

10.3 External Works

10.3.1 Paved Areas

Based on proposed levels Glacial Till will likely be encountered at subgrade level on the site.

Laboratory CBR tests performed on three samples of the Glacial Till gave CBR values of 4.9% (TP1), 4.6% (TP3) and 2.3% (TP5).

The differing CBR values are a reflection of differing material type with both the samples from TP1 and TP3 being of Class CH/CV and the sample from TP5 being Class CI.

Estimates of equilibrium CBR values may also be obtained from Table 2.1 of Volume 7 of "Design Manual for Roads and Bridges, 1994". The equilibrium CBR values given in this publication are based on plasticity index and based on the range of values obtained from the Glacial Till, an equilibrium CBR value in the range 3% to 4% would be applicable for a thin pavement constructed under average weather conditions.

Given this, it is recommended that a CBR value of 3% to 4% is adopted for the site.

As with structural foundations and floor slabs, heave following tree removal may cause damage to pavements. Such damage cannot be easily avoided.

Once the formation level for the new pavements has been reached, proof rolling should be carried out using a heavy roller, and any soft areas revealed should be excavated and a greater depth of sub-base provided.

Exposed subgrades will likely deteriorate rapidly on exposure to wet weather and should be shaped to shed water. Subbase should be placed as soon as possible to minimise the exposure of the subgrade to adverse weather conditions.

10.3.2 Services

Heave of the ground may also cause problems with below ground drainage. Precautions will be required to prevent damage and these may comprise:-

- Designing drainage with greater gradients.
- Laying pipework on a greater thickness of granular material, to reduce movement potential.

Particular attention will need to be paid where pipes and services pass through substructure walls.



Further reference should be made to Clause D8 of Chapter 4.2 of the NHBC Standards.

10.4 Groundworks

The Glacial Till and Oxford Clay are likely to remain stable in open excavations for short periods during construction. However, the stability of any Made Ground materials should not be relied upon. Zones loosened by the removal of existing construction and trees are likely to be particularly unstable and prone to collapse.

Safe working conditions must be provided at all times where persons are required to work in excavations.

Heavy plant and stockpiles of materials should not be permitted close to the edges of unsupported excavations.

Ground support and a suitable method of work will be required if excavations are required close to the toe of the slope on the north eastern part of the site.

Based on observations made during the fieldwork, seepages of groundwater should be anticipated within the Glacial Till and Oxford Clay. Such inflows may be dealt with by pumping from a temporary sump formed at the base of the excavation.

Further reference should be made to CIRIA Report No. 97 "Trenching Practice" 1992.

10.5 Concrete Grade

As discussed in Section 8.2.1, the Oxford Clay is a principal sulphate and/ or sulphide bearing strata.

Concentrations of total potential sulphate determined from the laboratory testing ranged from 0.33% to 2.79%, with the highest concentration obtained from a sample of Oxford Clay from TP6 at a depth of 3m. As outlined in Section 10.1, structural foundations will need to bear within the Oxford Clay.

Therefore, in accordance with Part 1 of BRE Special Digest 1 "Concrete in Aggressive Ground" 2001, a design sulphate class of DS-5 would be applicable for the site. As groundwater is likely to be static and pH values exceed 3.5 (range 7.2 to 8.2), an Aggressive Chemical Environment for Concrete (ACEC) Classification of AC-4 may be assumed.



11. CHEMICAL CONDITIONS & CONTAMINATION

11.1 Reference Criteria

At present there are no comprehensive definitive assessment criteria for contaminated land in the United Kingdom. To assess the results of the chemical analysis the following have been adopted as Tier One Screening Values.

It should be noted that guidelines produced by authorities overseas have no legal or other standing in the UK, and are used for guidance only.

