (C)
27.400	27.400	1426.3	713.14	2 N.A. N.A. 0.0 (C)
27.500	27.500	1435.3	717.66	2 N.A. N.A. 0.0 (C)
27.600	27.600	1444.3	722.17	2 N.A. N.A. 0.0 (C)
27.700	27.700	1453.4	726.69	2 N.A. N.A. 0.0 (C)
27.800	27.800	1462.4	731.21	2 N.A. N.A. 0.0 (C)
27.900	27.900	1471.4	735.72	2 N.A. N.A. 0.0 (C)



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350mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	#	Factored load*		
28.000	28.000	1480.5	740.24	2	N.A.	N.A.	0.0 (C)
28.100	28.100	1489.5	744.75	2	N.A.	N.A.	0.0 (C)
28.200	28.200	1498.5	749.27	2	N.A.	N.A.	0.0 (C)
28.300	28.300	1507.6	753.79	2	N.A.	N.A.	0.0 (C)
28.400	28.400	1516.6	758.30	2	N.A.	N.A.	0.0 (C)
28.500	28.500	1525.6	762.82	2	N.A.	N.A.	0.0 (C)
28.600	28.600	1534.7	767.33	2	N.A.	N.A.	0.0 (C)
28.700	28.700	1543.7	771.85	2	N.A.	N.A.	0.0 (C)
28.800	28.800	1552.7	776.37	2	N.A.	N.A.	0.0 (C)
28.900	28.900	1561.8	780.88	2	N.A.	N.A.	0.0 (C)
29.000	29.000	1570.8	785.40	2	N.A.	N.A.	0.0 (C)
29.100	29.100	1579.8	789.91	2	N.A.	N.A.	0.0 (C)
29.200	29.200	1588.9	794.43	2	N.A.	N.A.	0.0 (C)
29.300	29.300	1597.9	798.95	2	N.A.	N.A.	0.0 (C)
29.400	29.400	1606.9	803.46	2	N.A.	N.A.	0.0 (C)
29.500	29.500	1616.0	807.98	2	N.A.	N.A.	0.0 (C)
29.600	29.600	1625.0	812.49	2	N.A.	N.A.	0.0 (C)
29.700	29.700	1634.0	817.01	2	N.A.	N.A.	0.0 (C)
29.800	29.800	1643.1	821.53	2	N.A.	N.A.	0.0 (C)
29.900	29.900	1652.1	826.04	2	N.A.	N.A.	0.0 (C)
30.000	30.000	1661.1	830.56	2	N.A.	N.A.	0.0 (C)

Note - The weight of the pile has not been included in the factored load.

# Limiting criteria :

1 : DA1 C1 [Shaft Tension]

2 : DA1 C2 [Shaft Tension]

3 : BS8004:2015 SLS Check [Shaft Tension]

\*(C)-> Compression load, (T)-> Tension load

Note: Design resistance does not include any consideration of negative skin friction.



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LIMITED**

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450mm diameter load bearing pile design revision A

Job No. Sheet No. Rev.

**P755**

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Made by Date Checked Date  
JW

**Analysis Options**

Design approach: DA1(C1 + C2)  
 File type: CFA  
 Model factor: 1.40  
 Partial factor on negative skin friction - Set A1: 1.00  
 Partial factor on negative skin friction - Set A2: 1.00  
 Serviceability verified by load tests (preliminary/working) No  
 carried out on more than 1% of constructed piles to loads  
 not less than 1.5 times the representative load for which  
 they are designed?  
 Resistance verified by a maintained load test taken to the No  
 calculated, unfactored, ultimate resistance?  
 Is BS8004 SLS check enabled? Yes  
 Shaft only FoS (Compression): 1.00  
 Shaft only FoS (Tension): 0.00  
 Is pile capacity limited by pile material compressive No  
 strength?  
 Pile material compressive strength calculation type Grade based  
 Limiting pile material compressive strength[kPa] 0.000000  
 Datum type Depth based  
 Effective stress profile Calculated

**Pile Properties**

Pile type Solid  
 Material type User-defined  
 Pile cross-section Circular  
 Under-ream No  
 Calculation profile Range  
 Minimum pile length 6.0000 m  
 Maximum pile length 30.000 m  
 Increment size 0.10000

Cross-section	Number of cross sections	Top Diameter [m]	Second Diameter location [m]	Second Diameter [m]	Third Diameter location [m]	Third Diameter [m]
Cross-section 1	1	0.45000				

**Undrained Materials - General Data**

No.	Material description	Bulk unit weight [kN/m³]	Cu material factor	Top Cu [kPa]	Base Cu [kPa]
1	London Clay	20.000	NA	50.000	230.00
2	London Clay	20.000	NA	230.00	230.00

**Undrained Materials - Skin Friction Data**

No.	Material description	Skin friction computation	Alpha	q <sub>s</sub>	q <sub>s,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]
1	London Clay	Alpha specified	0.50000	NA	NA No NA
2	London Clay	Alpha specified	0.50000	NA	NA No NA

**Undrained Materials - End Bearing Data**

No.	Material description	End bearing computation	Nc	q <sub>b</sub>	q <sub>b,lim</sub>
				Top [kPa]	Base Spec. Value [kPa]



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No.	Material description	End bearing computation	Nc	Qb	Qb,lim
				Top [kPa]	Base Spec. Value [kPa]
1	London Clay	Nc specified	9.0000	NA	NA No NA
2	London Clay	Nc specified	9.0000	NA	NA No NA

**Undrained Materials - Material Factors (Code Based)**

No.	Material description	Qs factors		Nc factors		Qb factors	
		M1	M2	M1	M2	M1	M2
1	London Clay	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.
2	London Clay 2	N.A.	N.A.	1.0000	1.0000	N.A.	N.A.

**STAGE SPECIFIC DATA**

**Stage 0 : Initial Stage**

**Groundwater**

No.	Level [m]	Pressure [kPa]	Unit weight of water [kN/m³]
1	0.50000	0.0	10.000

**Soil Profiles**

**Soil Profile 1: Soil Profile 1**

No.	Depth [m]	Material description	Contributes to negative skin friction
1	0.0	Air/Void	No
2	3.0000	London Clay	No
3	25.000	London Clay 2	No

**Soil Profile - Groundwater Map**

No.	Soil Profile	Groundwater
1	Soil Profile 1	Groundwater Profile 1

**Stage specific warnings**

1 - Stage 0 - The bottom most layer in Soil Profile 1 is assigned "Total stress" material. For this layer the cohesion is assumed to be constant at "Cu-Top", i.e cohesion specified at the top of this layer. The user specified value of cohesion at the bottom of this layer, "Cu-Bottom" is ignored. (Material Properties)

**CAPACITY RESULTS**

**Partial Resistance Factors Used:**

**DA1 C1**  
 Shaft resistance factor for set R1 (Compression): 1.00  
 Base resistance factor for set R1: 1.00  
 Shaft resistance factor for set R1 (Tension): 1.00

**DA1 C2**



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No. Soil Profile Groundwater

Shaft resistance factor for set R4 (Compression): 1.60  
 Base resistance factor for set R4: 2.00  
 Shaft resistance factor for set R4 (Tension): 2.00  
 Model factor: 1.40

**Stress Profiles**

**Soil Profile 1: Soil Profile 1**

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit perimeter
[m]		[kN/m <sup>3</sup> ]	[kPa]		[kPa]	[kPa]	[kPa]	[kPa]	[kN/m]
0.0	H	-90.046E-9	0.0	0.0	0.0	0.0	0.0	NA	0.0
0.50000	-	10.000	0.0	0.0	0.0	0.0	0.0	NA	0.0
3.0000	-	10.000	0.0	0.0	25.000	25.000	0.0	NA	0.0
3.0000	-	20.000	50.000	N.A.	25.000	25.000	0.0	NA	0.0
6.0000	T	20.000	74.545	N.A.	85.000	55.000	30.000	NA	93.409
6.1000	T	20.000	75.364	N.A.	87.000	56.000	31.000	NA	97.157
6.2000	T	20.000	76.182	N.A.	89.000	57.000	32.000	NA	100.95
6.3000	T	20.000	77.000	N.A.	91.000	58.000	33.000	NA	104.78
6.4000	T	20.000	77.818	N.A.	93.000	59.000	34.000	NA	108.65
6.5000	T	20.000	78.636	N.A.	95.000	60.000	35.000	NA	112.56
6.6000	T	20.000	79.455	N.A.	97.000	61.000	36.000	NA	116.51
6.7000	T	20.000	80.273	N.A.	99.000	62.000	37.000	NA	120.50
6.8000	T	20.000	81.091	N.A.	101.00	63.000	38.000	NA	124.54
6.9000	T	20.000	81.909	N.A.	103.00	64.000	39.000	NA	128.61
7.0000	T	20.000	82.727	N.A.	105.00	65.000	40.000	NA	132.73
7.1000	T	20.000	83.545	N.A.	107.00	66.000	41.000	NA	136.88
7.2000	T	20.000	84.364	N.A.	109.00	67.000	42.000	NA	141.08
7.3000	T	20.000	85.182	N.A.	111.00	68.000	43.000	NA	145.32
7.4000	T	20.000	86.000	N.A.	113.00	69.000	44.000	NA	149.60
7.5000	T	20.000	86.818	N.A.	115.00	70.000	45.000	NA	153.92
7.6000	T	20.000	87.636	N.A.	117.00	71.000	46.000	NA	158.28
7.7000	T	20.000	88.455	N.A.	119.00	72.000	47.000	NA	162.68
7.8000	T	20.000	89.273	N.A.	121.00	73.000	48.000	NA	167.13
7.9000	T	20.000	90.091	N.A.	123.00	74.000	49.000	NA	171.61
8.0000	T	20.000	90.909	N.A.	125.00	75.000	50.000	NA	176.14
8.1000	T	20.000	91.727	N.A.	127.00	76.000	51.000	NA	180.70
8.2000	T	20.000	92.545	N.A.	129.00	77.000	52.000	NA	185.31
8.3000	T	20.000	93.364	N.A.	131.00	78.000	53.000	NA	189.96
8.4000	T	20.000	94.182	N.A.	133.00	79.000	54.000	NA	194.65
8.5000	T	20.000	95.000	N.A.	135.00	80.000	55.000	NA	199.38
8.6000	T	20.000	95.818	N.A.	137.00	81.000	56.000	NA	204.15
8.7000	T	20.000	96.636	N.A.	139.00	82.000	57.000	NA	208.96
8.8000	T	20.000	97.455	N.A.	141.00	83.000	58.000	NA	213.81
8.9000	T	20.000	98.273	N.A.	143.00	84.000	59.000	NA	218.70
9.0000	T	20.000	99.091	N.A.	145.00	85.000	60.000	NA	223.64
9.1000	T	20.000	99.909	N.A.	147.00	86.000	61.000	NA	228.61
9.2000	T	20.000	100.73	N.A.	149.00	87.000	62.000	NA	233.63
9.3000	T	20.000	101.55	N.A.	151.00	88.000	63.000	NA	238.68
9.4000	T	20.000	102.36	N.A.	153.00	89.000	64.000	NA	243.78
9.5000	T	20.000	103.18	N.A.	155.00	90.000	65.000	NA	248.92
9.6000	T	20.000	104.00	N.A.	157.00	91.000	66.000	NA	254.10
9.7000	T	20.000	104.82	N.A.	159.00	92.000	67.000	NA	259.32
9.8000	T	20.000	105.64	N.A.	161.00	93.000	68.000	NA	264.58
9.9000	T	20.000	106.45	N.A.	163.00	94.000	69.000	NA	269.88
10.000	T	20.000	107.27	N.A.	165.00	95.000	70.000	NA	275.23
10.100	T	20.000	108.09	N.A.	167.00	96.000	71.000	NA	280.61
10.200	T	20.000	108.91	N.A.	169.00	97.000	72.000	NA	286.04
10.300	T	20.000	109.73	N.A.	171.00	98.000	73.000	NA	291.50
10.400	T	20.000	110.55	N.A.	173.00	99.000	74.000	NA	297.01
10.500	T	20.000	111.36	N.A.	175.00	100.00	75.000	NA	302.56
10.600	T	20.000	112.18	N.A.	177.00	101.00	76.000	NA	308.15
10.700	T	20.000	113.00	N.A.	179.00	102.00	77.000	NA	313.78
10.800	T	20.000	113.82	N.A.	181.00	103.00	78.000	NA	319.45





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450mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
10.900	T	20.000	114.64	N.A.	183.00	104.00	79.000	NA	325.16
11.000	T	20.000	115.45	N.A.	185.00	105.00	80.000	NA	330.91
11.100	T	20.000	116.27	N.A.	187.00	106.00	81.000	NA	336.70
11.200	T	20.000	117.09	N.A.	189.00	107.00	82.000	NA	342.54
11.300	T	20.000	117.91	N.A.	191.00	108.00	83.000	NA	348.41
11.400	T	20.000	118.73	N.A.	193.00	109.00	84.000	NA	354.33
11.500	T	20.000	119.55	N.A.	195.00	110.00	85.000	NA	360.28
11.600	T	20.000	120.36	N.A.	197.00	111.00	86.000	NA	366.28
11.700	T	20.000	121.18	N.A.	199.00	112.00	87.000	NA	372.32
11.800	T	20.000	122.00	N.A.	201.00	113.00	88.000	NA	378.40
11.900	T	20.000	122.82	N.A.	203.00	114.00	89.000	NA	384.52
12.000	T	20.000	123.64	N.A.	205.00	115.00	90.000	NA	390.68
12.100	T	20.000	124.45	N.A.	207.00	116.00	91.000	NA	396.88
12.200	T	20.000	125.27	N.A.	209.00	117.00	92.000	NA	403.13
12.300	T	20.000	126.09	N.A.	211.00	118.00	93.000	NA	409.41
12.400	T	20.000	126.91	N.A.	213.00	119.00	94.000	NA	415.74
12.500	T	20.000	127.73	N.A.	215.00	120.00	95.000	NA	422.10
12.600	T	20.000	128.55	N.A.	217.00	121.00	96.000	NA	428.51
12.700	T	20.000	129.36	N.A.	219.00	122.00	97.000	NA	434.96
12.800	T	20.000	130.18	N.A.	221.00	123.00	98.000	NA	441.45
12.900	T	20.000	131.00	N.A.	223.00	124.00	99.000	NA	447.98
13.000	T	20.000	131.82	N.A.	225.00	125.00	100.000	NA	454.55
13.100	T	20.000	132.64	N.A.	227.00	126.00	101.000	NA	461.16
13.200	T	20.000	133.45	N.A.	229.00	127.00	102.000	NA	467.81
13.300	T	20.000	134.27	N.A.	231.00	128.00	103.000	NA	474.50
13.400	T	20.000	135.09	N.A.	233.00	129.00	104.000	NA	481.24
13.500	T	20.000	135.91	N.A.	235.00	130.00	105.000	NA	488.01
13.600	T	20.000	136.73	N.A.	237.00	131.00	106.000	NA	494.83
13.700	T	20.000	137.55	N.A.	239.00	132.00	107.000	NA	501.68
13.800	T	20.000	138.36	N.A.	241.00	133.00	108.000	NA	508.58
13.900	T	20.000	139.18	N.A.	243.00	134.00	109.000	NA	515.52
14.000	T	20.000	140.00	N.A.	245.00	135.00	110.000	NA	522.50
14.100	T	20.000	140.82	N.A.	247.00	136.00	111.000	NA	529.52
14.200	T	20.000	141.64	N.A.	249.00	137.00	112.000	NA	536.58
14.300	T	20.000	142.45	N.A.	251.00	138.00	113.000	NA	543.68
14.400	T	20.000	143.27	N.A.	253.00	139.00	114.000	NA	550.83
14.500	T	20.000	144.09	N.A.	255.00	140.00	115.000	NA	558.01
14.600	T	20.000	144.91	N.A.	257.00	141.00	116.000	NA	565.24
14.700	T	20.000	145.73	N.A.	259.00	142.00	117.000	NA	572.50
14.800	T	20.000	146.55	N.A.	261.00	143.00	118.000	NA	579.81
14.900	T	20.000	147.36	N.A.	263.00	144.00	119.000	NA	587.16
15.000	T	20.000	148.18	N.A.	265.00	145.00	120.000	NA	594.55
15.100	T	20.000	149.00	N.A.	267.00	146.00	121.000	NA	601.98
15.200	T	20.000	149.82	N.A.	269.00	147.00	122.000	NA	609.45
15.300	T	20.000	150.64	N.A.	271.00	148.00	123.000	NA	616.96
15.400	T	20.000	151.45	N.A.	273.00	149.00	124.000	NA	624.51
15.500	T	20.000	152.27	N.A.	275.00	150.00	125.000	NA	632.10
15.600	T	20.000	153.09	N.A.	277.00	151.00	126.000	NA	639.74
15.700	T	20.000	153.91	N.A.	279.00	152.00	127.000	NA	647.41
15.800	T	20.000	154.73	N.A.	281.00	153.00	128.000	NA	655.13
15.900	T	20.000	155.55	N.A.	283.00	154.00	129.000	NA	662.88
16.000	T	20.000	156.36	N.A.	285.00	155.00	130.000	NA	670.68
16.100	T	20.000	157.18	N.A.	287.00	156.00	131.000	NA	678.52
16.200	T	20.000	158.00	N.A.	289.00	157.00	132.000	NA	686.40
16.300	T	20.000	158.82	N.A.	291.00	158.00	133.000	NA	694.32
16.400	-	20.000	159.64	N.A.	293.00	159.00	134.000	NA	702.28
16.500	T	20.000	160.45	N.A.	295.00	160.00	135.000	NA	710.28
16.600	T	20.000	161.27	N.A.	297.00	161.00	136.000	NA	718.33
16.700	T	20.000	162.09	N.A.	299.00	162.00	137.000	NA	726.41
16.800	T	20.000	162.91	N.A.	301.00	163.00	138.000	NA	734.54
16.900	-	20.000	163.73	N.A.	303.00	164.00	139.000	NA	742.70
17.000	T	20.000	164.55	N.A.	305.00	165.00	140.000	NA	750.91
17.100	T	20.000	165.36	N.A.	307.00	166.00	141.000	NA	759.16
17.200	T	20.000	166.18	N.A.	309.00	167.00	142.000	NA	767.45
17.300	T	20.000	167.00	N.A.	311.00	168.00	143.000	NA	775.78
17.400	-	20.000	167.82	N.A.	313.00	169.00	144.000	NA	784.15
17.500	T	20.000	168.64	N.A.	315.00	170.00	145.000	NA	792.56
17.600	T	20.000	169.45	N.A.	317.00	171.00	146.000	NA	801.01
17.700	T	20.000	170.27	N.A.	319.00	172.00	147.000	NA	809.50
17.800	T	20.000	171.09	N.A.	321.00	173.00	148.000	NA	818.04
17.900	-	20.000	171.91	N.A.	323.00	174.00	149.000	NA	826.61