Soil Guideline Values:-

At the time of writing the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency have published Soil Guidelines Values (SGVs) for seven potentially toxic metals, arsenic, cadmium, chromium, lead, selenium, mercury and nickel. The Soil Guideline Values are based on human health risk assessment using the Contaminated Land Exposure Assessment (CLEA) model, and derivation methods for the SGVs for each contaminant are outlined in the Environment Agencies R &D Publications SGV1, 3, 4, 5, 7, 9 and 10, 2002.

The Soil Guideline Values represent "intervention values" which when exceeded in a soil may be indicative of an unacceptable risk to human health and that further investigation and/or remediation may be required.

The documents present SGVs for four land use categories, residential with plant uptake (i.e. consumption), residential without plant uptake, allotments and commercial/industrial. The SGVs are based on an assessment of risk for each land use with lower SGVs applying to residential use and higher values applying to commercial/industrial use, as the exposure level is less.

The Soil Guideline Values need to be used in conjunction with a sitespecific risk assessment, and an exceedance of a Soil Guideline Value, does not necessarily imply that there is a risk to human health.

It is proposed to publish SGVs for other potential contaminants in the future.

Given the nature of the proposed development, it is considered that the SGV's for commercial/industrial use are the most appropriate as Tier One Screening Values.



Polyaromatic Hydrocarbons (PAH's)

Whilst there is no SGV for total PAH's, or a comprehensive list of the individual compounds, a toxicology report (R and D publication TOX2) has been prepared for benzo(a)pyrene. Benzo(a)pyrene is a carcinogen and is recognised as being the most toxic of the PAH compounds. A site specific screening value may be calculated using the CLEA software package (2002 version). Using the models default settings for commercial/industrial use, gives a site specific target value of 36 mg/kg for benzo(a)pyrene, and this has been adopted as a Tier One Screening Value.

A screening value of 100 mg/kg has been adopted for total PAH's, which is a concentration based on professional judgement.

Total Petroleum Hydrocarbons (TPH):-

In the absence of an SGV for TPH a screening value of 500 mg/kg has been adopted, which is based on professional judgement.

Dutch Standards:-

For other contaminants not covered by the SGV's, reference has been made to the Dutch "Target" and "Intervention" values for soils and sediments (Dutch Ministry of Housing, Spatial Planning and the Environment, 1994 — revised February 2000). The Target Value is a suggested value for which a soil may be considered to be uncontaminated and the Intervention Value is a value above which the functional properties of the soil for humans, plant and animal life is seriously impaired or threatened. Intervention values are representative of a level of contamination above which there is a serious case of soil contamination.

11.2 Results of Chemical Analysis & Discussion

No concentrations of contaminants were found to exceed the proposed Tier One Screening Values.

Based on this, no remediation will be required prior to development of the site.

As with any sampling exercise, the sampling process is representative, and it is possible that areas of contamination may be found during the redevelopment of the site, although the risks are considered to be low. Any areas of suspected contamination should be assessed by a competent professional and subjected to further analysis if necessary.

It is recommended an asbestos survey should be undertaken of the existing buildings prior to demolition.



11.3 Approvals

It should be noted that all conclusions made regarding contamination are subject to the approval of the Local Authority and the Environment Agency. If a planning condition exists requiring an assessment of contamination, copies of this report should be submitted to both parties for their comments early in the development of the scheme.

11.4 Waste Disposal

Materials removed from the site must be classified on the basis of the analysis results obtained from the ground investigation, and disposed of off site in a suitable licensed facility.

12. RECOMMENDATIONS FOR ADDITIONAL INVESTIGATION

As discussed in Sections 10.1 and 10.2, further investigations are considered necessary to finalise structural foundation and floor slab design for the site. These works should comprise of the following elements:-

- 1) Detailed tree survey, giving locations, species and heights.
- 2) Form 4 No. boreholes to a depth of 6m to determine soil suction profiles. The soil suction profiles will be used to determine depths of significant desiccation, where trees are to be removed. One of these boreholes should be situated remote from any trees to act as a "control" hole. Some vegetation/tree clearance will be required to the south of Straight Drove prior to undertaking the boreholes.
- Further investigations to determine the extent of Made Ground encountered in TP8 and very soft Glacial Till in TP9. These investigations could initially comprise window sampling. However, if it is decided to retain all or a proportion of the very soft clay encountered in TP9, then one or two shallow boreholes (numbers will depend on the extent) should be undertaken to recover samples for oedometer testing to assess likely settlements.