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

450mm diameter load bearing pile design revision A

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
18.000	T	20.000	172.73	N.A.	325.00	175.00	150.00	NA	835.23
18.100	T	20.000	173.55	N.A.	327.00	176.00	151.00	NA	843.88
18.200	T	20.000	174.36	N.A.	329.00	177.00	152.00	NA	852.58
18.300	T	20.000	175.18	N.A.	331.00	178.00	153.00	NA	861.32
18.400	-	20.000	176.00	N.A.	333.00	179.00	154.00	NA	870.10
18.500	T	20.000	176.82	N.A.	335.00	180.00	155.00	NA	878.92
18.600	T	20.000	177.64	N.A.	337.00	181.00	156.00	NA	887.78
18.700	T	20.000	178.45	N.A.	339.00	182.00	157.00	NA	896.68
18.800	T	20.000	179.27	N.A.	341.00	183.00	158.00	NA	905.63
18.900	-	20.000	180.09	N.A.	343.00	184.00	159.00	NA	914.61
19.000	T	20.000	180.91	N.A.	345.00	185.00	160.00	NA	923.64
19.100	T	20.000	181.73	N.A.	347.00	186.00	161.00	NA	932.70
19.200	T	20.000	182.55	N.A.	349.00	187.00	162.00	NA	941.81
19.300	T	20.000	183.36	N.A.	351.00	188.00	163.00	NA	950.96
19.400	-	20.000	184.18	N.A.	353.00	189.00	164.00	NA	960.15
19.500	T	20.000	185.00	N.A.	355.00	190.00	165.00	NA	969.38
19.600	T	20.000	185.82	N.A.	357.00	191.00	166.00	NA	978.65
19.700	T	20.000	186.64	N.A.	359.00	192.00	167.00	NA	987.92
19.800	T	20.000	187.45	N.A.	361.00	193.00	168.00	NA	997.31
19.900	-	20.000	188.27	N.A.	363.00	194.00	169.00	NA	1006.7
20.000	T	20.000	189.09	N.A.	365.00	195.00	170.00	NA	1016.1
20.100	T	20.000	189.91	N.A.	367.00	196.00	171.00	NA	1025.6
20.200	T	20.000	190.73	N.A.	369.00	197.00	172.00	NA	1035.1
20.300	T	20.000	191.55	N.A.	371.00	198.00	173.00	NA	1044.7
20.400	-	20.000	192.36	N.A.	373.00	199.00	174.00	NA	1054.3
20.500	T	20.000	193.18	N.A.	375.00	200.00	175.00	NA	1063.9
20.600	T	20.000	194.00	N.A.	377.00	201.00	176.00	NA	1073.6
20.700	T	20.000	194.82	N.A.	379.00	202.00	177.00	NA	1083.3
20.800	T	20.000	195.64	N.A.	381.00	203.00	178.00	NA	1093.1
20.900	-	20.000	196.45	N.A.	383.00	204.00	179.00	NA	1102.9
21.000	T	20.000	197.27	N.A.	385.00	205.00	180.00	NA	1112.7
21.100	T	20.000	198.09	N.A.	387.00	206.00	181.00	NA	1122.6
21.200	T	20.000	198.91	N.A.	389.00	207.00	182.00	NA	1132.5
21.300	T	20.000	199.73	N.A.	391.00	208.00	183.00	NA	1142.5
21.400	-	20.000	200.55	N.A.	393.00	209.00	184.00	NA	1152.5
21.500	T	20.000	201.36	N.A.	395.00	210.00	185.00	NA	1162.6
21.600	T	20.000	202.18	N.A.	397.00	211.00	186.00	NA	1172.6
21.700	T	20.000	203.00	N.A.	399.00	212.00	187.00	NA	1182.8
21.800	T	20.000	203.82	N.A.	401.00	213.00	188.00	NA	1192.9
21.900	-	20.000	204.64	N.A.	403.00	214.00	189.00	NA	1203.2
22.000	T	20.000	205.45	N.A.	405.00	215.00	190.00	NA	1213.4
22.100	T	20.000	206.27	N.A.	407.00	216.00	191.00	NA	1223.7
22.200	T	20.000	207.09	N.A.	409.00	217.00	192.00	NA	1234.0
22.300	-	20.000	207.91	N.A.	411.00	218.00	193.00	NA	1244.4
22.400	T	20.000	208.73	N.A.	413.00	219.00	194.00	NA	1254.8
22.500	T	20.000	209.55	N.A.	415.00	220.00	195.00	NA	1265.3
22.600	T	20.000	210.36	N.A.	417.00	221.00	196.00	NA	1275.8
22.700	T	20.000	211.18	N.A.	419.00	222.00	197.00	NA	1286.3
22.800	-	20.000	212.00	N.A.	421.00	223.00	198.00	NA	1296.9
22.900	T	20.000	212.82	N.A.	423.00	224.00	199.00	NA	1307.5
23.000	T	20.000	213.64	N.A.	425.00	225.00	200.00	NA	1318.2
23.100	T	20.000	214.45	N.A.	427.00	226.00	201.00	NA	1328.9
23.200	T	20.000	215.27	N.A.	429.00	227.00	202.00	NA	1339.6
23.300	-	20.000	216.09	N.A.	431.00	228.00	203.00	NA	1350.4
23.400	T	20.000	216.91	N.A.	433.00	229.00	204.00	NA	1361.2
23.500	T	20.000	217.73	N.A.	435.00	230.00	205.00	NA	1372.1
23.600	T	20.000	218.55	N.A.	437.00	231.00	206.00	NA	1383.0
23.700	T	20.000	219.36	N.A.	439.00	232.00	207.00	NA	1394.0
23.800	-	20.000	220.18	N.A.	441.00	233.00	208.00	NA	1404.9
23.900	T	20.000	221.00	N.A.	443.00	234.00	209.00	NA	1416.0
24.000	T	20.000	221.82	N.A.	445.00	235.00	210.00	NA	1427.0
24.100	T	20.000	222.64	N.A.	447.00	236.00	211.00	NA	1438.2
24.200	T	20.000	223.45	N.A.	449.00	237.00	212.00	NA	1449.3
24.300	-	20.000	224.27	N.A.	451.00	238.00	213.00	NA	1460.5
24.400	T	20.000	225.09	N.A.	453.00	239.00	214.00	NA	1471.7
24.500	T	20.000	225.91	N.A.	455.00	240.00	215.00	NA	1483.0
24.600	T	20.000	226.73	N.A.	457.00	241.00	216.00	NA	1494.3
24.700	T	20.000	227.55	N.A.	459.00	242.00	217.00	NA	1505.7
24.800	-	20.000	228.36	N.A.	461.00	243.00	218.00	NA	1517.1
24.900	T	20.000	229.18	N.A.	463.00	244.00	219.00	NA	1528.5
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

450mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	*	Density	Undrained Cohesion	Nq	Total vertical stress	Porewater pressure	Effective vertical stress	Effective horizontal stress*	Cumulative skin friction per unit
25.000	T	20.000	230.00	N.A.	465.00	245.00	220.00	NA	1540.0
25.100	T	20.000	230.00	N.A.	467.00	246.00	221.00	NA	1551.5
25.200	T	20.000	230.00	N.A.	469.00	247.00	222.00	NA	1563.0
25.300	-	20.000	230.00	N.A.	471.00	248.00	223.00	NA	1574.5
25.400	T	20.000	230.00	N.A.	473.00	249.00	224.00	NA	1586.0
25.500	T	20.000	230.00	N.A.	475.00	250.00	225.00	NA	1597.5
25.600	T	20.000	230.00	N.A.	477.00	251.00	226.00	NA	1609.0
25.700	T	20.000	230.00	N.A.	479.00	252.00	227.00	NA	1620.5
25.800	-	20.000	230.00	N.A.	481.00	253.00	228.00	NA	1632.0
25.900	T	20.000	230.00	N.A.	483.00	254.00	229.00	NA	1643.5
26.000	T	20.000	230.00	N.A.	485.00	255.00	230.00	NA	1655.0
26.100	T	20.000	230.00	N.A.	487.00	256.00	231.00	NA	1666.5
26.200	T	20.000	230.00	N.A.	489.00	257.00	232.00	NA	1678.0
26.300	-	20.000	230.00	N.A.	491.00	258.00	233.00	NA	1689.5
26.400	T	20.000	230.00	N.A.	493.00	259.00	234.00	NA	1701.0
26.500	T	20.000	230.00	N.A.	495.00	260.00	235.00	NA	1712.5
26.600	T	20.000	230.00	N.A.	497.00	261.00	236.00	NA	1724.0
26.700	T	20.000	230.00	N.A.	499.00	262.00	237.00	NA	1735.5
26.800	-	20.000	230.00	N.A.	501.00	263.00	238.00	NA	1747.0
26.900	T	20.000	230.00	N.A.	503.00	264.00	239.00	NA	1758.5
27.000	T	20.000	230.00	N.A.	505.00	265.00	240.00	NA	1770.0
27.100	T	20.000	230.00	N.A.	507.00	266.00	241.00	NA	1781.5
27.200	T	20.000	230.00	N.A.	509.00	267.00	242.00	NA	1793.0
27.300	-	20.000	230.00	N.A.	511.00	268.00	243.00	NA	1804.5
27.400	T	20.000	230.00	N.A.	513.00	269.00	244.00	NA	1816.0
27.500	T	20.000	230.00	N.A.	515.00	270.00	245.00	NA	1827.5
27.600	T	20.000	230.00	N.A.	517.00	271.00	246.00	NA	1839.0
27.700	T	20.000	230.00	N.A.	519.00	272.00	247.00	NA	1850.5
27.800	-	20.000	230.00	N.A.	521.00	273.00	248.00	NA	1862.0
27.900	T	20.000	230.00	N.A.	523.00	274.00	249.00	NA	1873.5
28.000	T	20.000	230.00	N.A.	525.00	275.00	250.00	NA	1885.0
28.100	T	20.000	230.00	N.A.	527.00	276.00	251.00	NA	1896.5
28.200	T	20.000	230.00	N.A.	529.00	277.00	252.00	NA	1908.0
28.300	-	20.000	230.00	N.A.	531.00	278.00	253.00	NA	1919.5
28.400	T	20.000	230.00	N.A.	533.00	279.00	254.00	NA	1931.0
28.500	T	20.000	230.00	N.A.	535.00	280.00	255.00	NA	1942.5
28.600	T	20.000	230.00	N.A.	537.00	281.00	256.00	NA	1954.0
28.700	T	20.000	230.00	N.A.	539.00	282.00	257.00	NA	1965.5
28.800	-	20.000	230.00	N.A.	541.00	283.00	258.00	NA	1977.0
28.900	T	20.000	230.00	N.A.	543.00	284.00	259.00	NA	1988.5
29.000	T	20.000	230.00	N.A.	545.00	285.00	260.00	NA	2000.0
29.100	T	20.000	230.00	N.A.	547.00	286.00	261.00	NA	2011.5
29.200	T	20.000	230.00	N.A.	549.00	287.00	262.00	NA	2023.0
29.300	-	20.000	230.00	N.A.	551.00	288.00	263.00	NA	2034.5
29.400	T	20.000	230.00	N.A.	553.00	289.00	264.00	NA	2046.0
29.500	T	20.000	230.00	N.A.	555.00	290.00	265.00	NA	2057.5
29.600	T	20.000	230.00	N.A.	557.00	291.00	266.00	NA	2069.0
29.700	T	20.000	230.00	N.A.	559.00	292.00	267.00	NA	2080.5
29.800	-	20.000	230.00	N.A.	561.00	293.00	268.00	NA	2092.0
29.900	T	20.000	230.00	N.A.	563.00	294.00	269.00	NA	2103.5
30.000	T	20.000	230.00	N.A.	565.00	295.00	270.00	NA	2115.0

\* Annotation:

H: Pile head location

T: Pile toe locations corresponding to different pile lengths

\* Effective horizontal stress not calculated for "Total Stress" materials and for Beta Method.

**Cross-section 1 results:**

Uniform pile with top shaft diameter = 0.45 m

**Results - Compression**

**Soil Profile 1: Soil Profile 1**

Depth	Pile length	Ultimate base capacity	Cumulative external Friction	Average Negative external Friction	Net skin friction	Net ultimate resistance



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by	Date	Checked
JW		

		(Q <sub>p</sub> )	(Q <sub>s</sub> )	(q <sub>s</sub> )	(Q <sub>nsf</sub> )	
[m]	[m]	[kN]	[kN]	[kN/m]	[kN]	[kN]
6.0000	6.0000	106.70	132.05	22.009	0.0	238.76
6.1000	6.1000	107.87	137.35	22.517	0.0	245.23
6.2000	6.2000	109.05	142.71	23.017	0.0	251.75
6.3000	6.3000	110.22	148.12	23.511	0.0	258.34
6.4000	6.4000	111.39	153.59	23.999	0.0	264.98
6.5000	6.5000	112.56	159.12	24.481	0.0	271.68
6.6000	6.6000	113.73	164.71	24.956	0.0	278.44
6.7000	6.7000	114.90	170.36	25.426	0.0	285.26
6.8000	6.8000	116.07	176.06	25.891	0.0	292.13
6.9000	6.9000	117.24	181.82	26.351	0.0	299.06
7.0000	7.0000	118.41	187.64	26.806	0.0	306.05
7.1000	7.1000	119.59	193.52	27.256	0.0	313.10
7.2000	7.2000	120.76	199.45	27.701	0.0	320.21
7.3000	7.3000	121.93	205.44	28.143	0.0	327.37
7.4000	7.4000	123.10	211.49	28.580	0.0	334.59
7.5000	7.5000	124.27	217.60	29.013	0.0	341.87
7.6000	7.6000	125.44	223.77	29.443	0.0	349.21
7.7000	7.7000	126.61	229.99	29.869	0.0	356.60
7.8000	7.8000	127.78	236.27	30.291	0.0	364.05
7.9000	7.9000	128.96	242.61	30.710	0.0	371.56
8.0000	8.0000	130.13	249.01	31.126	0.0	379.13
8.1000	8.1000	131.30	255.46	31.538	0.0	386.76
8.2000	8.2000	132.47	261.97	31.948	0.0	394.44
8.3000	8.3000	133.64	268.55	32.355	0.0	402.18
8.4000	8.4000	134.81	275.17	32.759	0.0	409.98
8.5000	8.5000	135.98	281.86	33.160	0.0	417.84
8.6000	8.6000	137.15	288.60	33.559	0.0	425.76
8.7000	8.7000	138.32	295.41	33.955	0.0	433.73
8.8000	8.8000	139.50	302.27	34.348	0.0	441.76
8.9000	8.9000	140.67	309.18	34.740	0.0	449.85
9.0000	9.0000	141.84	316.16	35.129	0.0	458.00
9.1000	9.1000	143.01	323.19	35.516	0.0	466.20
9.2000	9.2000	144.18	330.28	35.900	0.0	474.46
9.3000	9.3000	145.35	337.43	36.283	0.0	482.78
9.4000	9.4000	146.52	344.64	36.664	0.0	491.16
9.5000	9.5000	147.69	351.90	37.042	0.0	499.60
9.6000	9.6000	148.86	359.23	37.419	0.0	508.09
9.7000	9.7000	150.04	366.61	37.794	0.0	516.64
9.8000	9.8000	151.21	374.04	38.168	0.0	525.25
9.9000	9.9000	152.38	381.54	38.539	0.0	533.92
10.000	10.000	153.55	389.09	38.909	0.0	542.64
10.100	10.100	154.72	396.70	39.278	0.0	551.42
10.200	10.200	155.89	404.37	39.645	0.0	560.27
10.300	10.300	157.06	412.10	40.010	0.0	569.16
10.400	10.400	158.23	419.89	40.374	0.0	578.12
10.500	10.500	159.40	427.73	40.736	0.0	587.13
10.600	10.600	160.58	435.63	41.097	0.0	596.21
10.700	10.700	161.75	443.59	41.457	0.0	605.34
10.800	10.800	162.92	451.61	41.815	0.0	614.52
10.900	10.900	164.09	459.68	42.172	0.0	623.77
11.000	11.000	165.26	467.81	42.528	0.0	633.07
11.100	11.100	166.43	476.00	42.883	0.0	642.43
11.200	11.200	167.60	484.25	43.237	0.0	651.85
11.300	11.300	168.77	492.55	43.589	0.0	661.33
11.400	11.400	169.94	500.92	43.940	0.0	670.86
11.500	11.500	171.12	509.34	44.290	0.0	680.46
11.600	11.600	172.29	517.82	44.640	0.0	690.11
11.700	11.700	173.46	526.36	44.988	0.0	699.81
11.800	11.800	174.63	534.95	45.335	0.0	709.58
11.900	11.900	175.80	543.60	45.681	0.0	719.40
12.000	12.000	176.97	552.31	46.026	0.0	729.28
12.100	12.100	178.14	561.08	46.370	0.0	739.22
12.200	12.200	179.31	569.91	46.714	0.0	749.22
12.300	12.300	180.49	578.79	47.056	0.0	759.28
12.400	12.400	181.66	587.73	47.398	0.0	769.39
12.500	12.500	182.83	596.73	47.739	0.0	779.56
12.600	12.600	184.00	605.79	48.079	0.0	789.79
12.700	12.700	185.17	614.91	48.418	0.0	800.08
12.800	12.800	186.34	624.08	48.756	0.0	810.42



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

450mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
12.900	12.900	187.51	633.31	49.094	0.0	820.82
13.000	13.000	188.68	642.60	49.431	0.0	831.28
13.100	13.100	189.85	651.95	49.767	0.0	841.80
13.200	13.200	191.03	661.35	50.102	0.0	852.37
13.300	13.300	192.20	670.81	50.437	0.0	863.01
13.400	13.400	193.37	680.33	50.771	0.0	873.70
13.500	13.500	194.54	689.91	51.104	0.0	884.45
13.600	13.600	195.71	699.55	51.437	0.0	895.26
13.700	13.700	196.88	709.24	51.769	0.0	906.12
13.800	13.800	198.05	718.99	52.101	0.0	917.04
13.900	13.900	199.22	728.80	52.432	0.0	928.02
14.000	14.000	200.39	738.67	52.762	0.0	939.06
14.100	14.100	201.57	748.59	53.092	0.0	950.16
14.200	14.200	202.74	758.57	53.421	0.0	961.31
14.300	14.300	203.91	768.62	53.749	0.0	972.52
14.400	14.400	205.08	778.71	54.077	0.0	983.79
14.500	14.500	206.25	788.87	54.405	0.0	995.12
14.600	14.600	207.42	799.08	54.732	0.0	1006.5
14.700	14.700	208.59	809.36	55.058	0.0	1017.9
14.800	14.800	209.76	819.69	55.384	0.0	1029.4
14.900	14.900	210.93	830.07	55.710	0.0	1041.0
15.000	15.000	212.11	840.52	56.035	0.0	1052.6
15.100	15.100	213.28	851.02	56.359	0.0	1064.3
15.200	15.200	214.45	861.58	56.683	0.0	1076.0
15.300	15.300	215.62	872.20	57.007	0.0	1087.8
15.400	15.400	216.79	882.88	57.330	0.0	1099.7
15.500	15.500	217.96	893.61	57.652	0.0	1111.6
15.600	15.600	219.13	904.41	57.975	0.0	1123.5
15.700	15.700	220.30	915.26	58.297	0.0	1135.6
15.800	15.800	221.47	926.16	58.618	0.0	1147.6
15.900	15.900	222.65	937.13	58.939	0.0	1159.8
16.000	16.000	223.82	948.15	59.260	0.0	1172.0
16.100	16.100	224.99	959.24	59.580	0.0	1184.2
16.200	16.200	226.16	970.38	59.900	0.0	1196.5
16.300	16.300	227.33	981.57	60.219	0.0	1208.9
16.400	16.400	228.50	992.83	60.538	0.0	1221.3
16.500	16.500	229.67	1004.1	60.857	0.0	1233.8
16.600	16.600	230.84	1015.5	61.175	0.0	1246.4
16.700	16.700	232.01	1026.9	61.493	0.0	1259.0
16.800	16.800	233.19	1038.4	61.811	0.0	1271.6
16.900	16.900	234.36	1050.0	62.128	0.0	1284.3
17.000	17.000	235.53	1061.6	62.445	0.0	1297.1
17.100	17.100	236.70	1073.2	62.762	0.0	1309.9
17.200	17.200	237.87	1085.0	63.079	0.0	1322.8
17.300	17.300	239.04	1096.7	63.395	0.0	1335.8
17.400	17.400	240.21	1108.6	63.710	0.0	1348.8
17.500	17.500	241.38	1120.5	64.026	0.0	1361.8
17.600	17.600	242.56	1132.4	64.341	0.0	1375.0
17.700	17.700	243.73	1144.4	64.656	0.0	1388.1
17.800	17.800	244.90	1156.5	64.970	0.0	1401.4
17.900	17.900	246.07	1168.6	65.285	0.0	1414.7
18.000	18.000	247.24	1180.8	65.599	0.0	1428.0
18.100	18.100	248.41	1193.0	65.912	0.0	1441.4
18.200	18.200	249.58	1205.3	66.226	0.0	1454.9
18.300	18.300	250.75	1217.7	66.539	0.0	1468.4
18.400	18.400	251.92	1230.1	66.852	0.0	1482.0
18.500	18.500	253.10	1242.5	67.165	0.0	1495.6
18.600	18.600	254.27	1255.1	67.477	0.0	1509.3
18.700	18.700	255.44	1267.7	67.789	0.0	1523.1
18.800	18.800	256.61	1280.3	68.101	0.0	1536.9
18.900	18.900	257.78	1293.0	68.413	0.0	1550.8
19.000	19.000	258.95	1305.8	68.724	0.0	1564.7
19.100	19.100	260.12	1318.6	69.035	0.0	1578.7
19.200	19.200	261.29	1331.5	69.346	0.0	1592.7
19.300	19.300	262.46	1344.4	69.657	0.0	1606.8
19.400	19.400	263.64	1357.4	69.968	0.0	1621.0
19.500	19.500	264.81	1370.4	70.278	0.0	1635.2
19.600	19.600	265.98	1383.5	70.588	0.0	1649.5
19.700	19.700	267.15	1396.7	70.898	0.0	1663.8
19.800	19.800	268.32	1409.9	71.208	0.0	1678.2
19.900	19.900	269.49	1423.2	71.517	0.0	1692.7