Undertake an asbestos survey of the existing buildings.

Ceri Copping

BEng (Hons) MEngSC

GEOTECHNICAL ENGINEER

David Clarke

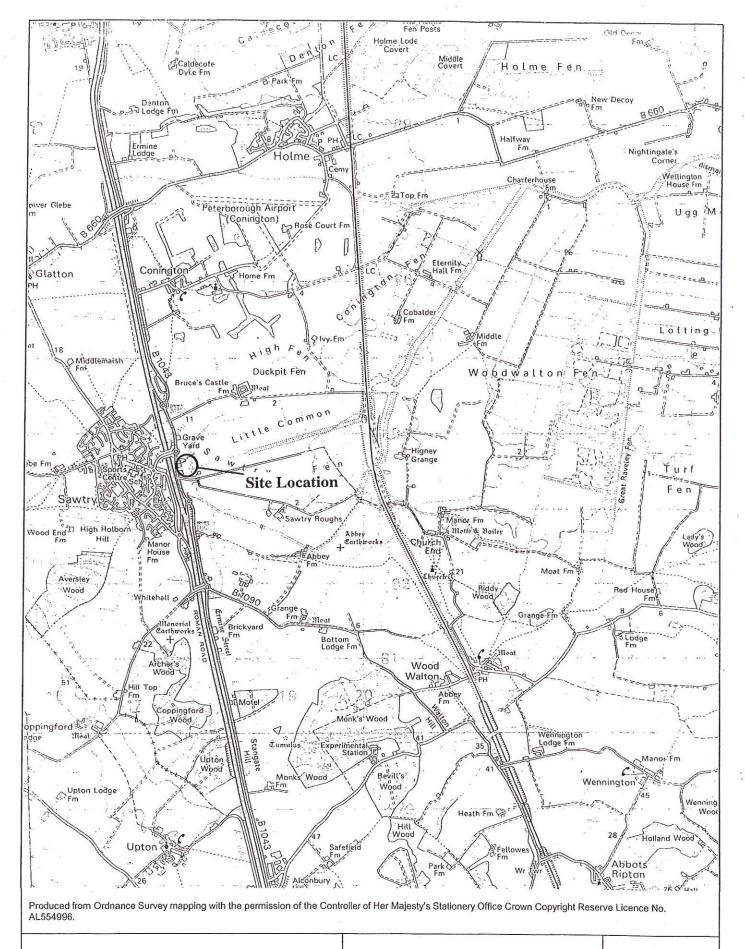
BSc, CEng, MICE, MIHT, FConsE

DIRECTOR



APPENDIX A

SITE & EXPLORATORY HOLE LOCATION PLANS,



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consulting civil and structural engineers 26 High Street, Hadleigh, Ipswich, Suffolk, IP7 5AP Tel: 01473 825300 Fax: 01473 825350

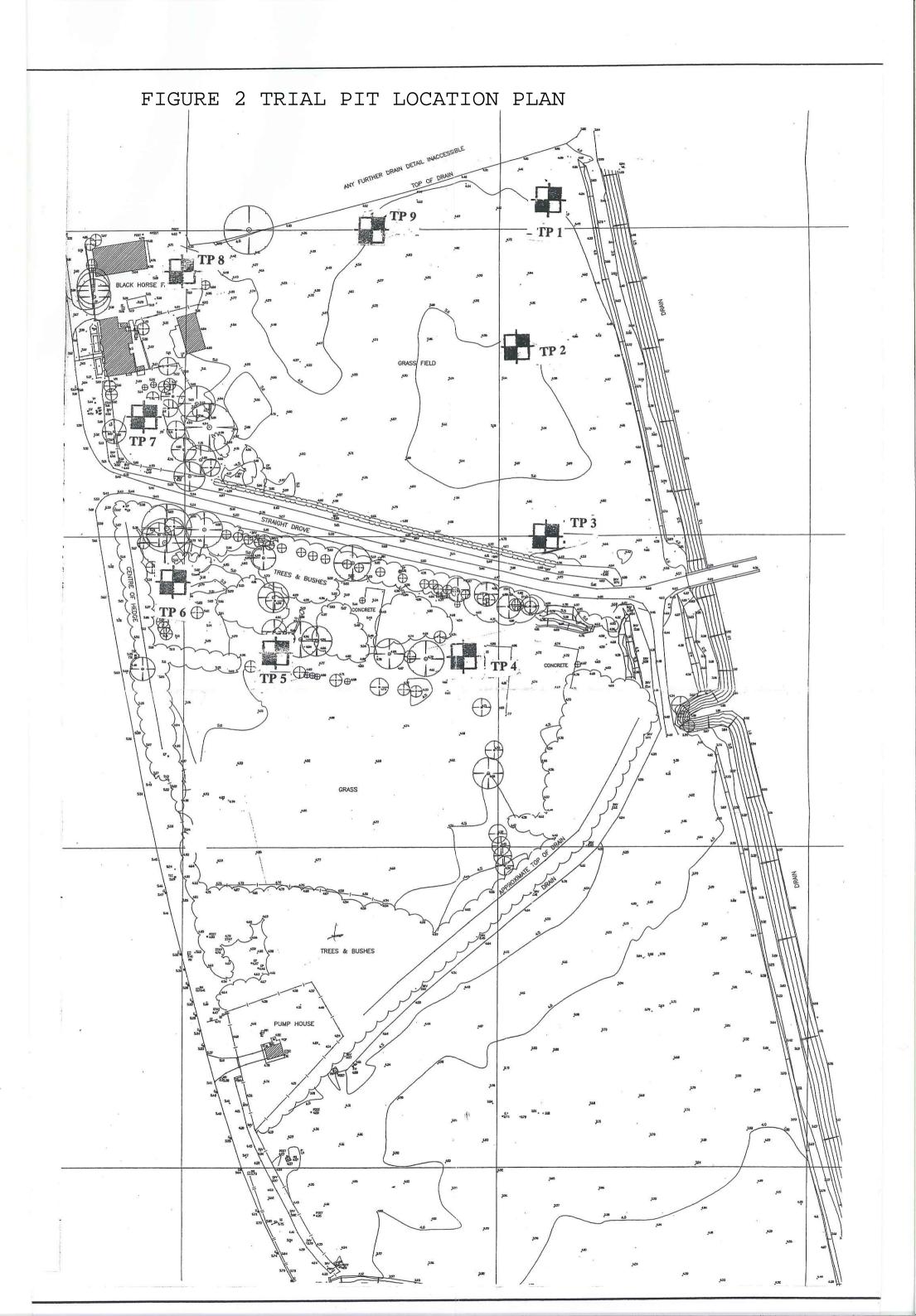
Old	North Road, Sawtry,
	Cambridgeshire

Site Location Plan.