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date  
JW

450mm diameter load bearing pile design revision A

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
20.000	20.000	270.66	1436.5	71.826	0.0	1707.2
20.100	20.100	271.83	1449.9	72.136	0.0	1721.8
20.200	20.200	273.00	1463.4	72.444	0.0	1736.4
20.300	20.300	274.18	1476.9	72.753	0.0	1751.1
20.400	20.400	275.35	1490.5	73.062	0.0	1765.8
20.500	20.500	276.52	1504.1	73.370	0.0	1780.6
20.600	20.600	277.69	1517.8	73.678	0.0	1795.5
20.700	20.700	278.86	1531.5	73.986	0.0	1810.4
20.800	20.800	280.03	1545.3	74.294	0.0	1825.3
20.900	20.900	281.20	1559.2	74.601	0.0	1840.4
21.000	21.000	282.37	1573.1	74.909	0.0	1855.5
21.100	21.100	283.54	1587.1	75.216	0.0	1870.6
21.200	21.200	284.72	1601.1	75.523	0.0	1885.8
21.300	21.300	285.89	1615.2	75.830	0.0	1901.1
21.400	21.400	287.06	1629.3	76.136	0.0	1916.4
21.500	21.500	288.23	1643.5	76.443	0.0	1931.8
21.600	21.600	289.40	1657.8	76.749	0.0	1947.2
21.700	21.700	290.57	1672.1	77.056	0.0	1962.7
21.800	21.800	291.74	1686.5	77.362	0.0	1978.2
21.900	21.900	292.91	1700.9	77.668	0.0	1993.8
22.000	22.000	294.09	1715.4	77.973	0.0	2009.5
22.100	22.100	295.26	1730.0	78.279	0.0	2025.2
22.200	22.200	296.43	1744.6	78.585	0.0	2041.0
22.300	22.300	297.60	1759.2	78.890	0.0	2056.8
22.400	22.400	298.77	1774.0	79.195	0.0	2072.7
22.500	22.500	299.94	1788.8	79.500	0.0	2088.7
22.600	22.600	301.11	1803.6	79.805	0.0	2104.7
22.700	22.700	302.28	1818.5	80.110	0.0	2120.8
22.800	22.800	303.45	1833.4	80.414	0.0	2136.9
22.900	22.900	304.63	1848.5	80.719	0.0	2153.1
23.000	23.000	305.80	1863.5	81.023	0.0	2169.3
23.100	23.100	306.97	1878.7	81.327	0.0	2185.6
23.200	23.200	308.14	1893.9	81.632	0.0	2202.0
23.300	23.300	309.31	1909.1	81.936	0.0	2218.4
23.400	23.400	310.48	1924.4	82.239	0.0	2234.9
23.500	23.500	311.65	1939.8	82.543	0.0	2251.4
23.600	23.600	312.82	1955.2	82.847	0.0	2268.0
23.700	23.700	313.99	1970.7	83.150	0.0	2284.7
23.800	23.800	315.17	1986.2	83.454	0.0	2301.4
23.900	23.900	316.34	2001.8	83.757	0.0	2318.1
24.000	24.000	317.51	2017.4	84.060	0.0	2334.9
24.100	24.100	318.68	2033.1	84.363	0.0	2351.8
24.200	24.200	319.85	2048.9	84.666	0.0	2368.8
24.300	24.300	321.02	2064.7	84.969	0.0	2385.8
24.400	24.400	322.19	2080.6	85.271	0.0	2402.8
24.500	24.500	323.36	2096.6	85.574	0.0	2419.9
24.600	24.600	324.53	2112.6	85.876	0.0	2437.1
24.700	24.700	325.71	2128.6	86.179	0.0	2454.3
24.800	24.800	326.88	2144.7	86.481	0.0	2471.6
24.900	24.900	328.05	2160.9	86.783	0.0	2488.9
25.000	25.000	329.22	2177.1	87.085	0.0	2506.3
25.000	25.000	329.22	2177.1	87.085	0.0	2506.3
25.100	25.100	329.22	2193.4	87.386	0.0	2522.6
25.200	25.200	329.22	2209.6	87.684	0.0	2538.9
25.300	25.300	329.22	2225.9	87.980	0.0	2555.1
25.400	25.400	329.22	2242.2	88.274	0.0	2571.4
25.500	25.500	329.22	2258.4	88.565	0.0	2587.6
25.600	25.600	329.22	2274.7	88.854	0.0	2603.9
25.700	25.700	329.22	2290.9	89.141	0.0	2620.1
25.800	25.800	329.22	2307.2	89.426	0.0	2636.4
25.900	25.900	329.22	2323.4	89.708	0.0	2652.7
26.000	26.000	329.22	2339.7	89.988	0.0	2668.9
26.100	26.100	329.22	2356.0	90.267	0.0	2685.2
26.200	26.200	329.22	2372.2	90.543	0.0	2701.4
26.300	26.300	329.22	2388.5	90.816	0.0	2717.7
26.400	26.400	329.22	2404.7	91.088	0.0	2734.0
26.500	26.500	329.22	2421.0	91.358	0.0	2750.2
26.600	26.600	329.22	2437.2	91.626	0.0	2766.5
26.700	26.700	329.22	2453.5	91.892	0.0	2782.7
26.800	26.800	329.22	2469.8	92.155	0.0	2799.0
26.900	26.900	329.22	2486.0	92.417	0.0	2815.2



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

450mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Ultimate base capacity (Q <sub>b</sub> )	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Negative skin friction (Q <sub>nsf</sub> )	Net ultimate resistance
27.000	27.000	329.22	2502.3	92.677	0.0	2831.5
27.100	27.100	329.22	2518.5	92.935	0.0	2847.8
27.200	27.200	329.22	2534.8	93.191	0.0	2864.0
27.300	27.300	329.22	2551.1	93.445	0.0	2880.3
27.400	27.400	329.22	2567.3	93.697	0.0	2896.5
27.500	27.500	329.22	2583.6	93.948	0.0	2912.8
27.600	27.600	329.22	2599.8	94.197	0.0	2929.0
27.700	27.700	329.22	2616.1	94.443	0.0	2945.3
27.800	27.800	329.22	2632.3	94.688	0.0	2961.6
27.900	27.900	329.22	2648.6	94.932	0.0	2977.8
28.000	28.000	329.22	2664.9	95.173	0.0	2994.1
28.100	28.100	329.22	2681.1	95.413	0.0	3010.3
28.200	28.200	329.22	2697.4	95.651	0.0	3026.6
28.300	28.300	329.22	2713.6	95.888	0.0	3042.8
28.400	28.400	329.22	2729.9	96.123	0.0	3059.1
28.500	28.500	329.22	2746.1	96.356	0.0	3075.4
28.600	28.600	329.22	2762.4	96.587	0.0	3091.6
28.700	28.700	329.22	2778.7	96.817	0.0	3107.9
28.800	28.800	329.22	2794.9	97.046	0.0	3124.1
28.900	28.900	329.22	2811.2	97.272	0.0	3140.4
29.000	29.000	329.22	2827.4	97.498	0.0	3156.7
29.100	29.100	329.22	2843.7	97.721	0.0	3172.9
29.200	29.200	329.22	2859.9	97.943	0.0	3189.2
29.300	29.300	329.22	2876.2	98.164	0.0	3205.4
29.400	29.400	329.22	2892.5	98.383	0.0	3221.7
29.500	29.500	329.22	2908.7	98.601	0.0	3237.9
29.600	29.600	329.22	2925.0	98.817	0.0	3254.2
29.700	29.700	329.22	2941.2	99.031	0.0	3270.5
29.800	29.800	329.22	2957.5	99.245	0.0	3286.7
29.900	29.900	329.22	2973.8	99.457	0.0	3303.0
30.000	30.000	329.22	2990.0	99.667	0.0	3319.2

Depth [m]	Pile length [m]	Design resistance [kN]			Combination with least resistance #	Factored load* [kN]		
		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]
6.0000	6.0000	170.54	97.061	132.05	2	0.0 (C)	0.0 (C)	0.0 (C)
6.1000	6.1000	175.16	99.845	137.35	2	0.0 (C)	0.0 (C)	0.0 (C)
6.2000	6.2000	179.82	102.65	142.71	2	0.0 (C)	0.0 (C)	0.0 (C)
6.3000	6.3000	184.53	105.49	148.12	2	0.0 (C)	0.0 (C)	0.0 (C)
6.4000	6.4000	189.27	108.35	153.59	2	0.0 (C)	0.0 (C)	0.0 (C)
6.5000	6.5000	194.06	111.24	159.12	2	0.0 (C)	0.0 (C)	0.0 (C)
6.6000	6.6000	198.89	114.15	164.71	2	0.0 (C)	0.0 (C)	0.0 (C)
6.7000	6.7000	203.76	117.09	170.36	2	0.0 (C)	0.0 (C)	0.0 (C)
6.8000	6.8000	208.67	120.05	176.06	2	0.0 (C)	0.0 (C)	0.0 (C)
6.9000	6.9000	213.62	123.04	181.82	2	0.0 (C)	0.0 (C)	0.0 (C)
7.0000	7.0000	218.61	126.06	187.64	2	0.0 (C)	0.0 (C)	0.0 (C)
7.1000	7.1000	223.64	129.10	193.52	2	0.0 (C)	0.0 (C)	0.0 (C)
7.2000	7.2000	228.72	132.17	199.45	2	0.0 (C)	0.0 (C)	0.0 (C)
7.3000	7.3000	233.84	135.26	205.44	2	0.0 (C)	0.0 (C)	0.0 (C)
7.4000	7.4000	238.99	138.38	211.49	2	0.0 (C)	0.0 (C)	0.0 (C)
7.5000	7.5000	244.19	141.53	217.60	2	0.0 (C)	0.0 (C)	0.0 (C)
7.6000	7.6000	249.43	144.70	223.77	2	0.0 (C)	0.0 (C)	0.0 (C)
7.7000	7.7000	254.72	147.89	229.99	2	0.0 (C)	0.0 (C)	0.0 (C)
7.8000	7.8000	260.04	151.12	236.27	2	0.0 (C)	0.0 (C)	0.0 (C)
7.9000	7.9000	265.40	154.36	242.61	2	0.0 (C)	0.0 (C)	0.0 (C)
8.0000	8.0000	270.81	157.64	249.01	2	0.0 (C)	0.0 (C)	0.0 (C)
8.1000	8.1000	276.26	160.94	255.46	2	0.0 (C)	0.0 (C)	0.0 (C)
8.2000	8.2000	281.75	164.26	261.97	2	0.0 (C)	0.0 (C)	0.0 (C)
8.3000	8.3000	287.27	167.61	268.55	2	0.0 (C)	0.0 (C)	0.0 (C)
8.4000	8.4000	292.85	170.99	275.17	2	0.0 (C)	0.0 (C)	0.0 (C)
8.5000	8.5000	298.46	174.40	281.86	2	0.0 (C)	0.0 (C)	0.0 (C)
8.6000	8.6000	304.11	177.82	288.60	2	0.0 (C)	0.0 (C)	0.0 (C)
8.7000	8.7000	309.81	181.28	295.41	2	0.0 (C)	0.0 (C)	0.0 (C)
8.8000	8.8000	315.54	184.76	302.27	2	0.0 (C)	0.0 (C)	0.0 (C)
8.9000	8.9000	321.32	188.27	309.18	2	0.0 (C)	0.0 (C)	0.0 (C)
9.0000	9.0000	327.14	191.80	316.16	2	0.0 (C)	0.0 (C)	0.0 (C)
9.1000	9.1000	333.00	195.36	323.19	2	0.0 (C)	0.0 (C)	0.0 (C)
9.2000	9.2000	338.90	198.94	330.28	2	0.0 (C)	0.0 (C)	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
9.3000	9.3000	344.84	202.55	337.43
9.4000	9.4000	350.83	206.19	344.64
9.5000	9.5000	356.85	209.85	351.90
9.6000	9.6000	362.92	213.53	359.23
9.7000	9.7000	369.03	217.25	366.61
9.8000	9.8000	375.18	220.99	374.04
9.9000	9.9000	381.37	224.75	381.54
10.0000	10.0000	387.60	228.54	389.09
10.1000	10.1000	393.88	232.36	396.71
10.2000	10.2000	400.19	236.20	404.37
10.3000	10.3000	406.55	240.07	412.10
10.4000	10.4000	412.94	243.96	419.89
10.5000	10.5000	419.38	247.88	427.73
10.6000	10.6000	425.86	251.83	435.63
10.7000	10.7000	432.38	255.80	443.59
10.8000	10.8000	438.95	259.79	451.61
10.9000	10.9000	445.55	263.82	459.68
11.0000	11.0000	452.19	267.87	467.81
11.1000	11.1000	458.88	271.94	476.00
11.2000	11.2000	465.61	276.04	484.25
11.3000	11.3000	472.38	280.17	492.55
11.4000	11.4000	479.19	284.32	500.92
11.5000	11.5000	486.04	288.50	509.34
11.6000	11.6000	492.93	292.70	517.82
11.7000	11.7000	499.87	296.93	526.36
11.8000	11.8000	506.84	301.18	534.95
11.9000	11.9000	513.86	305.47	543.60
12.0000	12.0000	520.92	309.77	552.31
12.1000	12.1000	528.02	314.11	561.08
12.2000	12.2000	535.16	318.46	569.91
12.3000	12.3000	542.34	322.85	578.79
12.4000	12.4000	549.56	327.26	587.73
12.5000	12.5000	556.83	331.69	596.73
12.6000	12.6000	564.13	336.16	605.79
12.7000	12.7000	571.48	340.64	614.91
12.8000	12.8000	578.87	345.16	624.08
12.9000	12.9000	586.30	349.70	633.31
13.0000	13.0000	593.77	354.26	642.60
13.1000	13.1000	601.29	358.85	651.95
13.2000	13.2000	608.84	363.47	661.35
13.3000	13.3000	616.43	368.11	670.81
13.4000	13.4000	624.07	372.78	680.33
13.5000	13.5000	631.75	377.47	689.91
13.6000	13.6000	639.47	382.19	699.55
13.7000	13.7000	647.23	386.94	709.24
13.8000	13.8000	655.03	391.71	718.99
13.9000	13.9000	662.87	396.51	728.80
14.0000	14.0000	670.76	401.33	738.67
14.1000	14.1000	678.68	406.18	748.59
14.2000	14.2000	686.65	411.06	758.57
14.3000	14.3000	694.66	415.96	768.62
14.4000	14.4000	702.71	420.88	778.71
14.5000	14.5000	710.80	425.83	788.87
14.6000	14.6000	718.93	430.81	799.08
14.7000	14.7000	727.11	435.82	809.36
14.8000	14.8000	735.32	440.85	819.69
14.9000	14.9000	743.58	445.90	830.07
15.0000	15.0000	751.87	450.98	840.52
15.1000	15.1000	760.21	456.09	851.02
15.2000	15.2000	768.59	461.22	861.58
15.3000	15.3000	777.02	466.38	872.20
15.4000	15.4000	785.48	471.57	882.88
15.5000	15.5000	793.98	476.78	893.61
15.6000	15.6000	802.53	482.01	904.41
15.7000	15.7000	811.11	487.28	915.26
15.8000	15.8000	819.74	492.56	926.16
15.9000	15.9000	828.41	497.88	937.13
16.0000	16.0000	837.12	503.22	948.15
16.1000	16.1000	845.87	508.58	959.24
16.2000	16.2000	854.67	513.97	970.38
16.3000	16.3000	863.50	519.39	981.57





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

450mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
16.400	16.400	872.38	524.83	992.83
16.500	16.500	881.30	530.30	1004.1
16.600	16.600	890.25	535.80	1015.5
16.700	16.700	899.25	541.32	1026.9
16.800	16.800	908.29	546.86	1038.4
16.900	16.900	917.38	552.44	1050.0
17.000	17.000	926.50	558.03	1061.6
17.100	17.100	935.67	563.66	1073.2
17.200	17.200	944.87	569.31	1085.0
17.300	17.300	954.12	574.98	1096.7
17.400	17.400	963.41	580.68	1108.6
17.500	17.500	972.74	586.41	1120.5
17.600	17.600	982.11	592.16	1132.4
17.700	17.700	991.52	597.94	1144.4
17.800	17.800	1001.0	603.75	1156.5
17.900	17.900	1010.5	609.58	1168.6
18.000	18.000	1020.0	615.43	1180.8
18.100	18.100	1029.6	621.31	1193.0
18.200	18.200	1039.2	627.22	1205.3
18.300	18.300	1048.9	633.15	1217.7
18.400	18.400	1058.6	639.11	1230.1
18.500	18.500	1068.3	645.10	1242.5
18.600	18.600	1078.1	651.11	1255.1
18.700	18.700	1087.9	657.15	1267.7
18.800	18.800	1097.8	663.21	1280.3
18.900	18.900	1107.7	669.30	1293.0
19.000	19.000	1117.7	675.41	1305.8
19.100	19.100	1127.6	681.55	1318.6
19.200	19.200	1137.7	687.72	1331.5
19.300	19.300	1147.7	693.91	1344.4
19.400	19.400	1157.9	700.13	1357.4
19.500	19.500	1168.0	706.37	1370.4
19.600	19.600	1178.2	712.64	1383.5
19.700	19.700	1188.5	718.93	1396.7
19.800	19.800	1198.7	725.25	1409.9
19.900	19.900	1209.1	731.60	1423.2
20.000	20.000	1219.4	737.97	1436.5
20.100	20.100	1229.8	744.37	1449.9
20.200	20.200	1240.3	750.79	1463.4
20.300	20.300	1250.8	757.24	1476.9
20.400	20.400	1261.3	763.72	1490.5
20.500	20.500	1271.9	770.22	1504.1
20.600	20.600	1282.5	776.75	1517.8
20.700	20.700	1293.1	783.30	1531.5
20.800	20.800	1303.8	789.88	1545.3
20.900	20.900	1314.5	796.49	1559.2
21.000	21.000	1325.3	803.12	1573.1
21.100	21.100	1336.1	809.77	1587.1
21.200	21.200	1347.0	816.45	1601.1
21.300	21.300	1357.9	823.16	1615.2
21.400	21.400	1368.8	829.90	1629.3
21.500	21.500	1379.8	836.66	1643.5
21.600	21.600	1390.8	843.44	1657.8
21.700	21.700	1401.9	850.25	1672.1
21.800	21.800	1413.0	857.09	1686.5
21.900	21.900	1424.2	863.95	1700.9
22.000	22.000	1435.4	870.84	1715.4
22.100	22.100	1446.6	877.76	1730.0
22.200	22.200	1457.9	884.70	1744.6
22.300	22.300	1469.2	891.66	1759.2
22.400	22.400	1480.5	898.65	1774.0
22.500	22.500	1491.9	905.67	1788.8
22.600	22.600	1503.4	912.72	1803.6
22.700	22.700	1514.8	919.79	1818.5
22.800	22.800	1526.4	926.88	1833.4
22.900	22.900	1537.9	934.00	1848.5
23.000	23.000	1549.5	941.15	1863.5
23.100	23.100	1561.2	948.32	1878.7
23.200	23.200	1572.9	955.52	1893.9
23.300	23.300	1584.6	962.74	1909.1
23.400	23.400	1596.3	969.99	1924.4



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
23.500	23.500	1608.2	977.27 1939.8	2 0.0 (C) 0.0 (C) 0.0 (C)
23.600	23.600	1620.0	984.57 1955.2	2 0.0 (C) 0.0 (C) 0.0 (C)
23.700	23.700	1631.9	991.90 1970.7	2 0.0 (C) 0.0 (C) 0.0 (C)
23.800	23.800	1643.8	999.25 1986.2	2 0.0 (C) 0.0 (C) 0.0 (C)
23.900	23.900	1655.8	1006.6 2001.8	2 0.0 (C) 0.0 (C) 0.0 (C)
24.000	24.000	1667.8	1014.0 2017.4	2 0.0 (C) 0.0 (C) 0.0 (C)
24.100	24.100	1679.9	1021.5 2033.1	2 0.0 (C) 0.0 (C) 0.0 (C)
24.200	24.200	1692.0	1028.9 2048.9	2 0.0 (C) 0.0 (C) 0.0 (C)
24.300	24.300	1704.1	1036.4 2064.7	2 0.0 (C) 0.0 (C) 0.0 (C)
24.400	24.400	1716.3	1043.9 2080.6	2 0.0 (C) 0.0 (C) 0.0 (C)
24.500	24.500	1728.5	1051.5 2096.6	2 0.0 (C) 0.0 (C) 0.0 (C)
24.600	24.600	1740.8	1059.0 2112.6	2 0.0 (C) 0.0 (C) 0.0 (C)
24.700	24.700	1753.1	1066.6 2128.6	2 0.0 (C) 0.0 (C) 0.0 (C)
24.800	24.800	1765.4	1074.2 2144.7	2 0.0 (C) 0.0 (C) 0.0 (C)
24.900	24.900	1777.8	1081.8 2160.9	2 0.0 (C) 0.0 (C) 0.0 (C)
25.000	25.000	1790.2	1089.5 2177.1	2 0.0 (C) 0.0 (C) 0.0 (C)
25.000	25.000	1790.2	1089.5 2177.1	2 0.0 (C) 0.0 (C) 0.0 (C)
25.100	25.100	1801.9	1096.8 2193.4	2 0.0 (C) 0.0 (C) 0.0 (C)
25.200	25.200	1813.5	1104.0 2209.6	2 0.0 (C) 0.0 (C) 0.0 (C)
25.300	25.300	1825.1	1111.3 2225.9	2 0.0 (C) 0.0 (C) 0.0 (C)
25.400	25.400	1836.7	1118.5 2242.2	2 0.0 (C) 0.0 (C) 0.0 (C)
25.500	25.500	1848.3	1125.8 2258.4	2 0.0 (C) 0.0 (C) 0.0 (C)
25.600	25.600	1859.9	1133.1 2274.7	2 0.0 (C) 0.0 (C) 0.0 (C)
25.700	25.700	1871.5	1140.3 2290.9	2 0.0 (C) 0.0 (C) 0.0 (C)
25.800	25.800	1883.1	1147.6 2307.2	2 0.0 (C) 0.0 (C) 0.0 (C)
25.900	25.900	1894.8	1154.8 2323.4	2 0.0 (C) 0.0 (C) 0.0 (C)
26.000	26.000	1906.4	1162.1 2339.7	2 0.0 (C) 0.0 (C) 0.0 (C)
26.100	26.100	1918.0	1169.3 2356.0	2 0.0 (C) 0.0 (C) 0.0 (C)
26.200	26.200	1929.6	1176.6 2372.2	2 0.0 (C) 0.0 (C) 0.0 (C)
26.300	26.300	1941.2	1183.9 2388.5	2 0.0 (C) 0.0 (C) 0.0 (C)
26.400	26.400	1952.8	1191.1 2404.7	2 0.0 (C) 0.0 (C) 0.0 (C)
26.500	26.500	1964.4	1198.4 2421.0	2 0.0 (C) 0.0 (C) 0.0 (C)
26.600	26.600	1976.0	1205.6 2437.2	2 0.0 (C) 0.0 (C) 0.0 (C)
26.700	26.700	1987.7	1212.9 2453.5	2 0.0 (C) 0.0 (C) 0.0 (C)
26.800	26.800	1999.3	1220.2 2469.8	2 0.0 (C) 0.0 (C) 0.0 (C)
26.900	26.900	2010.9	1227.4 2486.0	2 0.0 (C) 0.0 (C) 0.0 (C)
27.000	27.000	2022.5	1234.7 2502.3	2 0.0 (C) 0.0 (C) 0.0 (C)
27.100	27.100	2034.1	1241.9 2518.5	2 0.0 (C) 0.0 (C) 0.0 (C)
27.200	27.200	2045.7	1249.2 2534.8	2 0.0 (C) 0.0 (C) 0.0 (C)
27.300	27.300	2057.3	1256.4 2551.1	2 0.0 (C) 0.0 (C) 0.0 (C)
27.400	27.400	2068.9	1263.7 2567.3	2 0.0 (C) 0.0 (C) 0.0 (C)
27.500	27.500	2080.6	1271.0 2583.6	2 0.0 (C) 0.0 (C) 0.0 (C)
27.600	27.600	2092.2	1278.2 2599.8	2 0.0 (C) 0.0 (C) 0.0 (C)
27.700	27.700	2103.8	1285.5 2616.1	2 0.0 (C) 0.0 (C) 0.0 (C)
27.800	27.800	2115.4	1292.7 2632.3	2 0.0 (C) 0.0 (C) 0.0 (C)
27.900	27.900	2127.0	1300.0 2648.6	2 0.0 (C) 0.0 (C) 0.0 (C)
28.000	28.000	2138.6	1307.2 2664.9	2 0.0 (C) 0.0 (C) 0.0 (C)
28.100	28.100	2150.2	1314.5 2681.1	2 0.0 (C) 0.0 (C) 0.0 (C)
28.200	28.200	2161.9	1321.8 2697.4	2 0.0 (C) 0.0 (C) 0.0 (C)
28.300	28.300	2173.5	1329.0 2713.6	2 0.0 (C) 0.0 (C) 0.0 (C)
28.400	28.400	2185.1	1336.3 2729.9	2 0.0 (C) 0.0 (C) 0.0 (C)
28.500	28.500	2196.7	1343.5 2746.1	2 0.0 (C) 0.0 (C) 0.0 (C)
28.600	28.600	2208.3	1350.8 2762.4	2 0.0 (C) 0.0 (C) 0.0 (C)
28.700	28.700	2219.9	1358.1 2778.7	2 0.0 (C) 0.0 (C) 0.0 (C)
28.800	28.800	2231.5	1365.3 2794.9	2 0.0 (C) 0.0 (C) 0.0 (C)
28.900	28.900	2243.1	1372.6 2811.2	2 0.0 (C) 0.0 (C) 0.0 (C)
29.000	29.000	2254.8	1379.8 2827.4	2 0.0 (C) 0.0 (C) 0.0 (C)
29.100	29.100	2266.4	1387.1 2843.7	2 0.0 (C) 0.0 (C) 0.0 (C)
29.200	29.200	2278.0	1394.3 2859.9	2 0.0 (C) 0.0 (C) 0.0 (C)
29.300	29.300	2289.6	1401.6 2876.2	2 0.0 (C) 0.0 (C) 0.0 (C)
29.400	29.400	2301.2	1408.9 2892.5	2 0.0 (C) 0.0 (C) 0.0 (C)
29.500	29.500	2312.8	1416.1 2908.7	2 0.0 (C) 0.0 (C) 0.0 (C)
29.600	29.600	2324.4	1423.4 2925.0	2 0.0 (C) 0.0 (C) 0.0 (C)
29.700	29.700	2336.0	1430.6 2941.2	2 0.0 (C) 0.0 (C) 0.0 (C)
29.800	29.800	2347.7	1437.9 2957.5	2 0.0 (C) 0.0 (C) 0.0 (C)
29.900	29.900	2359.3	1445.1 2973.8	2 0.0 (C) 0.0 (C) 0.0 (C)
30.000	30.000	2370.9	1452.4 2990.0	2 0.0 (C) 0.0 (C) 0.0 (C)

# Limiting criteria :  
1 : DA1 C1  
2 : DA1 C2



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No. Sheet No. Rev.

**P755**

Dr. Ref.

Made by Date Checked Date

JW

Date

Checked

Date

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
3 : BS8004:2015 SLS				
*(C)-> Compression load, (T)-> Tension load				
Note: Design resistance does not include any consideration of negative skin friction.				

**Nq Calculation Details**

**Soil Profile 1: Soil Profile 1 - Material Factor Set - 1**

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

**Soil Profile 1: Soil Profile 1 - Material Factor Set - 2**

There are no pile toe levels in any drained material (with Berezantzev/Bolton option) in the given soil profile.

**Results - Tension**

**Soil Profile 1: Soil Profile 1**

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
[m]	[m]	[kN]	[kN/m]	[kN]
6.0000	6.0000	132.05	22.009	132.05
6.1000	6.1000	137.35	22.517	137.35
6.2000	6.2000	142.71	23.017	142.71
6.3000	6.3000	148.12	23.511	148.12
6.4000	6.4000	153.59	23.999	153.59
6.5000	6.5000	159.12	24.481	159.12
6.6000	6.6000	164.71	24.956	164.71
6.7000	6.7000	170.36	25.426	170.36
6.8000	6.8000	176.06	25.891	176.06
6.9000	6.9000	181.82	26.351	181.82
7.0000	7.0000	187.64	26.806	187.64
7.1000	7.1000	193.52	27.256	193.52
7.2000	7.2000	199.45	27.701	199.45
7.3000	7.3000	205.44	28.143	205.44
7.4000	7.4000	211.49	28.580	211.49
7.5000	7.5000	217.60	29.013	217.60
7.6000	7.6000	223.77	29.443	223.77
7.7000	7.7000	229.99	29.869	229.99
7.8000	7.8000	236.27	30.291	236.27
7.9000	7.9000	242.61	30.710	242.61
8.0000	8.0000	249.01	31.126	249.01
8.1000	8.1000	255.46	31.538	255.46
8.2000	8.2000	261.97	31.948	261.97
8.3000	8.3000	268.55	32.355	268.55
8.4000	8.4000	275.17	32.759	275.17
8.5000	8.5000	281.86	33.160	281.86
8.6000	8.6000	288.60	33.559	288.60
8.7000	8.7000	295.41	33.955	295.41
8.8000	8.8000	302.27	34.348	302.27
8.9000	8.9000	309.18	34.740	309.18
9.0000	9.0000	316.16	35.129	316.16
9.1000	9.1000	323.19	35.516	323.19
9.2000	9.2000	330.28	35.900	330.28
9.3000	9.3000	337.43	36.283	337.43
9.4000	9.4000	344.64	36.664	344.64
9.5000	9.5000	351.90	37.042	351.90
9.6000	9.6000	359.23	37.419	359.23
9.7000	9.7000	366.61	37.794	366.61
9.8000	9.8000	374.04	38.168	374.04
9.9000	9.9000	381.54	38.539	381.54
10.000	10.000	389.09	38.909	389.09
10.100	10.100	396.70	39.278	396.70
10.200	10.200	404.37	39.645	404.37
10.300	10.300	412.10	40.010	412.10



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
10.400	10.400	419.89	40.374	419.89
10.500	10.500	427.73	40.736	427.73
10.600	10.600	435.63	41.097	435.63
10.700	10.700	443.59	41.457	443.59
10.800	10.800	451.61	41.815	451.61
10.900	10.900	459.68	42.172	459.68
11.000	11.000	467.81	42.528	467.81
11.100	11.100	476.00	42.883	476.00
11.200	11.200	484.25	43.237	484.25
11.300	11.300	492.55	43.589	492.55
11.400	11.400	500.92	43.940	500.92
11.500	11.500	509.34	44.290	509.34
11.600	11.600	517.82	44.640	517.82
11.700	11.700	526.36	44.988	526.36
11.800	11.800	534.95	45.335	534.95
11.900	11.900	543.60	45.681	543.60
12.000	12.000	552.31	46.026	552.31
12.100	12.100	561.08	46.370	561.08
12.200	12.200	569.91	46.714	569.91
12.300	12.300	578.79	47.056	578.79
12.400	12.400	587.73	47.398	587.73
12.500	12.500	596.73	47.739	596.73
12.600	12.600	605.79	48.079	605.79
12.700	12.700	614.91	48.418	614.91
12.800	12.800	624.08	48.756	624.08
12.900	12.900	633.31	49.094	633.31
13.000	13.000	642.60	49.431	642.60
13.100	13.100	651.95	49.767	651.95
13.200	13.200	661.35	50.102	661.35
13.300	13.300	670.81	50.437	670.81
13.400	13.400	680.33	50.771	680.33
13.500	13.500	689.91	51.104	689.91
13.600	13.600	699.55	51.437	699.55
13.700	13.700	709.24	51.769	709.24
13.800	13.800	718.99	52.101	718.99
13.900	13.900	728.80	52.432	728.80
14.000	14.000	738.67	52.762	738.67
14.100	14.100	748.59	53.092	748.59
14.200	14.200	758.57	53.421	758.57
14.300	14.300	768.62	53.749	768.62
14.400	14.400	778.71	54.077	778.71
14.500	14.500	788.87	54.405	788.87
14.600	14.600	799.08	54.732	799.08
14.700	14.700	809.36	55.058	809.36
14.800	14.800	819.69	55.384	819.69
14.900	14.900	830.07	55.710	830.07
15.000	15.000	840.52	56.035	840.52
15.100	15.100	851.02	56.359	851.02
15.200	15.200	861.58	56.683	861.58
15.300	15.300	872.20	57.007	872.20
15.400	15.400	882.88	57.330	882.88
15.500	15.500	893.61	57.652	893.61
15.600	15.600	904.41	57.975	904.41
15.700	15.700	915.26	58.297	915.26
15.800	15.800	926.16	58.618	926.16
15.900	15.900	937.13	58.939	937.13
16.000	16.000	948.15	59.260	948.15
16.100	16.100	959.24	59.580	959.24
16.200	16.200	970.38	59.900	970.38
16.300	16.300	981.57	60.219	981.57
16.400	16.400	992.83	60.538	992.83
16.500	16.500	1004.1	60.857	1004.1
16.600	16.600	1015.5	61.175	1015.5
16.700	16.700	1026.9	61.493	1026.9
16.800	16.800	1038.4	61.811	1038.4
16.900	16.900	1050.0	62.128	1050.0
17.000	17.000	1061.6	62.445	1061.6
17.100	17.100	1073.2	62.762	1073.2
17.200	17.200	1085.0	63.079	1085.0
17.300	17.300	1096.7	63.395	1096.7
17.400	17.400	1108.6	63.710	1108.6



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

450mm diameter load bearing pile design revision A

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
17.500	17.500	1120.5	64.026	1120.5
17.600	17.600	1132.4	64.341	1132.4
17.700	17.700	1144.4	64.656	1144.4
17.800	17.800	1156.5	64.970	1156.5
17.900	17.900	1168.6	65.285	1168.6
18.000	18.000	1180.8	65.599	1180.8
18.100	18.100	1193.0	65.912	1193.0
18.200	18.200	1205.3	66.226	1205.3
18.300	18.300	1217.7	66.539	1217.7
18.400	18.400	1230.1	66.852	1230.1
18.500	18.500	1242.5	67.165	1242.5
18.600	18.600	1255.1	67.477	1255.1
18.700	18.700	1267.7	67.789	1267.7
18.800	18.800	1280.3	68.101	1280.3
18.900	18.900	1293.0	68.413	1293.0
19.000	19.000	1305.8	68.724	1305.8
19.100	19.100	1318.6	69.035	1318.6
19.200	19.200	1331.5	69.346	1331.5
19.300	19.300	1344.4	69.657	1344.4
19.400	19.400	1357.4	69.968	1357.4
19.500	19.500	1370.4	70.278	1370.4
19.600	19.600	1383.5	70.588	1383.5
19.700	19.700	1396.7	70.898	1396.7
19.800	19.800	1409.9	71.208	1409.9
19.900	19.900	1423.2	71.517	1423.2
20.000	20.000	1436.5	71.826	1436.5
20.100	20.100	1449.9	72.136	1449.9
20.200	20.200	1463.4	72.444	1463.4
20.300	20.300	1476.9	72.753	1476.9
20.400	20.400	1490.5	73.062	1490.5
20.500	20.500	1504.1	73.370	1504.1
20.600	20.600	1517.8	73.678	1517.8
20.700	20.700	1531.5	73.986	1531.5
20.800	20.800	1545.3	74.294	1545.3
20.900	20.900	1559.2	74.601	1559.2
21.000	21.000	1573.1	74.909	1573.1
21.100	21.100	1587.1	75.216	1587.1
21.200	21.200	1601.1	75.523	1601.1
21.300	21.300	1615.2	75.830	1615.2
21.400	21.400	1629.3	76.136	1629.3
21.500	21.500	1643.5	76.443	1643.5
21.600	21.600	1657.8	76.749	1657.8
21.700	21.700	1672.1	77.056	1672.1
21.800	21.800	1686.5	77.362	1686.5
21.900	21.900	1700.9	77.668	1700.9
22.000	22.000	1715.4	77.973	1715.4
22.100	22.100	1730.0	78.279	1730.0
22.200	22.200	1744.6	78.585	1744.6
22.300	22.300	1759.2	78.890	1759.2
22.400	22.400	1774.0	79.195	1774.0
22.500	22.500	1788.8	79.500	1788.8
22.600	22.600	1803.6	79.805	1803.6
22.700	22.700	1818.5	80.110	1818.5
22.800	22.800	1833.4	80.414	1833.4
22.900	22.900	1848.5	80.719	1848.5
23.000	23.000	1863.5	81.023	1863.5
23.100	23.100	1878.7	81.327	1878.7
23.200	23.200	1893.9	81.632	1893.9
23.300	23.300	1909.1	81.936	1909.1
23.400	23.400	1924.4	82.239	1924.4
23.500	23.500	1939.8	82.543	1939.8
23.600	23.600	1955.2	82.847	1955.2
23.700	23.700	1970.7	83.150	1970.7
23.800	23.800	1986.2	83.454	1986.2
23.900	23.900	2001.8	83.757	2001.8
24.000	24.000	2017.4	84.060	2017.4
24.100	24.100	2033.1	84.363	2033.1
24.200	24.200	2048.9	84.666	2048.9
24.300	24.300	2064.7	84.969	2064.7
24.400	24.400	2080.6	85.271	2080.6
24.500	24.500	2096.6	85.574	2096.6



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by Date Checked Date  
JW

Depth	Pile length	Cumulative external Friction (Q <sub>s</sub> )	Average external Friction (q <sub>s</sub> )	Net ultimate resistance
24.600	24.600	2112.6	85.876	2112.6
24.700	24.700	2128.6	86.179	2128.6
24.800	24.800	2144.7	86.481	2144.7
24.900	24.900	2160.9	86.783	2160.9
25.000	25.000	2177.1	87.085	2177.1
25.100	25.100	2193.4	87.386	2193.4
25.200	25.200	2209.6	87.684	2209.6
25.300	25.300	2225.9	87.980	2225.9
25.400	25.400	2242.2	88.274	2242.2
25.500	25.500	2258.4	88.565	2258.4
25.600	25.600	2274.7	88.854	2274.7
25.700	25.700	2290.9	89.141	2290.9
25.800	25.800	2307.2	89.426	2307.2
25.900	25.900	2323.4	89.708	2323.4
26.000	26.000	2339.7	89.988	2339.7
26.100	26.100	2356.0	90.267	2356.0
26.200	26.200	2372.2	90.543	2372.2
26.300	26.300	2388.5	90.816	2388.5
26.400	26.400	2404.7	91.088	2404.7
26.500	26.500	2421.0	91.358	2421.0
26.600	26.600	2437.2	91.626	2437.2
26.700	26.700	2453.5	91.892	2453.5
26.800	26.800	2469.8	92.155	2469.8
26.900	26.900	2486.0	92.417	2486.0
27.000	27.000	2502.3	92.677	2502.3
27.100	27.100	2518.5	92.935	2518.5
27.200	27.200	2534.8	93.191	2534.8
27.300	27.300	2551.1	93.445	2551.1
27.400	27.400	2567.3	93.697	2567.3
27.500	27.500	2583.6	93.948	2583.6
27.600	27.600	2599.8	94.197	2599.8
27.700	27.700	2616.1	94.443	2616.1
27.800	27.800	2632.3	94.688	2632.3
27.900	27.900	2648.6	94.932	2648.6
28.000	28.000	2664.9	95.173	2664.9
28.100	28.100	2681.1	95.413	2681.1
28.200	28.200	2697.4	95.651	2697.4
28.300	28.300	2713.6	95.888	2713.6
28.400	28.400	2729.9	96.123	2729.9
28.500	28.500	2746.1	96.356	2746.1
28.600	28.600	2762.4	96.587	2762.4
28.700	28.700	2778.7	96.817	2778.7
28.800	28.800	2794.9	97.046	2794.9
28.900	28.900	2811.2	97.272	2811.2
29.000	29.000	2827.4	97.498	2827.4
29.100	29.100	2843.7	97.721	2843.7
29.200	29.200	2859.9	97.943	2859.9
29.300	29.300	2876.2	98.164	2876.2
29.400	29.400	2892.5	98.383	2892.5
29.500	29.500	2908.7	98.601	2908.7
29.600	29.600	2925.0	98.817	2925.0
29.700	29.700	2941.2	99.031	2941.2
29.800	29.800	2957.5	99.245	2957.5
29.900	29.900	2973.8	99.457	2973.8
30.000	30.000	2990.0	99.667	2990.0

Depth [m]	Pile length [m]	Design resistance			Combination with least resistance #	Factored load*		
		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]		DA1-C1 [kN]	DA1-C2 [kN]	BS8004-SLS [kN]
6.0000	6.0000	94.324	47.162		2	N.A.	N.A.	0.0 (C)
6.1000	6.1000	98.109	49.054		2	N.A.	N.A.	0.0 (C)
6.2000	6.2000	101.93	50.967		2	N.A.	N.A.	0.0 (C)
6.3000	6.3000	105.80	52.901		2	N.A.	N.A.	0.0 (C)
6.4000	6.4000	109.71	54.855		2	N.A.	N.A.	0.0 (C)
6.5000	6.5000	113.66	56.830		2	N.A.	N.A.	0.0 (C)
6.6000	6.6000	117.65	58.825		2	N.A.	N.A.	0.0 (C)
6.7000	6.7000	121.68	60.841		2	N.A.	N.A.	0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

450mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
6.8000	6.8000	125.76	62.878	2 N.A. N.A. 0.0 (C)
6.9000	6.9000	129.87	64.936	2 N.A. N.A. 0.0 (C)
7.0000	7.0000	134.03	67.014	2 N.A. N.A. 0.0 (C)
7.1000	7.1000	138.23	69.113	2 N.A. N.A. 0.0 (C)
7.2000	7.2000	142.46	71.232	2 N.A. N.A. 0.0 (C)
7.3000	7.3000	146.74	73.372	2 N.A. N.A. 0.0 (C)
7.4000	7.4000	151.07	75.533	2 N.A. N.A. 0.0 (C)
7.5000	7.5000	155.43	77.714	2 N.A. N.A. 0.0 (C)
7.6000	7.6000	159.83	79.916	2 N.A. N.A. 0.0 (C)
7.7000	7.7000	164.28	82.139	2 N.A. N.A. 0.0 (C)
7.8000	7.8000	168.76	84.382	2 N.A. N.A. 0.0 (C)
7.9000	7.9000	173.29	86.646	2 N.A. N.A. 0.0 (C)
8.0000	8.0000	177.86	88.931	2 N.A. N.A. 0.0 (C)
8.1000	8.1000	182.47	91.236	2 N.A. N.A. 0.0 (C)
8.2000	8.2000	187.12	93.562	2 N.A. N.A. 0.0 (C)
8.3000	8.3000	191.82	95.909	2 N.A. N.A. 0.0 (C)
8.4000	8.4000	196.55	98.276	2 N.A. N.A. 0.0 (C)
8.5000	8.5000	201.33	100.66	2 N.A. N.A. 0.0 (C)
8.6000	8.6000	206.15	103.07	2 N.A. N.A. 0.0 (C)
8.7000	8.7000	211.00	105.50	2 N.A. N.A. 0.0 (C)
8.8000	8.8000	215.90	107.95	2 N.A. N.A. 0.0 (C)
8.9000	8.9000	220.85	110.42	2 N.A. N.A. 0.0 (C)
9.0000	9.0000	225.83	112.91	2 N.A. N.A. 0.0 (C)
9.1000	9.1000	230.85	115.43	2 N.A. N.A. 0.0 (C)
9.2000	9.2000	235.92	117.96	2 N.A. N.A. 0.0 (C)
9.3000	9.3000	241.02	120.51	2 N.A. N.A. 0.0 (C)
9.4000	9.4000	246.17	123.09	2 N.A. N.A. 0.0 (C)
9.5000	9.5000	251.36	125.68	2 N.A. N.A. 0.0 (C)
9.6000	9.6000	256.59	128.29	2 N.A. N.A. 0.0 (C)
9.7000	9.7000	261.86	130.93	2 N.A. N.A. 0.0 (C)
9.8000	9.8000	267.17	133.59	2 N.A. N.A. 0.0 (C)
9.9000	9.9000	272.53	136.26	2 N.A. N.A. 0.0 (C)
10.000	10.000	277.92	138.96	2 N.A. N.A. 0.0 (C)
10.100	10.100	283.36	141.68	2 N.A. N.A. 0.0 (C)
10.200	10.200	288.84	144.42	2 N.A. N.A. 0.0 (C)
10.300	10.300	294.36	147.18	2 N.A. N.A. 0.0 (C)
10.400	10.400	299.92	149.96	2 N.A. N.A. 0.0 (C)
10.500	10.500	305.52	152.76	2 N.A. N.A. 0.0 (C)
10.600	10.600	311.16	155.58	2 N.A. N.A. 0.0 (C)
10.700	10.700	316.85	158.42	2 N.A. N.A. 0.0 (C)
10.800	10.800	322.58	161.29	2 N.A. N.A. 0.0 (C)
10.900	10.900	328.34	164.17	2 N.A. N.A. 0.0 (C)
11.000	11.000	334.15	167.08	2 N.A. N.A. 0.0 (C)
11.100	11.100	340.00	170.00	2 N.A. N.A. 0.0 (C)
11.200	11.200	345.89	172.95	2 N.A. N.A. 0.0 (C)
11.300	11.300	351.82	175.91	2 N.A. N.A. 0.0 (C)
11.400	11.400	357.80	178.90	2 N.A. N.A. 0.0 (C)
11.500	11.500	363.81	181.91	2 N.A. N.A. 0.0 (C)
11.600	11.600	369.87	184.94	2 N.A. N.A. 0.0 (C)
11.700	11.700	375.97	187.98	2 N.A. N.A. 0.0 (C)
11.800	11.800	382.11	191.05	2 N.A. N.A. 0.0 (C)
11.900	11.900	388.29	194.14	2 N.A. N.A. 0.0 (C)
12.000	12.000	394.51	197.25	2 N.A. N.A. 0.0 (C)
12.100	12.100	400.77	200.39	2 N.A. N.A. 0.0 (C)
12.200	12.200	407.08	203.54	2 N.A. N.A. 0.0 (C)
12.300	12.300	413.42	206.71	2 N.A. N.A. 0.0 (C)
12.400	12.400	419.81	209.90	2 N.A. N.A. 0.0 (C)
12.500	12.500	426.24	213.12	2 N.A. N.A. 0.0 (C)
12.600	12.600	432.71	216.35	2 N.A. N.A. 0.0 (C)
12.700	12.700	439.22	219.61	2 N.A. N.A. 0.0 (C)
12.800	12.800	445.77	222.89	2 N.A. N.A. 0.0 (C)
12.900	12.900	452.36	226.18	2 N.A. N.A. 0.0 (C)
13.000	13.000	459.00	229.50	2 N.A. N.A. 0.0 (C)
13.100	13.100	465.68	232.84	2 N.A. N.A. 0.0 (C)
13.200	13.200	472.39	236.20	2 N.A. N.A. 0.0 (C)
13.300	13.300	479.15	239.58	2 N.A. N.A. 0.0 (C)
13.400	13.400	485.95	242.98	2 N.A. N.A. 0.0 (C)
13.500	13.500	492.79	246.40	2 N.A. N.A. 0.0 (C)
13.600	13.600	499.68	249.84	2 N.A. N.A. 0.0 (C)
13.700	13.700	506.60	253.30	2 N.A. N.A. 0.0 (C)
13.800	13.800	513.56	256.78	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