FIGURE 1

SCALE:1:50,000

JOB NO: 25864





APPENDIX B

TRIAL PIT RECORDS

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∕lethod Macl	nine Excavator		Date 15/04/04		Site	Old North Road, Sawtry				
rientation	E-W	Coord	Ground Le	evel	Client	Davies Street Sawtry Ltd				
Soil Sample					Depth	Description of Strata (thickness in m.)				
	Depth m.	Field	Records/Comments	Legend	m.	[reduced level in m.]				
Type/Test		-		78778		Brown to dark brown clayey slightly sandy				
D1	0.00 - 0.39				F	gravelly TOPSOIL with frequent roots. (0.39)				
- 1					£	э				
					ŧ	« .				
				: . 	0.39	Firm grey to dark grey brown mottled sandy				
В1	0.55		16.	·::	-	CLAY with occasional roots. Unit contains coarse gravel sized pockets of orange clayey				
1					F	gravelly sand. (GLACIAL TILL) (0.91)				
					Εl					
	1 (00)	, mr. e. 1	.00m = 62kN/m2		†					
D2 B2	1.00	HV @ I.	. OUM = 62AIV/M2		E	9				
					-	2				
				:::::: ::::	1.30	Time doub byone to light byone mottled gardy				
					ŧ l	Firm dark brown to light brown mottled sandy CLAY with occasional roots. (GLACIAL TILL)				
_ ВЗ	1.50				F	(0.70)				
a '8				<u> </u>	E	. %				
					F	Δ.				
		1 CONTROL SON COM	VPCCTLC TO VPCCLQACTOR DISCOVER		E					
D3 B4	2.00	HV @ 2	.00m = 48kN/m2		2.00	Firm grey mottled thinly laminated CLAY				
					E	(OXFORD CLAY FORMATION) (1.20)				
			• 19		-					
		STRIKE	at 2.40m Very Slow		E					
. B5	2.50	ATTOM AND DESCRIPTION OF THE PARTY OF THE PA	- Secretaria - Parti Commentaria (M. 19 de companya - 19 de contradordos estados en companya (M. 19 de contradordos en companya (M. 19 de contradordos en cont		F					
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Remarks Trial pi	t sides were	stable.			Logged	by Scale Report No. 25864				
Groundwa	ter seepage e	ncountere	d at 2.4m.		Sample	le/Test key: Penetration Tests				
			¥		U()	U100 Sample (blows) S () Standard (N value)				
			:90		D B	Disturbed sample C () Cone (N value) Bulk sample * Blows and penetration				
		72			W '	Water sample when 300mm not				
it Dimensi	and processing	1: 3.02	Width: 0.60 Dept	th: 3.20		Progress & Day achieved Groundwater level				

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TRIAL PIT No.

TP2

Method Mac	hine Excavator		Date	15/04/04		Site	0	ld North Ro	ad. Sawtr	v	
Orientation	N-S	Coord		Ground Le	evel	Client	29	vies Street			
Soil Sampl				III O.D.	T	Depth				ckness in m.)	
Type/Test	Depth m.	Field F	Records/Co	mments	Legend	m.	D.		ced level in	Property and the property	
D1	0.00 - 0.39				/////		Brown to	dark brown	mottled o	clayey sandy	
						F	slightly	gravelly T	OPSOIL. ().39)	
	* 8					F					
						0.39					
D2	0.50					F	gravelly	clay with	occasional	ming grey sand roots (MADE	-
B1	0.60					E	angular t	o rounded	red brick	ine to coarse and flint. Uni	t
1						F	becomes s	lightly fi	ssured wit	h depth. (0.71	.)
D2	1.00	1117 @ 1	00m = 52kN	T /m2		Ę					
D3 B2	1.00	nv e 1.	00III = 52KI	171112		1.10					
					×	1.10	Firm grey	and orang	e mottled	brown and whit	e
					× —	F 1	Gravel fr	action is	fine to co	arse angular t	0
В3	1.50	70			××	E	frequent	pockets of nd. (0.90)	orange cl	ayey medium to	į
					×		**************************************				
					××	E					
8.1		12			×	-					
D4	2.00	STRIKE	at 2.00m V	ery slow	×	2.00					
B4	2.00	HV @ 2.	00m = 56kN	1/m2		E	Firm grey (OXFORD C	mottled w LAY FORMAT	hite sligh ION). (0.9	tly fissured C	LAY
						-	9		20		
						[
		8						120			
1						-					
		(4)				-					
D5	2.90	HV @ 2.	90m = 52kN	1/m2		2.90					
B5	2.90					-					
					12.						
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lemarks Trial pi Groundwa	t sides were s ter seepage en	table. countered	at 2.0m.			Logged b	Y C.Cop	Scale 1	:25	Report No. 25864	
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							100 Sample isturbed sam		() Standar () Cone (N	d (N value) I value)	
						B B	ulk sample	*	Blows a	nd penetration	
							Vater sample rogress & Da		when 3 achieve	00mm not	

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TRIAL PIT No.