Made by  
JW

Date

Checked

Date

450mm diameter load bearing pile design revision A

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
13.900	13.900	520.57	260.29	2 N.A. N.A. 0.0 (C)
14.000	14.000	527.62	263.81	2 N.A. N.A. 0.0 (C)
14.100	14.100	534.71	267.35	2 N.A. N.A. 0.0 (C)
14.200	14.200	541.84	270.92	2 N.A. N.A. 0.0 (C)
14.300	14.300	549.01	274.51	2 N.A. N.A. 0.0 (C)
14.400	14.400	556.22	278.11	2 N.A. N.A. 0.0 (C)
14.500	14.500	563.48	281.74	2 N.A. N.A. 0.0 (C)
14.600	14.600	570.77	285.39	2 N.A. N.A. 0.0 (C)
14.700	14.700	578.11	289.06	2 N.A. N.A. 0.0 (C)
14.800	14.800	585.49	292.74	2 N.A. N.A. 0.0 (C)
14.900	14.900	592.91	296.45	2 N.A. N.A. 0.0 (C)
15.000	15.000	600.37	300.19	2 N.A. N.A. 0.0 (C)
15.100	15.100	607.87	303.94	2 N.A. N.A. 0.0 (C)
15.200	15.200	615.42	307.71	2 N.A. N.A. 0.0 (C)
15.300	15.300	623.00	311.50	2 N.A. N.A. 0.0 (C)
15.400	15.400	630.63	315.31	2 N.A. N.A. 0.0 (C)
15.500	15.500	638.30	319.15	2 N.A. N.A. 0.0 (C)
15.600	15.600	646.00	323.00	2 N.A. N.A. 0.0 (C)
15.700	15.700	653.75	326.88	2 N.A. N.A. 0.0 (C)
15.800	15.800	661.55	330.77	2 N.A. N.A. 0.0 (C)
15.900	15.900	669.38	334.69	2 N.A. N.A. 0.0 (C)
16.000	16.000	677.25	338.63	2 N.A. N.A. 0.0 (C)
16.100	16.100	685.17	342.58	2 N.A. N.A. 0.0 (C)
16.200	16.200	693.13	346.56	2 N.A. N.A. 0.0 (C)
16.300	16.300	701.12	350.56	2 N.A. N.A. 0.0 (C)
16.400	16.400	709.16	354.58	2 N.A. N.A. 0.0 (C)
16.500	16.500	717.24	358.62	2 N.A. N.A. 0.0 (C)
16.600	16.600	725.37	362.68	2 N.A. N.A. 0.0 (C)
16.700	16.700	733.53	366.76	2 N.A. N.A. 0.0 (C)
16.800	16.800	741.73	370.87	2 N.A. N.A. 0.0 (C)
16.900	16.900	749.98	374.99	2 N.A. N.A. 0.0 (C)
17.000	17.000	758.27	379.13	2 N.A. N.A. 0.0 (C)
17.100	17.100	766.59	383.30	2 N.A. N.A. 0.0 (C)
17.200	17.200	774.96	387.48	2 N.A. N.A. 0.0 (C)
17.300	17.300	783.38	391.69	2 N.A. N.A. 0.0 (C)
17.400	17.400	791.83	395.91	2 N.A. N.A. 0.0 (C)
17.500	17.500	800.32	400.16	2 N.A. N.A. 0.0 (C)
17.600	17.600	808.86	404.43	2 N.A. N.A. 0.0 (C)
17.700	17.700	817.43	408.72	2 N.A. N.A. 0.0 (C)
17.800	17.800	826.05	413.03	2 N.A. N.A. 0.0 (C)
17.900	17.900	834.71	417.36	2 N.A. N.A. 0.0 (C)
18.000	18.000	843.41	421.71	2 N.A. N.A. 0.0 (C)
18.100	18.100	852.15	426.08	2 N.A. N.A. 0.0 (C)
18.200	18.200	860.94	430.47	2 N.A. N.A. 0.0 (C)
18.300	18.300	869.76	434.88	2 N.A. N.A. 0.0 (C)
18.400	18.400	878.63	439.31	2 N.A. N.A. 0.0 (C)
18.500	18.500	887.53	443.77	2 N.A. N.A. 0.0 (C)
18.600	18.600	896.48	448.24	2 N.A. N.A. 0.0 (C)
18.700	18.700	905.47	452.73	2 N.A. N.A. 0.0 (C)
18.800	18.800	914.50	457.25	2 N.A. N.A. 0.0 (C)
18.900	18.900	923.57	461.79	2 N.A. N.A. 0.0 (C)
19.000	19.000	932.69	466.34	2 N.A. N.A. 0.0 (C)
19.100	19.100	941.84	470.92	2 N.A. N.A. 0.0 (C)
19.200	19.200	951.04	475.52	2 N.A. N.A. 0.0 (C)
19.300	19.300	960.27	480.14	2 N.A. N.A. 0.0 (C)
19.400	19.400	969.55	484.78	2 N.A. N.A. 0.0 (C)
19.500	19.500	978.87	489.44	2 N.A. N.A. 0.0 (C)
19.600	19.600	988.23	494.12	2 N.A. N.A. 0.0 (C)
19.700	19.700	997.64	498.82	2 N.A. N.A. 0.0 (C)
19.800	19.800	1007.1	503.54	2 N.A. N.A. 0.0 (C)
19.900	19.900	1016.6	508.28	2 N.A. N.A. 0.0 (C)
20.000	20.000	1026.1	513.05	2 N.A. N.A. 0.0 (C)
20.100	20.100	1035.7	517.83	2 N.A. N.A. 0.0 (C)
20.200	20.200	1045.3	522.63	2 N.A. N.A. 0.0 (C)
20.300	20.300	1054.9	527.46	2 N.A. N.A. 0.0 (C)
20.400	20.400	1064.6	532.31	2 N.A. N.A. 0.0 (C)
20.500	20.500	1074.3	537.17	2 N.A. N.A. 0.0 (C)
20.600	20.600	1084.1	542.06	2 N.A. N.A. 0.0 (C)
20.700	20.700	1093.9	546.97	2 N.A. N.A. 0.0 (C)
20.800	20.800	1103.8	551.90	2 N.A. N.A. 0.0 (C)
20.900	20.900	1113.7	556.84	2 N.A. N.A. 0.0 (C)





**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

Job No. Sheet No. Rev.

**P755**

Drg. Ref.

450mm diameter load bearing pile design revision A

Made by Date Checked Date  
JW

Depth	Pile length	Design resistance	Combination with least resistance	Factored load*
			#	
21.000	21.000	1123.6	561.81	2 N.A. N.A. 0.0 (C)
21.100	21.100	1133.6	566.81	2 N.A. N.A. 0.0 (C)
21.200	21.200	1143.6	571.82	2 N.A. N.A. 0.0 (C)
21.300	21.300	1153.7	576.85	2 N.A. N.A. 0.0 (C)
21.400	21.400	1163.8	581.90	2 N.A. N.A. 0.0 (C)
21.500	21.500	1173.9	586.97	2 N.A. N.A. 0.0 (C)
21.600	21.600	1184.1	592.07	2 N.A. N.A. 0.0 (C)
21.700	21.700	1194.4	597.18	2 N.A. N.A. 0.0 (C)
21.800	21.800	1204.6	602.32	2 N.A. N.A. 0.0 (C)
21.900	21.900	1214.9	607.47	2 N.A. N.A. 0.0 (C)
22.000	22.000	1225.3	612.65	2 N.A. N.A. 0.0 (C)
22.100	22.100	1235.7	617.85	2 N.A. N.A. 0.0 (C)
22.200	22.200	1246.1	623.06	2 N.A. N.A. 0.0 (C)
22.300	22.300	1256.6	628.30	2 N.A. N.A. 0.0 (C)
22.400	22.400	1267.1	633.56	2 N.A. N.A. 0.0 (C)
22.500	22.500	1277.7	638.84	2 N.A. N.A. 0.0 (C)
22.600	22.600	1288.3	644.14	2 N.A. N.A. 0.0 (C)
22.700	22.700	1298.9	649.46	2 N.A. N.A. 0.0 (C)
22.800	22.800	1309.6	654.80	2 N.A. N.A. 0.0 (C)
22.900	22.900	1320.3	660.17	2 N.A. N.A. 0.0 (C)
23.000	23.000	1331.1	665.55	2 N.A. N.A. 0.0 (C)
23.100	23.100	1341.9	670.95	2 N.A. N.A. 0.0 (C)
23.200	23.200	1352.8	676.38	2 N.A. N.A. 0.0 (C)
23.300	23.300	1363.6	681.82	2 N.A. N.A. 0.0 (C)
23.400	23.400	1374.6	687.29	2 N.A. N.A. 0.0 (C)
23.500	23.500	1385.5	692.77	2 N.A. N.A. 0.0 (C)
23.600	23.600	1396.6	698.28	2 N.A. N.A. 0.0 (C)
23.700	23.700	1407.6	703.81	2 N.A. N.A. 0.0 (C)
23.800	23.800	1418.7	709.36	2 N.A. N.A. 0.0 (C)
23.900	23.900	1429.8	714.92	2 N.A. N.A. 0.0 (C)
24.000	24.000	1441.0	720.51	2 N.A. N.A. 0.0 (C)
24.100	24.100	1452.2	726.12	2 N.A. N.A. 0.0 (C)
24.200	24.200	1463.5	731.75	2 N.A. N.A. 0.0 (C)
24.300	24.300	1474.8	737.41	2 N.A. N.A. 0.0 (C)
24.400	24.400	1486.2	743.08	2 N.A. N.A. 0.0 (C)
24.500	24.500	1497.5	748.77	2 N.A. N.A. 0.0 (C)
24.600	24.600	1509.0	754.48	2 N.A. N.A. 0.0 (C)
24.700	24.700	1520.4	760.22	2 N.A. N.A. 0.0 (C)
24.800	24.800	1531.9	765.97	2 N.A. N.A. 0.0 (C)
24.900	24.900	1543.5	771.75	2 N.A. N.A. 0.0 (C)
25.000	25.000	1555.1	777.54	2 N.A. N.A. 0.0 (C)
25.000	25.000	1555.1	777.54	2 N.A. N.A. 0.0 (C)
25.100	25.100	1566.7	783.35	2 N.A. N.A. 0.0 (C)
25.200	25.200	1578.3	789.16	2 N.A. N.A. 0.0 (C)
25.300	25.300	1589.9	794.96	2 N.A. N.A. 0.0 (C)
25.400	25.400	1601.5	800.77	2 N.A. N.A. 0.0 (C)
25.500	25.500	1613.2	806.58	2 N.A. N.A. 0.0 (C)
25.600	25.600	1624.8	812.38	2 N.A. N.A. 0.0 (C)
25.700	25.700	1636.4	818.19	2 N.A. N.A. 0.0 (C)
25.800	25.800	1648.0	823.99	2 N.A. N.A. 0.0 (C)
25.900	25.900	1659.6	829.80	2 N.A. N.A. 0.0 (C)
26.000	26.000	1671.2	835.61	2 N.A. N.A. 0.0 (C)
26.100	26.100	1682.8	841.41	2 N.A. N.A. 0.0 (C)
26.200	26.200	1694.4	847.22	2 N.A. N.A. 0.0 (C)
26.300	26.300	1706.1	853.03	2 N.A. N.A. 0.0 (C)
26.400	26.400	1717.7	858.83	2 N.A. N.A. 0.0 (C)
26.500	26.500	1729.3	864.64	2 N.A. N.A. 0.0 (C)
26.600	26.600	1740.9	870.45	2 N.A. N.A. 0.0 (C)
26.700	26.700	1752.5	876.25	2 N.A. N.A. 0.0 (C)
26.800	26.800	1764.1	882.06	2 N.A. N.A. 0.0 (C)
26.900	26.900	1775.7	887.86	2 N.A. N.A. 0.0 (C)
27.000	27.000	1787.3	893.67	2 N.A. N.A. 0.0 (C)
27.100	27.100	1799.0	899.48	2 N.A. N.A. 0.0 (C)
27.200	27.200	1810.6	905.28	2 N.A. N.A. 0.0 (C)
27.300	27.300	1822.2	911.09	2 N.A. N.A. 0.0 (C)
27.400	27.400	1833.8	916.90	2 N.A. N.A. 0.0 (C)
27.500	27.500	1845.4	922.70	2 N.A. N.A. 0.0 (C)
27.600	27.600	1857.0	928.51	2 N.A. N.A. 0.0 (C)
27.700	27.700	1868.6	934.32	2 N.A. N.A. 0.0 (C)
27.800	27.800	1880.2	940.12	2 N.A. N.A. 0.0 (C)
27.900	27.900	1891.9	945.93	2 N.A. N.A. 0.0 (C)



**SOUTHERN PILING  
LIMITED**

5-17 Haverstock Hill, Camden Town, NW3 2BF

450mm diameter load bearing pile design revision A

Job No.	Sheet No.	Rev.
<b>P755</b>		
Drg. Ref.		
Made by JW	Date	Checked Date

Depth	Pile length	Design resistance	Combination with least resistance	#	Factored load*		
28.000	28.000	1903.5	951.73	2	N.A.	N.A.	0.0 (C)
28.100	28.100	1915.1	957.54	2	N.A.	N.A.	0.0 (C)
28.200	28.200	1926.7	963.35	2	N.A.	N.A.	0.0 (C)
28.300	28.300	1938.3	969.15	2	N.A.	N.A.	0.0 (C)
28.400	28.400	1949.9	974.96	2	N.A.	N.A.	0.0 (C)
28.500	28.500	1961.5	980.77	2	N.A.	N.A.	0.0 (C)
28.600	28.600	1973.1	986.57	2	N.A.	N.A.	0.0 (C)
28.700	28.700	1984.8	992.38	2	N.A.	N.A.	0.0 (C)
28.800	28.800	1996.4	998.19	2	N.A.	N.A.	0.0 (C)
28.900	28.900	2008.0	1004.0	2	N.A.	N.A.	0.0 (C)
29.000	29.000	2019.6	1009.8	2	N.A.	N.A.	0.0 (C)
29.100	29.100	2031.2	1015.6	2	N.A.	N.A.	0.0 (C)
29.200	29.200	2042.8	1021.4	2	N.A.	N.A.	0.0 (C)
29.300	29.300	2054.4	1027.2	2	N.A.	N.A.	0.0 (C)
29.400	29.400	2066.0	1033.0	2	N.A.	N.A.	0.0 (C)
29.500	29.500	2077.7	1038.8	2	N.A.	N.A.	0.0 (C)
29.600	29.600	2089.3	1044.6	2	N.A.	N.A.	0.0 (C)
29.700	29.700	2100.9	1050.4	2	N.A.	N.A.	0.0 (C)
29.800	29.800	2112.5	1056.2	2	N.A.	N.A.	0.0 (C)
29.900	29.900	2124.1	1062.1	2	N.A.	N.A.	0.0 (C)
30.000	30.000	2135.7	1067.9	2	N.A.	N.A.	0.0 (C)

Note - The weight of the pile has not been included in the factored load.

# Limiting criteria :

1 : DA1 C1 [Shaft Tension]

2 : DA1 C2 [Shaft Tension]

3 : BS8004:2015 SLS Check [Shaft Tension]

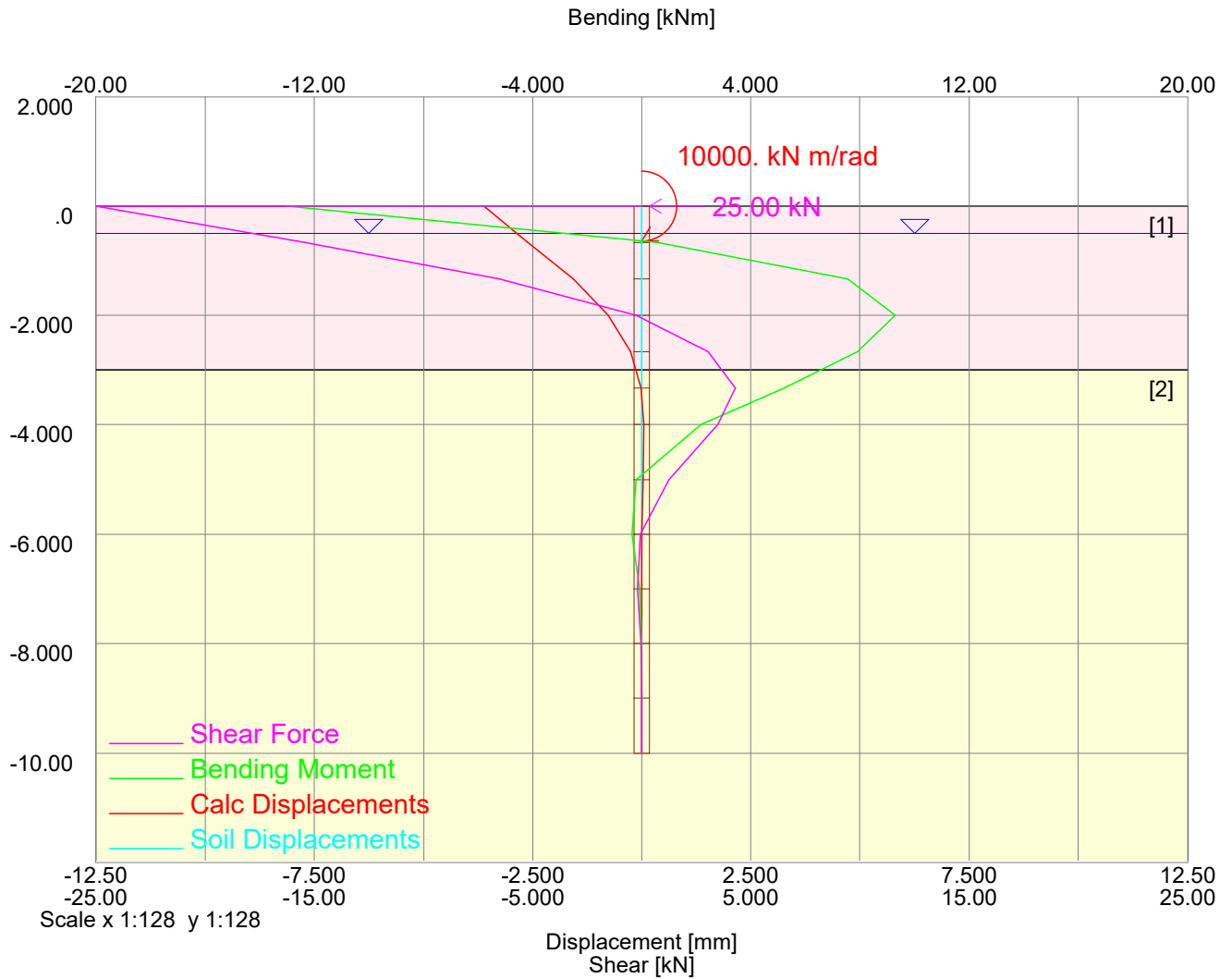
\*(C)-> Compression load, (T)-> Tension load

Note: Design resistance does not include any consideration of negative skin friction.



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## APPENDIX C: LATERAL LOAD ANALYSIS



Output for load increment 1

CALCULATED Soil P-y curves

Node	P1	Y1	P2	Y2	P3	Y3
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	0.0	0.0	13.231	3.0000	22.625	15.000
2	0.0	0.0	17.252	3.0000	29.500	15.000
3	0.0	0.0	22.223	3.0000	38.000	15.000
4	0.0	0.0	27.193	3.0000	46.500	15.000
5	0.0	0.0	32.164	3.0000	55.000	15.000
6	0.0	0.0	30.086	0.75000	51.446	3.7500
7	0.0	0.0	36.270	0.75000	62.021	3.7500
8	0.0	0.0	46.543	0.75000	79.587	3.7500
9	0.0	0.0	58.011	0.75000	99.198	3.7500
10	0.0	0.0	65.306	0.75000	111.67	3.7500
11	0.0	0.0	71.764	0.75000	122.72	3.7500
12	0.0	0.0	78.222	0.75000	133.76	3.7500
13	0.0	0.0	84.680	0.75000	144.80	3.7500

Node	P4	Y4	P5	Y5	P6	Y6
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	32.580	45.000	45.250	120.00	45.250	750.00
2	42.480	45.000	59.000	120.00	59.000	750.00
3	54.720	45.000	76.000	120.00	76.000	750.00
4	66.960	45.000	93.000	120.00	93.000	750.00
5	79.200	45.000	110.00	120.00	110.00	750.00
6	74.083	11.250	102.89	30.000	102.89	750.00
7	89.310	11.250	124.04	30.000	124.04	750.00
8	114.61	11.250	159.17	30.000	159.17	750.00
9	142.85	11.250	198.40	30.000	198.40	750.00
10	160.81	11.250	223.34	30.000	223.34	750.00
11	176.71	11.250	245.43	30.000	245.43	750.00
12	192.61	11.250	267.52	30.000	267.52	750.00
13	208.51	11.250	289.60	30.000	289.60	750.00

## Output for load increment 1

Iteration	Max at	Disp	Pressure
	Inc node	error	error
		[mm]	[kN/m <sup>2</sup> ]
5	3.62 1	0.0004	0.01

Node	Level	Defl	Rotation	Soil Pressure	Bending	Shear
	[m]	[mm]	[rad]	[kN/m <sup>2</sup> ]	[kNm]	[kN]
1	0.0	-3.6172	-0.0013014	1 -45.714	0.0	0.0 P
1	0.0				-13.014	-25.000
2	-0.66667	-2.6076	-0.0016133	1 -49.984	0.60524	-15.430
3	-1.33333	-1.5810	-0.0014081	1 -39.038	7.5598	-6.5280
4	-2.00000	-0.77876	-984.05E-6	1 -23.530	9.3092	-0.27113
5	-2.66667	-0.27097	-550.94E-6	1 -9.6840	7.9213	3.0503
6	-3.33333	-0.021448	-220.08E-6	2 -2.8680	5.2422	4.3055
7	-4.00000	0.054550	-33.570E-6	2 8.7935	2.1806	3.4931
8	-5.00000	0.036063	40.446E-6	2 7.4598	-0.21325	1.2749
9	-6.00000	0.0057221	18.268E-6	2 1.4753	-0.36919	-0.065354
10	-7.00000	-0.0021039	980.39E-9	2 -0.61065	-0.082540	-0.19505
11	-8.00000	-0.0011294	-1.6354E-6	2 -0.36022	0.020917	-0.049424
12	-9.00000	-62.681E-6	-562.48E-9	2 -0.021791	0.016308	0.0078779
13	-10.000	206.59E-6	-122.67E-9	2 0.077752	0.0051615	-516.15E-6

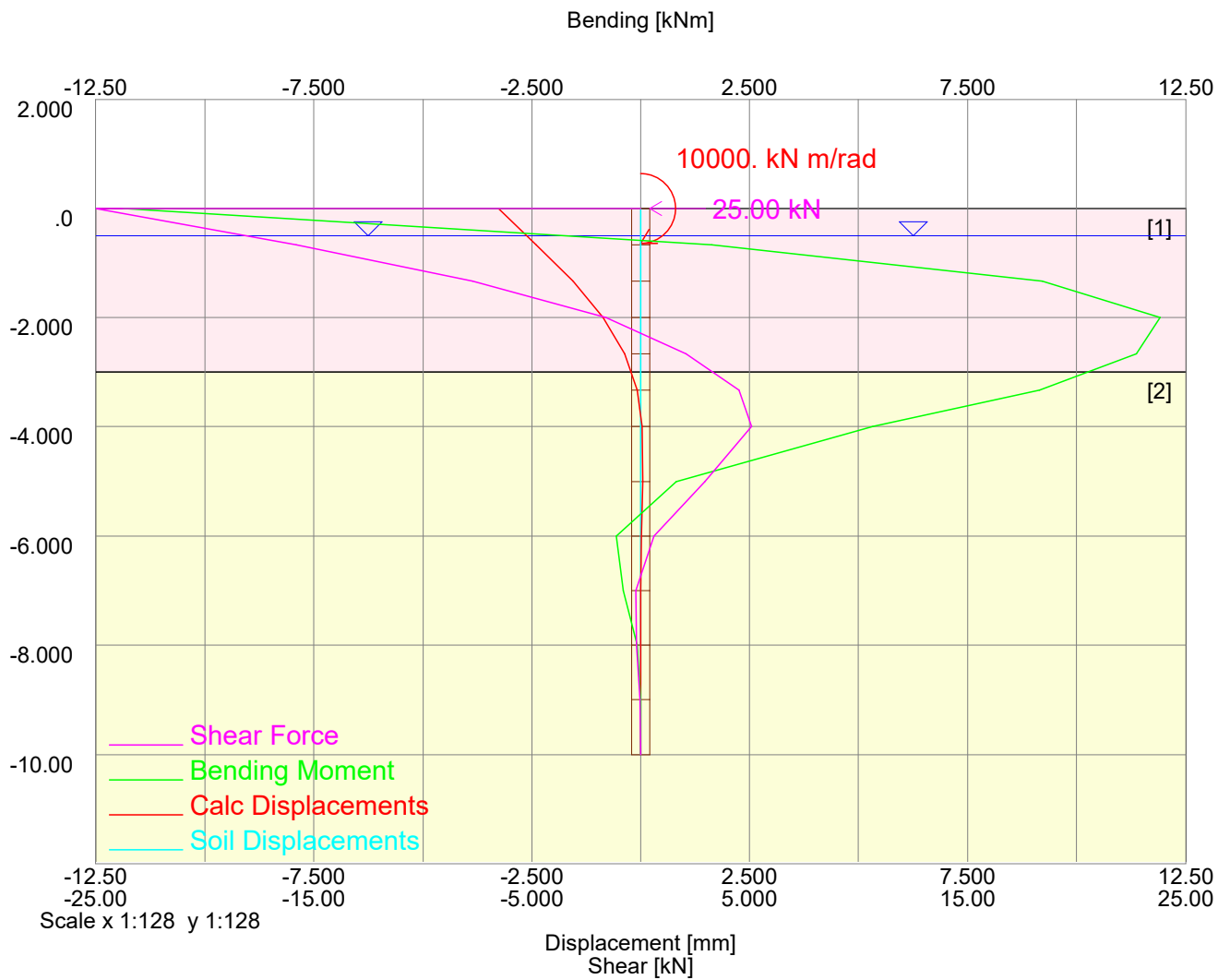
- The letter "P" next to a result indicates that the effective earth pressure is greater than 0.99 times the passive limit, but within the convergence pressure limit.

## EXTREME values so far:-

Deflections		Rotations		Moments		Shears	
Min	Max	Min	Max	Min	Max	Min	Max
[mm]	[mm]	[rad]	[rad]	[kNm]	[kNm]	[kN]	[kN]
-3.6172	0.054550	-0.0016133	40.446E-6	-13.014	9.3092	-25.000	4.3055

## RESTRAINT FORCES

No.	Node	Lateral Moment force
-----	------	----------------------



Output for load increment 1

CALCULATED Soil P-y curves

Node	P1	Y1	P2	Y2	P3	Y3
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	0.0	0.0	15.254	3.5000	26.083	17.500
2	0.0	0.0	19.396	3.5000	33.167	17.500
3	0.0	0.0	24.464	3.5000	41.833	17.500
4	0.0	0.0	29.533	3.5000	50.500	17.500
5	0.0	0.0	34.601	3.5000	59.167	17.500
6	0.0	0.0	32.959	0.87500	56.359	4.3750
7	0.0	0.0	39.480	0.87500	67.509	4.3750
8	0.0	0.0	50.257	0.87500	85.939	4.3750
9	0.0	0.0	62.231	0.87500	106.41	4.3750
10	0.0	0.0	75.400	0.87500	128.93	4.3750
11	0.0	0.0	83.725	0.87500	143.17	4.3750
12	0.0	0.0	91.259	0.87500	156.05	4.3750
13	0.0	0.0	98.793	0.87500	168.93	4.3750

Node	P4	Y4	P5	Y5	P6	Y6
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	37.560	52.500	52.167	140.00	52.167	875.00
2	47.760	52.500	66.333	140.00	66.333	875.00
3	60.240	52.500	83.667	140.00	83.667	875.00
4	72.720	52.500	101.00	140.00	101.00	875.00
5	85.200	52.500	118.33	140.00	118.33	875.00
6	81.157	13.125	112.72	35.000	112.72	875.00
7	97.214	13.125	135.02	35.000	135.02	875.00
8	123.75	13.125	171.88	35.000	171.88	875.00
9	153.24	13.125	212.83	35.000	212.83	875.00
10	185.66	13.125	257.87	35.000	257.87	875.00
11	206.16	13.125	286.33	35.000	286.33	875.00
12	224.71	13.125	312.10	35.000	312.10	875.00
13	243.27	13.125	337.87	35.000	337.87	875.00

Output for load increment 1

Iteration	Max at	Disp	Pressure
	Inc node	error	error
	Disp		
	[mm]	[mm]	[kN/m <sup>2</sup> ]
3	3.27 1	0.0000	0.00

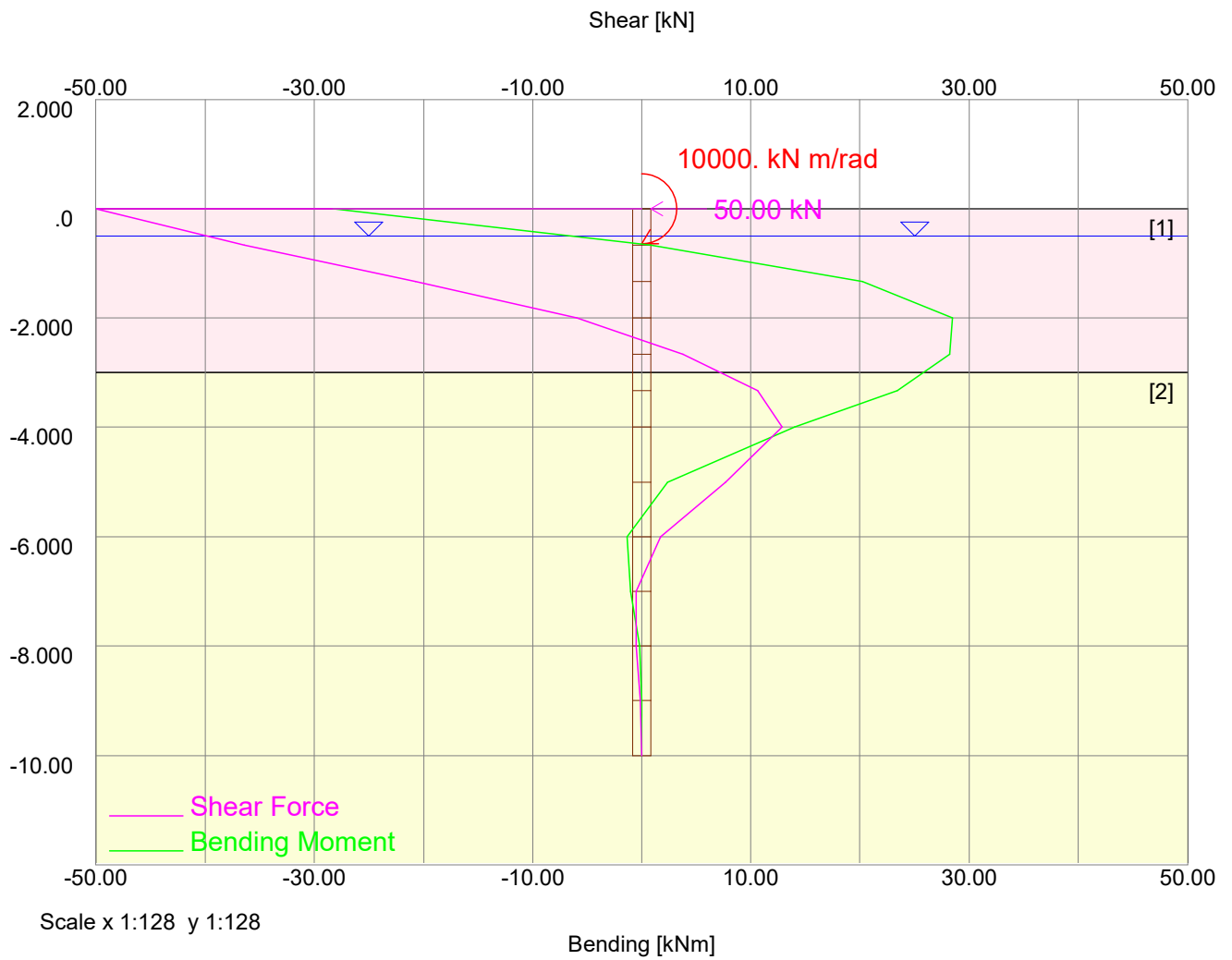
Node	Level	Defl	Rotation	Soil Pressure	Bending	Shear	
	[m]	[mm]	[rad]	[kN/m <sup>2</sup> ]	[kNm]	[kN]	
1	0.0	-3.2667	-0.0011864	1	-40.677	0.0	0.0
1	0.0				-11.864	-25.000	
2	-0.66667	-2.4092	-0.0013251	1	-38.146	1.6393	-15.804
3	-1.3333	-1.5635	-0.0011779	1	-31.224	9.2084	-7.7108
4	-2.0000	-0.86969	-891.17E-6	1	-20.967	11.920	-1.6219
5	-2.6667	-0.38177	-575.09E-6	1	-10.783	11.371	2.0823
6	-3.3333	-0.094529	-296.70E-6	2	-10.173	9.1439	4.5273
7	-4.0000	0.032032	-100.22E-6	2	4.1293	5.3345	5.1120
8	-5.0000	0.054262	25.157E-6	2	8.9047	0.82470	2.9515
9	-6.0000	0.021770	30.374E-6	2	4.4237	-0.56843	0.61898
10	-7.0000	0.0019142	10.391E-6	2	0.47128	-0.41326	-0.23764
11	-8.0000	-0.0022361	82.143E-9	2	-0.61133	-0.093147	-0.21313
12	-9.0000	-0.0011425	-1.5493E-6	2	-0.34044	0.013003	-0.046574
13	-10.000	230.34E-6	-1.2846E-6	2	0.074304	3.8079E-12	0.0

EXTREME values so far:-

Deflections		Rotations		Moments		Shears	
Min	Max	Min	Max	Min	Max	Min	Max
[mm]	[mm]	[rad]	[rad]	[kNm]	[kNm]	[kN]	[kN]
-3.2667	0.054262	-0.0013251	30.374E-6	-11.864	11.920	-25.000	5.1120

RESTRAINT FORCES

No.	Node	Lateral force	Moment
		[kN]	[kNm]
1	1	0.0	11.864



Output for load increment 1



CALCULATED Soil P-y curves

Node	P1	Y1	P2	Y2	P3	Y3
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	0.0	0.0	15.254	3.5000	26.083	17.500
2	0.0	0.0	19.396	3.5000	33.167	17.500
3	0.0	0.0	24.464	3.5000	41.833	17.500
4	0.0	0.0	29.533	3.5000	50.500	17.500
5	0.0	0.0	34.601	3.5000	59.167	17.500
6	0.0	0.0	32.959	0.87500	56.359	4.3750
7	0.0	0.0	39.480	0.87500	67.509	4.3750
8	0.0	0.0	50.257	0.87500	85.939	4.3750
9	0.0	0.0	62.231	0.87500	106.41	4.3750
10	0.0	0.0	75.400	0.87500	128.93	4.3750
11	0.0	0.0	83.725	0.87500	143.17	4.3750
12	0.0	0.0	91.259	0.87500	156.05	4.3750
13	0.0	0.0	98.793	0.87500	168.93	4.3750

Node	P4	Y4	P5	Y5	P6	Y6
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	37.560	52.500	52.167	140.00	52.167	875.00
2	47.760	52.500	66.333	140.00	66.333	875.00
3	60.240	52.500	83.667	140.00	83.667	875.00
4	72.720	52.500	101.00	140.00	101.00	875.00
5	85.200	52.500	118.33	140.00	118.33	875.00
6	81.157	13.125	112.72	35.000	112.72	875.00
7	97.214	13.125	135.02	35.000	135.02	875.00
8	123.75	13.125	171.88	35.000	171.88	875.00
9	153.24	13.125	212.83	35.000	212.83	875.00
10	185.66	13.125	257.87	35.000	257.87	875.00
11	206.16	13.125	286.33	35.000	286.33	875.00
12	224.71	13.125	312.10	35.000	312.10	875.00
13	243.27	13.125	337.87	35.000	337.87	875.00

## Output for load increment 1

Iteration	Max	at	Disp	Pressure
	Inc	node	error	error
			[mm]	[kN/m <sup>2</sup> ]
13	8.13	1	0.0007	0.01

Node	Level	Defl	Rotation	Soil Pressure	Bending	Shear		
	[m]	[mm]	[rad]	[kN/m <sup>2</sup> ]	[kNm]	[kN]		
1	0.0	-8.1338	-0.0028305	1	-53.823	0.0	0.0	P
1	0.0				-28.305	-50.000		
2	-0.66667	-6.0786	-0.0032031	1	-62.664	0.84252	-36.410	P
3	-1.3333	-4.0093	-0.0029171	1	-71.703	20.242	-20.734	P
4	-2.0000	-2.2726	-0.0022559	1	-54.788	28.487	-5.9764	
5	-2.6667	-1.0255	-0.0014866	1	-28.966	28.210	3.7948	
6	-3.3333	-0.27513	-786.12E-6	2	-29.610	23.428	10.629	
7	-4.0000	0.065421	-278.01E-6	2	8.4337	14.039	12.853	
8	-5.0000	0.13682	56.309E-6	2	22.453	2.4158	7.6939	
9	-6.0000	0.057271	77.220E-6	2	11.638	-1.3488	1.7280	
10	-7.0000	0.0058879	27.612E-6	2	1.4496	-1.0402	-0.56230	
11	-8.0000	-0.0055254	723.21E-9	2	-1.5106	-0.22417	-0.55164	
12	-9.0000	-0.0029873	-3.8788E-6	2	-0.89018	0.063115	-0.13150	
13	-10.000	504.76E-6	-3.2987E-6	2	0.16283	0.038836	-0.0042171	

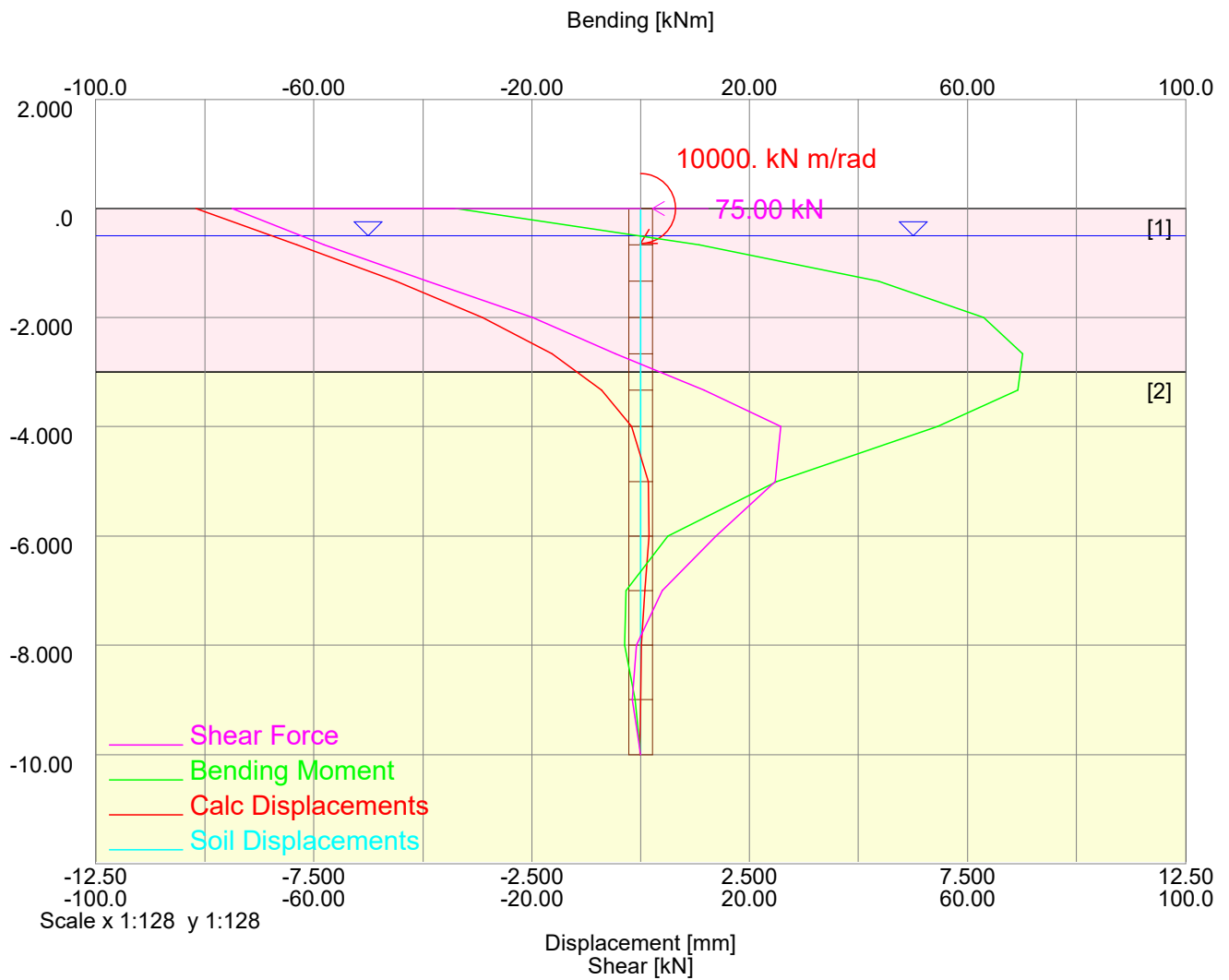
- The letter "P" next to a result indicates that the effective earth pressure is greater than 0.99 times the passive limit, but within the convergence pressure limit.