TP3

Method	1)		Date			Site	* pic		Sheet 1 of 1
	chine Excavator			15/04/04			0	ld North Road, Sa	wtry
Orientation	N-S	Coord		Ground Le m O.D.	evel	Client	Da	vies Street Sawtr	ry Ltd
Soil Samp		Field F	Records/Co	mments	Legend	Depth m.	De	escription of Strata	
Type/Test	Depth m.							[reduced lev	ei in m.j
D1 -	0.00 - 0.50		w				Brown to gravelly	dark brown claye TOPSOIL with free	y sandy slightly quent roots. (0.50)
B1	1.00	HV @ 1.(00m = 59kN	//m2		0.50	fissured pockets or roots. Gr	avel fraction is	LAY with frequent sand and occasional
B2 -	1.00					1.10	Firm ligh	t brown mottled : Y. (GLACIAL TILL)	slightly fissured) (0.40)
_ B3	1.50					1.50 - - - - -	Soft grey (OXFORD C	to light grey mo	ottled white CLAY
_ D3 B4	2.00 2.00	HV @ 2.0	00m = 32kN	/m2		2.20	Firm brow	n to grev mottle	d dark brown slightly
_ B5	2.50						fissured	CLAY. (OXFORD CLA	AY FORMATION) (0.80)
– D4 B6	3.00	HV @ 3.0	00m = 48kN	/m2		3.00		**;	
	e ec	9			55,5			ž	
							<i>s</i> _		
_	0.								
Remarks Trial pi No groun	t sides were si	table. ered in tr	rial pit.			U() U D D B B W V	C.Cop Test key: 100 Sample isturbed sam ulk sample /ater sample	ple C () Con * Blow whe	dard (N value) e (N value) vs and penetration n 300mm not
						n	rogress & Da		eved

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TRIAL PIT No.

TP4

Method	ONSULTING ENGINEERS		Date			Site	pic			Sheet 1 of 1		
Macl	hine Excavator	-		15/04/04			Old North Road, Sawtry					
Orientation	E-W	Coord		Ground Le m O.D.	evel	Client	Davies Street Sawtry Ltd					
Soil Sample	es/Tests Depth m.	Field F	Records/Co	mments	Legend	Depth m.	De		Strata (thi ed level ir	ckness in m.)		
Type/Test					78778				A	27 (40)44,03	_	
D1	0.00 - 0.31					0.31	frequent	roots. (0.31	L)	TOPSOIL with		
_ B1	0.50					- - -	Soft ligh roots (GL	t brown sand ACIAL TILL)	ly CLAY (1.19)	with frequent		
_ D2	1.00	HV @ 1.0	00m = 56kN	I/m2								
B2	1.00										*	
_ B3	1.50					1.50	Firm grey roots. (O	and brown C XFORD CLAY F	CLAY with	n occasional N) (0.70)		
_ D3 B4	2.00	HV @ 2.0	00m = 82kN	i/m2				ř.				
	947 -					2.20	with occas	n and white sional bi-va LAY FORMATIO	lve shel	laminated CLAY		
_ B5 -	2.50											
_ D4 B6	3.00	HV @ 3.0	00m = 62kN	/m2		3.10						
	*			9 2								
	ı				a ·					*		
_		E										
_				19						v		
Remarks No ground Trial pit	water was enco	ountered. table.		e		U() U	C.Cop Test key: 100 Sample	(blows) S ()	etration T Standar	d (N value)		
						B B W V <u></u> P	isturbed sam ulk sample /ater sample rogress & Da	* V	Cone (N Blows a when 3 achieve	ind penetration 00mm not		
it Dimension	ns - Length:	2.75	Width: 0.6	50 Depth	3.10	<u>X</u> e	roundwater I	evel				