## EXTREME values so far:-

Deflections		Rotations		Moments		Shears	
Min	Max	Min	Max	Min	Max	Min	Max
[mm]	[mm]	[rad]	[rad]	[kNm]	[kNm]	[kN]	[kN]
-8.1338	0.13682	-0.0032031	77.220E-6	-28.305	28.487	-50.000	12.853

## RESTRAINT FORCES

No.	Node	Lateral Moment force
-----	------	----------------------



Output for load increment 1

CALCULATED Soil P-y curves

Node	P1	Y1	P2	Y2	P3	Y3
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	0.0	0.0	19.299	4.5000	33.000	22.500
2	0.0	0.0	23.685	4.5000	40.500	22.500
3	0.0	0.0	28.948	4.5000	49.500	22.500
4	0.0	0.0	34.211	4.5000	58.500	22.500
5	0.0	0.0	39.474	4.5000	67.500	22.500
6	0.0	0.0	38.705	1.1250	66.185	5.6250
7	0.0	0.0	45.899	1.1250	78.486	5.6250
8	0.0	0.0	57.687	1.1250	98.643	5.6250
9	0.0	0.0	70.670	1.1250	120.84	5.6250
10	0.0	0.0	84.850	1.1250	145.09	5.6250
11	0.0	0.0	100.23	1.1250	171.38	5.6250
12	0.0	0.0	116.80	1.1250	199.72	5.6250
13	0.0	0.0	127.02	1.1250	217.20	5.6250

Node	P4	Y4	P5	Y5	P6	Y6
	[kN/m]	[mm]	[kN/m]	[mm]	[kN/m]	[mm]
1	47.520	67.500	66.000	180.00	66.000	1125.0
2	58.320	67.500	81.000	180.00	81.000	1125.0
3	71.280	67.500	99.000	180.00	99.000	1125.0
4	84.240	67.500	117.00	180.00	117.00	1125.0
5	97.200	67.500	135.00	180.00	135.00	1125.0
6	95.306	16.875	132.37	45.000	132.37	1125.0
7	113.02	16.875	156.97	45.000	156.97	1125.0
8	142.05	16.875	197.29	45.000	197.29	1125.0
9	174.02	16.875	241.69	45.000	241.69	1125.0
10	208.93	16.875	290.18	45.000	290.18	1125.0
11	246.79	16.875	342.77	45.000	342.77	1125.0
12	287.60	16.875	399.44	45.000	399.44	1125.0
13	312.77	16.875	434.40	45.000	434.40	1125.0

Output for load increment 1

Iteration	Max Inc	at node	Disp error	Pressure error
			[mm]	[kN/m <sup>2</sup> ]
11	10.21	1	0.0010	0.01

Node	Level [m]	Defl [mm]	Rotation [rad]	Soil Pressure [kN/m <sup>2</sup> ]	Bending [kNm]	Shear [kN]
1	0.0	-10.210	-0.0033921	1	-52.545	0.0
1	0.0				-33.921	-75.000
2	-0.66667	-7.8861	-0.0035068	1	-59.662	10.825
3	-1.33333	-5.6203	-0.0032363	1	-67.171	43.638
4	-2.00000	-3.6286	-0.0027067	1	-61.303	63.017
5	-2.66667	-2.0406	-0.0020455	1	-39.779	70.136
6	-3.33333	-0.90818	-0.0013532	2	-69.435	69.298
7	-4.00000	-0.21918	-738.18E-6	2	-19.872	54.574
8	-5.00000	0.18595	-145.46E-6	2	21.189	25.035
9	-6.00000	0.19478	78.128E-6	2	27.190	5.0321
10	-7.00000	0.098684	94.758E-6	2	16.540	-2.7357
11	-8.00000	0.025385	51.020E-6	2	5.0255	-3.0605
12	-9.00000	-0.0073303	19.205E-6	2	-1.6912	-1.1239
13	-10.000	-0.020725	10.489E-6	2	-5.1999	0.051648

- The letter "P" next to a result indicates that the effective earth pressure is greater than 0.99 times the passive limit, but within the convergence pressure limit.

EXTREME values so far:-

Deflections		Rotations		Moments		Shears	
Min	Max	Min	Max	Min	Max	Min	Max
[mm]	[mm]	[rad]	[rad]	[kNm]	[kNm]	[kN]	[kN]
-10.210	0.19478	-0.0035068	94.758E-6	-33.921	70.136	-75.000	25.812

RESTRAINT FORCES

No.	Node	Lateral force	Moment
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## APPENDIX D: STRUCTURAL ANALYSIS

PROJECT: <b>Haverstock Hill, London, NW3</b>							
TITLE or DESCRIPTION: <b>25kN Lateral SLS</b>		ORIG by	Date	VERIF	Date	Ref. No	SHEET No
							of
REFERENCE							Rev:
<b>EC2</b>	<b>Bending and Axial Force to EN 1992-1-1:2004 (EC2)</b>		<u>Circular Sections (Cast In-situ)</u>				
4.4.1.3(4)	<u>Pile section</u> pile diameter = <b>300</b> mm design pile diameter h = 280 mm $A_c = 61575$ mm <sup>2</sup> cover <sup>1</sup> c <sub>nom</sub> = 65 mm cage diameter d = 122 mm ratio d/h = 0.4 $f_{ck} = 40$ MPa $f_{yk} = 500$ MPa		$k_2 = 75$ mm  $\gamma_c = 1.65$ $\alpha_{cc} = 0.85$ [NA.3.1.6 (1)] $\gamma_s = 1.15$				
	<u>Design Actions on pile</u> Actions N = <b>0</b> kN Factored Actions N = <b>1136</b> kN Shear V <sub>Ed</sub> = <b>25</b> Ult Shear V <sub>Ed</sub> = <b>37.5</b> kN Induced Moment M <sub>i</sub> = <b>0</b> kNm Applied Moment M <sub>Ed</sub> = <b>19.251</b> kNm  Factored Ult M = <b>19</b> kNm		BM/SF factor <b>1.5</b> BM/SF factor <b>1</b>  Eccentric Moment = C1 x Eccentricity				
	<u>Using IstructE design charts for circular columns:-</u>						
	$M/h^3 f_{ck} = 0.02$ (also checked for M/h <sup>3</sup> f <sub>ck</sub> =0.0 for zero vertical load)  Actions N $N/h^2 f_{ck} = 0.00$ Factored Actions N $N/h^2 f_{ck} = 0.43$						
	therefore from charts;						
	$\rho f_{yk} / f_{ck} = 0.05$		<b>From charts</b>				
	$\rho = 4A_{st} / \pi \cdot h^2$						
	<u>therefore, adopt greater of:</u>						
	Area of main steel A <sub>st</sub> = <b>246</b> mm <sup>2</sup>		<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;">           If analysis carried out in wallap and restrained don't divide BM by 2         </div>				
	main bar dia = <b>12</b> mm						
	no. main bars = <b>4</b> no.						
	stirrup dia = <b>8</b> mm						
	Area of main steel, A <sub>st</sub> = <b>452</b> mm <sup>2</sup> .						
	Bar spacing (face to face) = <b>84</b> mm						

PROJECT:		<b>Haverstock Hill, London, NW3</b>							
TITLE or DESCRIPTION:		<b>25kN Lateral SLS</b>		ORIG by	Date	VERIF	Date	Ref. No	SHEET No
									of
REFERENCE									Rev:
<b>EC2</b>	<b>Bending and Axial Force to EN 1992-1-1:2004 (EC2)</b>				<u>Circular Sections (Cast In-situ)</u>				
4.4.1.3(4)	<u>Pile section</u>								
	pile diameter	=	<b>350</b>	mm					
	design pile diameter h	=	330	mm					
	Ac	=	85530	mm <sup>2</sup>					
	cover <sup>1</sup> c <sub>nom</sub>	=	65	mm					
	cage diameter d	=	172	mm					
	ratio d/h	=	0.5						
	f <sub>ck</sub>	=	<b>32</b>	MPa					
	f <sub>yk</sub>	=	<b>500</b>	MPa					
					k <sub>2</sub> = <b>75</b> mm				
					γ <sub>c</sub> = <b>1.65</b> α <sub>cc</sub> = <b>0.85</b> [NA.3.1.6 (1)]				
					γ <sub>s</sub> = <b>1.15</b>				
	<u>Design Actions on pile</u>								
	Actions N	=	<b>0</b>	kN	BM/SF factor <b>1.5</b>				
	Factored Actions N	=	<b>1140</b>	kN	BM/SF factor <b>1</b>				
	Shear V <sub>Ed</sub>	=	<b>25</b>						
	Ult Shear V <sub>Ed</sub>	=	<b>37.5</b>	kN					
	Induced Moment M <sub>i</sub>	=	<b>0</b>	kNm					
	Applied Moment M <sub>Ed</sub>	=	<b>17.88</b>	kNm	Eccentric Moment = C1 x Eccentricity				
	Factored Ult M	=	<b>18</b>	kNm					
	<u>Using IstructE design charts for circular columns:-</u>								
	M/h <sup>3</sup> f <sub>ck</sub>	=	<b>0.02</b>	(also checked for M/h <sup>3</sup> f <sub>ck</sub> =0.0 for zero vertical load)					
	Actions N	N/h <sup>2</sup> f <sub>ck</sub>	=	<b>0.00</b>					
	Factored Actions N	N/h <sup>2</sup> f <sub>ck</sub>	=	<b>0.38</b>					
	therefore from charts;								
	ρ f <sub>yk</sub> / f <sub>ck</sub>	=	<b>0.05</b>	<b>From charts</b>					
	ρ	=	4A <sub>st</sub> / π.h <sup>2</sup>						
	<u>therefore, adopt greater of:</u>								
	Area of main steel A <sub>st</sub>	=	<b>274</b>	mm <sup>2</sup>	If analysis carried out in wallap and restrained don't divide BM by 2				
	main bar dia	=	<b>12</b>	mm					
	no. main bars	=	<b>5</b>	no.					
	stirrup dia	=	<b>8</b>	mm					
	Area of main steel, A <sub>st</sub>	=	<b>565</b>	mm <sup>2</sup> .					
	Bar spacing (face to face)	=	<b>96</b>	mm					

PROJECT:		<b>Haverstock Hill, London, NW3</b>							
TITLE or DESCRIPTION:		<b>50kN Lateral SLS</b>		ORIG by	Date	VERIF	Date	Ref. No	SHEET No
									of
REFERENCE									Rev:
<b>EC2</b>	<b>Bending and Axial Force to EN 1992-1-1:2004 (EC2)</b>				<u>Circular Sections (Cast In-situ)</u>				
4.4.1.3(4)	<u>Pile section</u>								
	pile diameter	=	<b>350</b>	mm					
	design pile diameter h	=	330	mm					
	Ac	=	85530	mm <sup>2</sup>					
	cover <sup>1</sup> c <sub>nom</sub>	=	65	mm					
	cage diameter d	=	168	mm					
	ratio d/h	=	0.5						
	f <sub>ck</sub>	=	<b>32</b>	MPa					
	f <sub>yk</sub>	=	<b>500</b>	MPa					
					k <sub>2</sub> =	<b>75</b>	mm		
					γ <sub>c</sub> =	<b>1.65</b>		α <sub>cc</sub> =	<b>0.85</b> [NA.3.1.6 (1)]
					γ <sub>s</sub> =	<b>1.15</b>			
	<u>Design Actions on pile</u>								
	Actions N	=	<b>0</b>	kN	BM/SF factor		<b>1.5</b>		
	Factored Actions N	=	<b>1140</b>	kN	BM/SF factor		<b>1</b>		
	Shear V <sub>Ed</sub>	=	<b>50</b>						
	Ult Shear V <sub>Ed</sub>	=	<b>75</b>	kN					
	Induced Moment M <sub>i</sub>	=	<b>0</b>	kNm					
	Applied Moment M <sub>Ed</sub>	=	<b>42.8</b>	kNm					
					Eccentric Moment = C1 x Eccentricity				
	Factored Ult M	=	<b>43</b>	kNm					
	<u>Using IstructE design charts for circular columns:-</u>								
		M/h <sup>3</sup> f <sub>ck</sub>	=	<b>0.04</b>	(also checked for M/h <sup>3</sup> f <sub>ck</sub> =0.0 for zero vertical load)				
	Actions N	N/h <sup>2</sup> f <sub>ck</sub>	=	<b>0.00</b>					
	Factored Actions N	N/h <sup>2</sup> f <sub>ck</sub>	=	<b>0.38</b>					
	therefore from charts;								
		ρ f <sub>yk</sub> / f <sub>ck</sub>	=	<b>0.12</b>	<b>From charts</b>				
		ρ	=	4A <sub>st</sub> / π.h <sup>2</sup>					
	<u>therefore, adopt greater of:</u>								
	Area of main steel A <sub>st</sub>	=	<b>657</b>	mm <sup>2</sup>	If analysis carried out in wallap and restrained don't divide BM by 2				
	main bar dia	=	<b>16</b>	mm					
	no. main bars	=	<b>4</b>	no.					
	stirrup dia	=	<b>8</b>	mm					
	Area of main steel, A <sub>st</sub>	=	<b>804</b>	mm <sup>2</sup> .					
	Bar spacing (face to face)	=	<b>116</b>	mm					

PROJECT:		<b>Haverstock Hill, London, NW3</b>							
TITLE or DESCRIPTION:		<b>75kN Lateral SLS</b>		ORIG by	Date	VERIF	Date	Ref. No	SHEET No
									of
REFERENCE									Rev:
<b>EC2</b>	<b>Bending and Axial Force to EN 1992-1-1:2004 (EC2)</b>				<u>Circular Sections (Cast In-situ)</u>				
4.4.1.3(4)	<u>Pile section</u> pile diameter = <b>450</b> mm design pile diameter h = 427.5 mm Ac = 143536 mm <sup>2</sup> cover <sup>1</sup> c <sub>nom</sub> = 63.75 mm cage diameter d = 268 mm ratio d/h = 0.6 f <sub>ck</sub> = <b>32</b> MPa f <sub>yk</sub> = <b>500</b> MPa				k <sub>2</sub> = <b>75</b> mm γ <sub>c</sub> = <b>1.65</b> α <sub>cc</sub> = <b>0.85</b> [NA.3.1.6 (1)] γ <sub>s</sub> = <b>1.15</b>				
	<u>Design Actions on pile</u> Actions N = <b>0</b> kN Factored Actions N = <b>1369</b> kN Shear V <sub>Ed</sub> = <b>75</b> Ult Shear V <sub>Ed</sub> = <b>112.5</b> kN Induced Moment M <sub>i</sub> = <b>0</b> kNm Applied Moment M <sub>Ed</sub> = <b>105.2</b> kNm Factored Ult M = <b>105</b> kNm				BM/SF factor <b>1.5</b> BM/SF factor <b>1</b> Eccentric Moment = C1 x Eccentricity				
	<u>Using IstructE design charts for circular columns:-</u> M/h <sup>3</sup> f <sub>ck</sub> = <b>0.04</b> (also checked for M/h <sup>3</sup> f <sub>ck</sub> =0.0 for zero vertical load) Actions N     N/h <sup>2</sup> f <sub>ck</sub> = <b>0.00</b> Factored Actions N     N/h <sup>2</sup> f <sub>ck</sub> = <b>0.28</b>								
	therefore from charts; ρ f <sub>yk</sub> / f <sub>ck</sub> = <b>0.11</b> <b>From charts</b> ρ = 4A <sub>st</sub> / π.h <sup>2</sup>								
	<u>therefore, adopt greater of:</u> Area of main steel A <sub>st</sub> = <b>1010</b> mm <sup>2</sup> main bar dia = <b>16</b> mm no. main bars = <b>6</b> no. stirrup dia = <b>8</b> mm Area of main steel, A <sub>st</sub> = <b>1206</b> mm <sup>2</sup> . Bar spacing (face to face) = <b>124</b> mm								
	If analysis carried out in wallap and restrained don't divide BM by 2								





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## APPENDIX E: CONCRETE CAPACITY CHECK

PROJECT	Haverstock Hill				
TITLE	EC2 structural Capacity Check	Orig. Date	Verif. Date	Ref. No./rev.	Sheet
Section			Date	02/05/23	
<b>Based on EC2 Design</b>					
<b>Maximum Structural Capacity Check</b>		<b>INPUTS</b>			
The Value of design compressive strength of concrete is defined as:					
$f_{cd} =$	$(a_{cc} * f_{ck}) / (\gamma_c * k_r)$	<i>Clauses 2.4.2.5 &amp; 3.15</i>			
Concrete, characteristic cube strength from test =		50			
Equivalent Concrete, characteristic cylinder strength =		40	N/mm <sup>2</sup>		
Where:					
$a_{cc} =$	0.85				
$f_{ck} =$	40	N/mm <sup>2</sup>			
$\gamma_c =$	1.50				
$k_r =$	1.10				
Therefore					
$f_{cd} =$	20.61	N/mm <sup>2</sup>			
Design Axial Resistance of		300	mm	diameter pile	
$N_{rd} =$	$A_c * f_{cd} + A_s * f_{yd}$				
Where:					
$d_{nom} =$	280	mm <sup>2</sup>			
$A_c =$	61575	mm <sup>2</sup>			
$f_{cd} =$	20.61	N/mm <sup>2</sup>			
$A_s =$	Ignore				
$f_{yd} =$	Ignore				
<u>Basing Design on Compressive Strength of Concrete Area alone</u>					
$N_{rd} =$	$A_c * f_{cd}$				
For a	300	mm	diameter pile		
$A_c =$	61575	mm <sup>2</sup>			
Therefore					
$N_{rd} =$	1269	kN			
Comb 1 =	113	kN			
Can Pile Accommodate Load Structurally		YES			

PROJECT	Haverstock Hill, NW7				
TITLE	EC2 structural Capacity Check	Orig. Date	Verif. Date	Ref. No./rev.	Sheet
Section		Date	02/05/23		
<b>Based on EC2 Design</b>					
<b>Maximum Structural Capacity Check</b>		<b>INPUTS</b>			
The Value of design compressive strength of concrete is defined as:					
$f_{cd} =$	$(a_{cc} * f_{ck}) / (\gamma_c * k_f)$	<i>Clauses 2.4.2.5 &amp; 3.15</i>			
Concrete, characteristic cube strength from test =		40			
Equivalent Concrete, characteristic cylinder strength =		32	N/mm <sup>2</sup>		
Where:					
$a_{cc} =$	0.85				
$f_{ck} =$	32	N/mm <sup>2</sup>			
$\gamma_c =$	1.50				
$k_f =$	1.10				
Therefore					
$f_{cd} =$	16.48	N/mm <sup>2</sup>			
Design Axial Resistance of		350	mm	diameter pile	
$N_{rd} =$	$A_c * f_{cd} + A_s * f_{yd}$				
Where:					
$d_{nom} =$	330.01	mm <sup>2</sup>			
$A_c =$	85535	mm <sup>2</sup>			
$f_{cd} =$	16.48	N/mm <sup>2</sup>			
$A_s =$	Ignore				
$f_{yd} =$	Ignore				
<u>Basing Design on Compressive Strength of Concrete Area alone</u>					
$N_{rd} =$	$A_c * f_{cd}$				
For a	350	mm	diameter pile		
$A_c =$	85535	mm <sup>2</sup>			
Therefore					
$N_{rd} =$	1410	kN			
<b>Comb 1 =</b>	1410	kN			
Can Pile Accommodate Load Structurally		YES			