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TP5

	ISULTING ENGINEERS		D. (.	THE PERSON NAMED IN	TOTAL PROPERTY OF THE PARTY OF		- bic	74	<u> </u>	Sheet 1 of 1	
Method Mach	ine Excavator		Date	15/04/04		Site	Old North Road, Sawtry				
Orientation	N-S	Coord		Ground Lo	evel	Client	Da	vies Street S	Sawtry I	itd	
Soil Sample	s/Tests Depth m.	Field F	Records/Co	mments	Legend	Depth m.	Description of Strata (thickness in m.) [reduced level in m.]				
D1	0.00 - 0.30			0			Light brown clayey sandy TOPSOIL with frequent roots. (0.30) Soft light brown sandy silty CLAY with frequent roots. (GLACIAL TILL) (0.50)				
_ B1	0.50				x	0.30					
- D2 B2	1.00	HV @ 1.0	00m = 56kN	1/ m2		0.80	CLAY with frequent	n occasional	roots. I l sized	slightly fissured Unit contains pockets of orange (1.00)	
_ вз	1.50			45		1.80					
_ D3 B4	2.00	HV @ 2.(00m = >140	kN/m2		-	fragmente	f grey and wed and whole l	bi-valve	AY with frequent e shell fragments.	
_ B5	2.50	(8)				2.40	Firm to s	stiff brown th	hinly la	aminated CLAY	
	3.00	н∨ @ 3.0	00m = 58kN	1/π2		3.00	25	9	-		
,	y	² v							8	e x	
e f	æ				2						
-							1				
Remarks Trial pit No groundw	sides were so water encounter	ered in tr	rial pit.	60 Depth	n: 3.00	U() U D D B B W W	y C.Cop /Test key: 100 Sample isturbed san ulk sample /ater sample rogress & Di roundwater	(blows) S () nple C () *	tration T Standar Cone (N Blows a	d (N value) I value) Ind penetration 00mm not	

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Mac	hine Excavator		Date	15/04/04	7	C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-	Old North Road, Sawtry				
Orientation	N-S	Coord	950	Ground Lo	evel	Client	Davies Street Sawtry Ltd				
Soil Sampl Type/Test	es/Tests Depth m.	Field I	Records/Cor	mments	Legend	Depth m.	D	escription of Strat [reduced le	a (thickness in m.)		
D1	0.00 - 0.26					E	Brown cla	ayey sandy grave roots. (0.26)	elly TOPSOIL with		
			Carlo Sc			0.26			9		
В1	0.50						roots and (0.94)	it brown sandy C 1 5-50mm tree ro	LAY with frequent ots. (GLACIAL TILL)		
						-					
. D2 B2	1.00	HV @ 1.	00m = 48kN	/m2							
					===	1.20	Stiff bec	coming hard grey	brown mottled CLAY		
. В3	1.50						shells. (QUENT FOOTS AND	fragmented bi-valve MATION) (1.40)		
,											
D3 B4	2.00	HV @ 2.	00m = >140	kN/m2				*	2		
3	£ .						W				
B5	2.50					2.60					
	¥				_		Hard brow FORMATION	m weathered CLA () (0.50)	Y. (OXFORD CLAY		
D4 B6	3.00	HV @ 3.0	00m = >140	kN/m2		3.10		# E	х		
									2		
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		€ 5									
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	9 100										
						-		W S			
	И										
lemarks	sides were st	able.				Logged b	y C.Cop	Scale	Report No.		
No ground	water encounte	ered in t	rial pit.	o Death	n: 3.10	U() U D D B Bi W W	Test key: 100 Sample isturbed sam ilk sample fater sample ogress & Da	Penetrat (blows) S () Sta pple C () Co * Blo wh by acl	ion Tests andard (N value) ne (N value) was and penetration nen 300mm not hieved		

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TRIAL PIT No.