PROJECT	Haverstock Hill, NW7				
TITLE	EC2 structural Capacity Check	Orig. Date	Verif. Date	Ref. No./rev.	Sheet
Section			Date	02/05/23	
<b>Based on EC2 Design</b>					
<b>Maximum Structural Capacity Check</b>		<b>INPUTS</b>			
The Value of design compressive strength of concrete is defined as:					
$f_{cd} =$	$(a_{cc} * f_{ck}) / (\gamma_c * k_f)$	<i>Clauses 2.4.2.5 &amp; 3.15</i>			
	Concrete, characteristic cube strength from test =	40			
	Equivalent Concrete, characteristic cylinder strength =	32	N/mm <sup>2</sup>		
Where:					
$a_{cc} =$	0.85				
$f_{ck} =$	32	N/mm <sup>2</sup>			
$\gamma_c =$	1.50				
$k_f =$	1.10				
Therefore					
$f_{cd} =$	16.48	N/mm <sup>2</sup>			
Design Axial Resistance of		450	mm diameter pile		
$N_{rd} =$	$A_c * f_{cd} + A_s * f_{yd}$				
Where:					
$d_{nom} =$	427.5	mm <sup>2</sup>			
$A_c =$	143536	mm <sup>2</sup>			
$f_{cd} =$	16.48	N/mm <sup>2</sup>			
$A_s =$	Ignore				
$f_{yd} =$	Ignore				
<u>Basing Design on Compressive Strength of Concrete Area alone</u>					
$N_{rd} =$	$A_c * f_{cd}$				
For a	450	mm diameter pile			
$A_c =$	143536	mm <sup>2</sup>			
Therefore					
$N_{rd} =$	2366	kN			
<b>Comb 1 =</b>	1226	kN			
Can Pile Accommodate Load Structurally		YES			



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## APPENDIX F: SETTLEMENT ANALYSIS

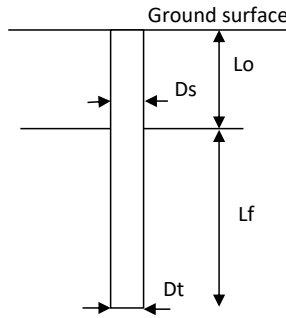
	Client: Marney Construction	Ref: P755	
	Project: Haverstock Hill, NW7		
	Section: 825kN Compression SWL (300mm pile)	By: JW	Date:
		Chk: RF	Date:

Cemset v 1.0

**Prediction of pile ultimate capacity using the method outlined by Fleming in Geotechnique 42, No 3 pages 411-425**

Pile Data

Pile Number		
Pile shaft diameter	Ds	300 mm
Pile base diameter	Db	300 mm
Pile length with no friction	Lo	3 m
Pile length with friction	Lf	25.6 m
Effective Lf length factor	Ke	0.45
Shaft flexibility factor	Ms	0.0012
Soil modulus below pile base	Eb	75000 kN/m <sup>2</sup>
Concrete modulus	Ec	3.10E+07 kN/m <sup>2</sup>
Ultimate shaft capacity	Us	1841 kN
Ultimate shaft friction	qus	76 kN/m <sup>2</sup>
Estimated Ultimate End bearing	Ub	146 kN
Ultimate end bearing pressure	qub	2065 kN/m <sup>2</sup>



Test Data

Load at head (kN)	[Green shaded area]																
Head Settlement (mm)	[Green shaded area]																
Elastic Settlement (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

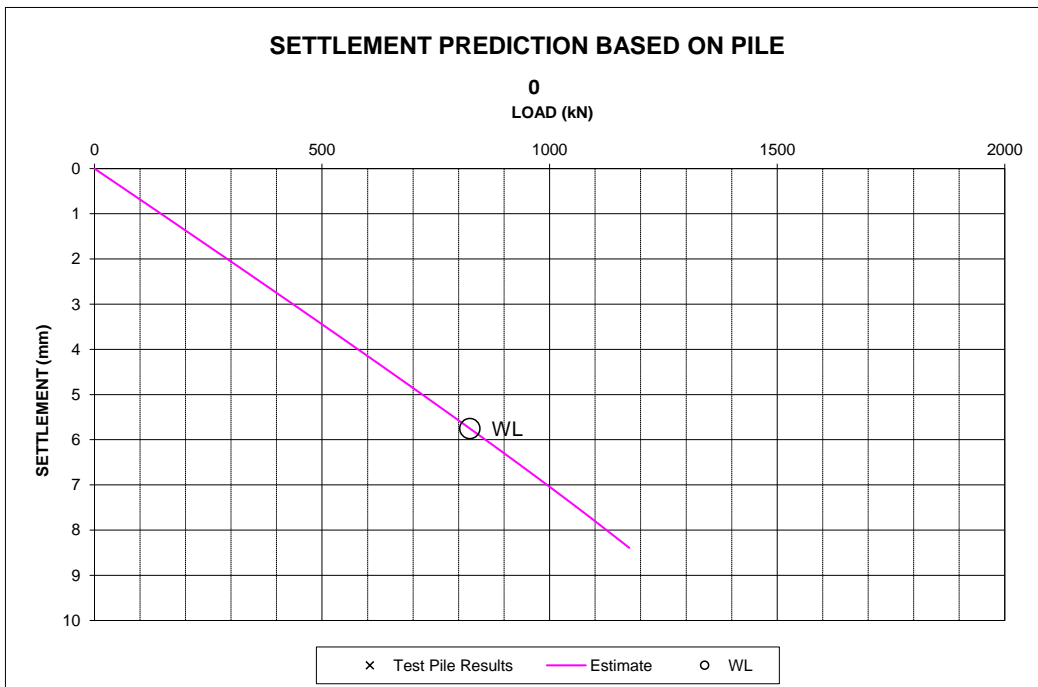
Predicted Settlement

Load descriptor WL Settlement required for load of 825 kN Predicted settlement at head = 5.8 mm

Projected Data

Load at head (kN)	0	84	168	252	336	420	504	588	671	755	839	923	1007	1091	1175
Rigid Pile Settlement (mm)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6
Total settlement (mm)	0.0	0.6	1.1	1.7	2.3	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.4

(For "Load at Head" applied at base)



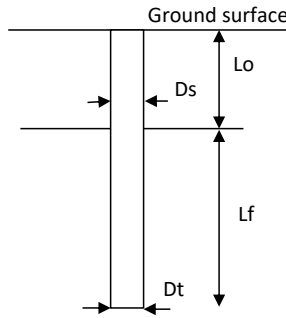
	Client: Marney Construction	Ref: P755	
	Project: Haverstock Hill, NW7		
	Section: 1025kN Compression SWL (350mm pile)	By: JW	Date:
		Chk: RF	Date:

Cemset v 1.0

**Prediction of pile ultimate capacity using the method outlined by Fleming in Geotechnique 42, No 3 pages 411-425**

Pile Data

Pile Number		
Pile shaft diameter	Ds	350 mm
Pile base diameter	Db	350 mm
Pile length with no friction	Lo	3 m
Pile length with friction	Lf	26.5 m
Effective Lf length factor	Ke	0.45
Shaft flexibility factor	Ms	0.0012
Soil modulus below pile base	Eb	75000 kN/m <sup>2</sup>
Concrete modulus	Ec	3.10E+07 kN/m <sup>2</sup>
Ultimate shaft capacity	Us	2262 kN
Ultimate shaft friction	qus	78 kN/m <sup>2</sup>
Estimated Ultimate End bearing	Ub	199 kN
Ultimate end bearing pressure	qub	2068 kN/m <sup>2</sup>



Test Data

Load at head (kN)	[Redacted]																
Head Settlement (mm)	[Redacted]																
Elastic Settlement (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

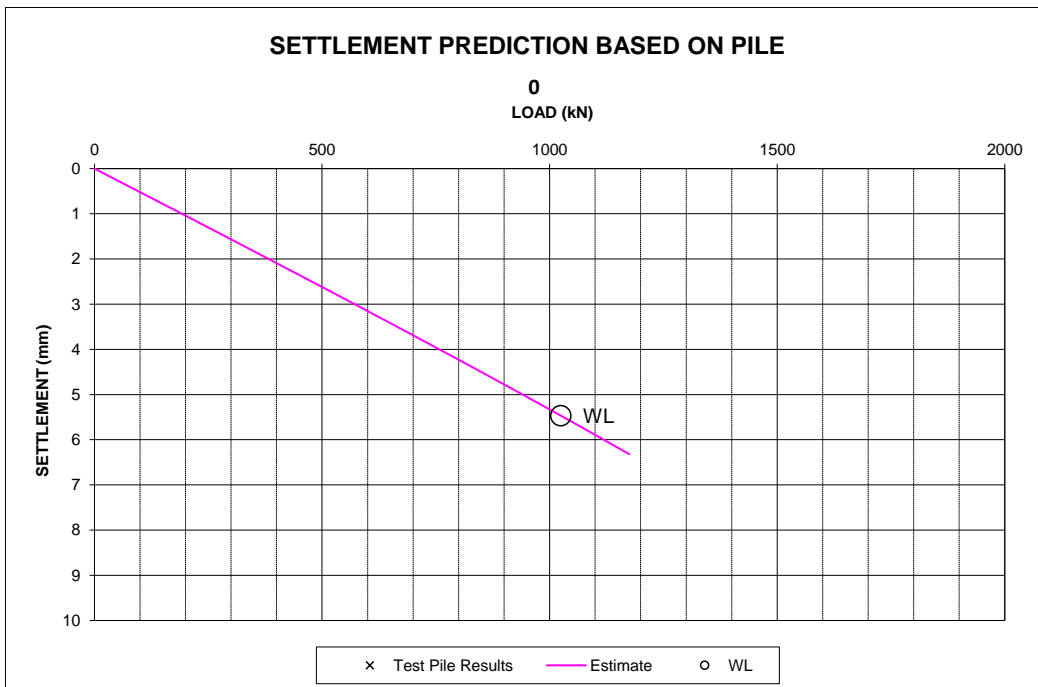
Predicted Settlement

Load descriptor WL Settlement required for load of 1025 kN Predicted settlement at head = 5.5 mm

Projected Data

Load at head (kN)	0	84	168	252	336	420	504	588	671	755	839	923	1007	1091	1175
Rigid Pile Settlement (mm)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4
Total settlement (mm)	0.0	0.4	0.9	1.3	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.9	5.4	5.8	6.3

(For "Load at Head" applied at base)



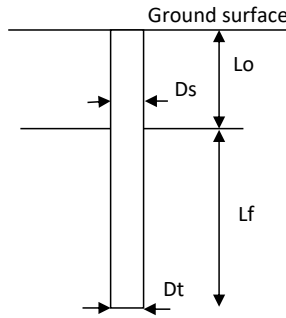
	Client: Marney Construction	Ref: P755	
	Project: Haverstock Hill, NW7		
	Section: 888kN Compression SWL (450mm pile)	By: JW	Date:
		Chk: RF	Date:

Cemset v 1.0

**Prediction of pile ultimate capacity using the method outlined by Fleming in Geotechnique 42, No 3 pages 411-425**

Pile Data

Pile Number		
Pile shaft diameter	Ds	450 mm
Pile base diameter	Db	450 mm
Pile length with no friction	Lo	3 m
Pile length with friction	Lf	20.1 m
Effective Lf length factor	Ke	0.45
Shaft flexibility factor	Ms	0.0012
Soil modulus below pile base	Eb	75000 kN/m <sup>2</sup>
Concrete modulus	Ec	3.10E+07 kN/m <sup>2</sup>
Ultimate shaft capacity	Us	1878 kN
Ultimate shaft friction	qus	66 kN/m <sup>2</sup>
Estimated Ultimate End bearing	Ub	306 kN
Ultimate end bearing pressure	qub	1924 kN/m <sup>2</sup>



Test Data

Load at head (kN)	[Green shaded area]																
Head Settlement (mm)	[Green shaded area]																
Elastic Settlement (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

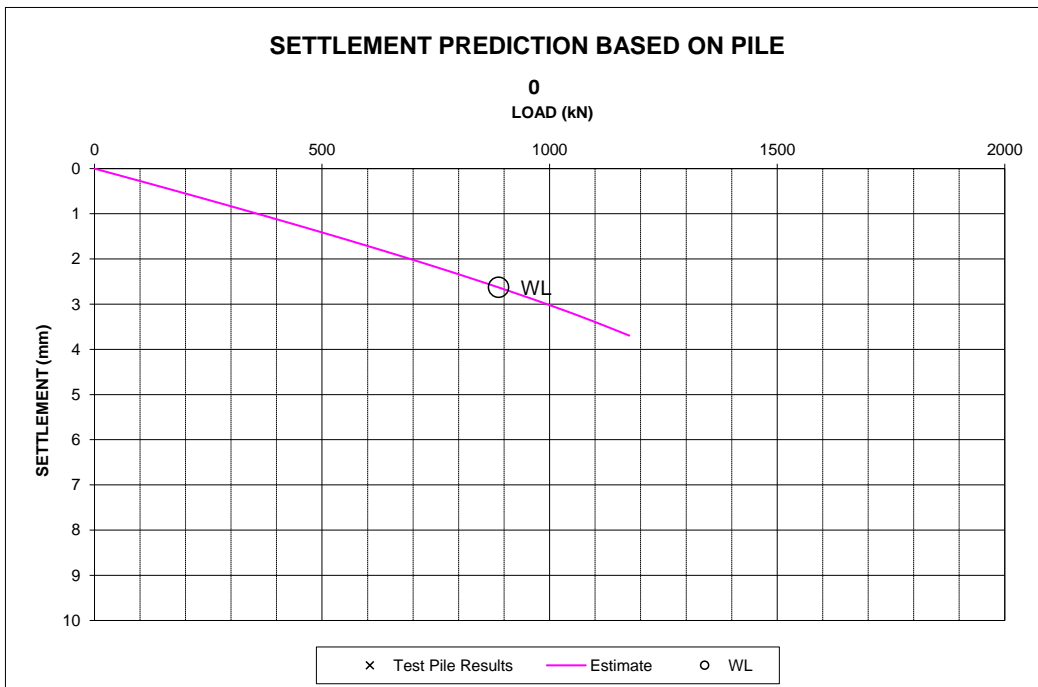
Predicted Settlement

Load descriptor WL Settlement required for load of 888 kN Predicted settlement at head = 2.6 mm

Projected Data

Load at head (kN)	0	84	168	252	336	420	504	588	671	755	839	923	1007	1091	1175
Rigid Pile Settlement (mm)	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8
Total settlement (mm)	0.0	0.2	0.5	0.7	0.9	1.2	1.4	1.7	1.9	2.2	2.5	2.7	3.0	3.4	3.7

(For "Load at Head" applied at base)







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## APPENDIX G: PILE SCHEDULE REVISION A



Site Address: 5-17 Haverstock Hill, Camden Town, NW3 2BF			
Title: Pile Schedule		Project Ref: P755	
Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P001	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P002	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P003	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P004	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P005	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P006	350	75		585	448	0	425	19.5	300	TBC	TBC	TBC	4H12x6m H8		A
P007	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P008	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P009	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P010	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P011	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P012	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P013	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P014	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P015	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P016	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P017	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P018	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P019	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P020	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P021	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P022	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P023	500	125		863	663	0	625	24.3	300	TBC	TBC	TBC	4H12x6m H8		A
P024	500	125		863	663	0	625	24.3	300	TBC	TBC	TBC	4H12x6m H8		A
P025	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P026	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P027	500	125		863	663	0	625	24.3	300	TBC	TBC	TBC	4H12x6m H8		A
P028	500	125		863	663	0	625	24.3	300	TBC	TBC	TBC	4H12x6m H8		A
P029	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P030	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P031	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P032	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P033	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P034	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P035	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P036	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P037	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P038	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P039	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A



Site Address: 5-17 Haverstock Hill, Camden Town, NW3 2BF			
Title: Pile Schedule		Project Ref: P755	
Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P040	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P041	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P042	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P043	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P044	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P045	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P046	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P047	750	175		1275	978	0	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P048	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P049	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P050	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P051	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P052	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P053	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P054	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P055	850	175		1410	1078	0	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P056	775	150	100	1354	1042	50	980	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P057	775	150	100	1354	1042	50	980	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P058	775	150	100	1354	1042	50	980	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P059	775	150	100	1354	1042	50	980	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P060	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P061	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P062	750	175	0	1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P063	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P064	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P065	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P066	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P067	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P068	800	150	75	1361	1044	50	988	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P069	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P070	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P071	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P072	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P073	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P074	700	125	100	1226	944	75	888	23.1	450	TBC	TBC	TBC	6H16x6m H8		A
P075	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P076	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P077	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P078	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A



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Title: Pile Schedule		Project Ref: P755	
Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P079	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P080	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P081	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P082	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P083	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P084	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P085	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P086	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P087	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P088	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P089	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P090	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P091	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P092	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P093	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P094	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P095	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P096	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P097	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P098	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P099	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P100	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P101	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P102	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P103	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P104	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P105	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P106	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P107	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P108	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P109	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P110	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P111	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P112	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P113	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P114	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P115	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P116	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P117	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A



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Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P118	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P119	700	0	150	1170	895	25	850	26.3	350	TBC	TBC	TBC	5H12x6m H8		A
P120	700	150	150	1328	1032	25	955	28.7	350	TBC	TBC	TBC	5H12x6m H8		A
P121	700	150	150	1328	1032	25	955	28.7	350	TBC	TBC	TBC	5H12x6m H8		A
P122	700	150	150	1328	1032	25	955	28.7	350	TBC	TBC	TBC	5H12x6m H8		A
P123	750	125	150	1369	1059	25	988	29.2	350	TBC	TBC	TBC	5H12x6m H8		A
P124	750	125	150	1369	1059	25	988	29.2	350	TBC	TBC	TBC	5H12x6m H8		A
P125	750	100	150	1343	1036	25	970	28.8	350	TBC	TBC	TBC	5H12x6m H8		A
P126	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P127	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P128	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P129	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P130	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P131	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P132	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P133	700	150	150	1328	1032	50	955	28.7	350	TBC	TBC	TBC	4H16x6m H8		A
P134	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P135	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P136	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P137	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P138	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P139	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P140	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P141	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P142	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P143	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P144	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P145	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P146	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P147	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P148	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P149	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P150	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P151	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P152	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P153	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P154	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P155	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P156	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A



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Drawing References:		HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01	

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P157	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P158	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P159	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P160	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P161	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P162	750	150	100	1320	1017	50	955	28.4	350	TBC	TBC	TBC	4H16x6m H8		A
P163	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P164	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P165	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P166	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P167	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P168	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P169	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P170	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P171	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P172	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P173	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P174	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P175	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P176	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P177	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P178	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P179	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P180	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P181	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P182	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P183	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P184	425	100		724	555	25	525	22.0	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P185	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P186	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P187	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P188	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P189	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P190	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P191	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P192	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P193	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P194	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P195	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A



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Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P196	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P197	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P198	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P199	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P200	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P201	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P202	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P203	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P204	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P205	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P206	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P207	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P208	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P209	700	125	50	1170	895	50	850	26.3	350	TBC	TBC	TBC	4H16x6m H8		A
P210	700	125	50	1170	895	50	850	26.3	350	TBC	TBC	TBC	4H16x6m H8		A
P211	700	125	50	1170	895	50	850	26.3	350	TBC	TBC	TBC	4H16x6m H8		A
P212	700	125	50	1170	895	50	850	26.3	350	TBC	TBC	TBC	4H16x6m H8		A
P213	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P214	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P215	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P216	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P217	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P218	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P219	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P220	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P221	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P222	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P223	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P224	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P225	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P226	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P227	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P228	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P229	750	125	150	1369	1059	50	988	29.2	350	TBC	TBC	TBC	4H16x6m H8		A
P230	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P231	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P232	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P233	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P234	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A



Site Address: 5-17 Haverstock Hill, Camden Town, NW3 2BF			
Title: Pile Schedule		Project Ref: P755	
Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P235	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P236	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P237	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P238	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P239	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P240	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P241	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P242	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P243	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P244	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P245	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P246	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P247	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P248	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P249	750	150	50	1275	978	50	925	27.7	350	TBC	TBC	TBC	4H16x6m H8		A
P250	750	150	50	1275	978	50	925	27.7	350	TBC	TBC	TBC	4H16x6m H8		A
P251	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P252	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P253	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P254	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P255	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P256	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P257	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P258	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P259	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P260	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P261	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P262	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P263	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P264	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P265	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P266	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P267	500	125		863	663	25	625	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P268	750	175		1275	978	25	925	27.7	350	TBC	TBC	TBC	5H12x6m H8		A
P269	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P270	600	125		998	763	25	725	26.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P271	675	150		1136	870	25	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P272	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P273	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A





Site Address: 5-17 Haverstock Hill, Camden Town, NW3 2BF			
Title: Pile Schedule		Project Ref: P755	
Revision A		Designed By: JW	Date: 02-05-23
Drawing References:	HHCAM-MHT-XX-ZZ-DR-S-10001 Rev T01, 10002 Rev T01		

Pile No	G (kN)	Q (kN)	Wind Load (kN)	C1 Design Compression Load (kN)	C2 Design Compression Load (kN)	Lateral (kN)	SWL (kN)	Pile Depth (m)	Diameter (mm)	PPL (mOD)	Cut Off Level (mOD)	De-bond Depth (m)	Reinforcement	Concrete Grade	Rev
P274	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P275	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P276	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P277	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P278	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P279	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P280	550	75	20	870	661	25	635	24.3	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P281	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P282	250	75		450	348	25	325	16.9	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P283	775	150	100	1354	1042	50	980	28.9	350	TBC	TBC	TBC	4H16x6m H8		A
P284	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P285	600	125		998	763	0	725	26.3	300	TBC	TBC	TBC	4H12x6m H8		A
P286	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P287	850	175		1410	1078	25	1025	29.5	350	TBC	TBC	TBC	5H12x6m H8		A
P288	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P289	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A
P290	675	150		1136	870	0	825	28.6	300	TBC	TBC	TBC	4H12x6m H8	40/50	A