TP7

	CONSULTING ENGINEERS	*		Base Carried	PURILE SECTION	т-	□ pic		E	Sheet 1 of 1		
Method Mad	chine Excavator		Date 1	15/04/04		Site	0	old North F	Road, Sawt	ry		
Orientation	E-W	Coord		Ground L m O.D.	evel	Client	Da	Davies Street Sawtry Ltd				
Soil Samp	les/Tests		Was Markey			Depth	D	escription o	of Strata (th	ickness in m.)		
Type/Test	Depth m.	Field F	Records/Con	nments	Legend	m.			uced level i			
_ D1	0.00 - 0.29					0.29	Brown clayey sandy gravelly TOPSOIL with occasional wood fragments and frequent roots. (0.29)					
_ B1	0.50			: :**)	x " x		fine to c	1 frequent	roots. Gr ular to su	dy silty grave avel fraction b rounded flin	ig	
_ D2 B2	1.00	HV @ 1.0	00m = 64kN	/m2	x	0.80	to medium	asional ro n angular frequent	ots. Grave to rounded	lty gravelly Cl l fraction is flint. Unit vel sized pockend. (GLACIAL T	fine	
_ B3	1.50				×	1.40	Firm grey	to dark l	orown CLAY FORMATION	with occasiona	al	
3		e ** 1.€*					10008. (0)	LOAD CLAY	PORMATION	(0.50)		
_ D3 B4	2.00	HV @ 2.0	Om = 52kN/	/m2		1.90	fragmente	and white d and who MATION) (0	le bi valve	h frequent e shells. (OXFO	ORD	
. B5	2.50	ž.										
. D4 B6	3.00	HV @ 3.0	Om = 68kN/	/m2		2.70	Firm to s	tiff grey ORD CLAY I	and brown FORMATION)	thinly laminat	ed	
-		ě				3.10						
	÷											
					,						ı	
3	a i											
Trial pit	t sides were st	able. ered in tr	ial pit.	3	- 1	U() U	y C.Cop /Test key: 100 Sample isturbed sam	l Po (blows) S	:25 enetration T () Standar () Cone (N	d (N value)		
Remarks Trial pit No ground	dwater encounte	ered in tr	ial pit. Vidth: 0.60	0 Depth	1: 3.10	Sample. U() U D D B B W W	C.Cop /Test key: 100 Sample	Professional Profe	enetration T () Standar () Cone (N Blows a	ests d (N value) l value) nd penetration 00mm not		

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TRIAL PIT No.

cor	NSULTING ENGINEERS	0.00		INTERNATION SUPPLY	DETRICTORS.	PRESIDENTE NEWS	⇒ plc		E	Sheet 1 of 1
Method Mach	ine Excavator		Date 1	15/04/04		Site	0	ld North	Road, Sawtı	
Orientation	E-W	Coord		Ground Lo	evel	Client	Dav	vies Stre	et Sawtry I	td
Soil Sample	s/Tests				20 00	Depth	De	escription	of Strata (thi	ckness in m.)
Type/Test	Depth m.	Field R	ecords/Cor	mments	Legend	m.			luced level in	
_ D1	0.00 - 0.90	-	,			بدرز الدريد الربيد والم	is fine t and flint angular h	o coarse . Unit co ardcore o	angular to matins ang	velly silty medium . Gravel fraction sub rounded brick ular to sub whole and half
_ D2	1.00	HV @ 1.0	Om = 24kN	/m2		0.90	Soft blac (MADE GRO odour. (1	UND). Uni	l silty sand	dy gravelly clay a strong organic
_ D3	2.00	HV @ 2.00	Om = 28kN,	/m2		2.10	(0.30)			AY. (GLACIAL TILL)
							(OXFORD C	LAY FORMA	TION) (0.60))
_ D4	3.00	HV @ 3.00	om = 58KN,	/m2		3.00				is .
	e			e e						
-	e	8								
	*	ř	æ				×			
Remarks Trial pit No groundw	sides were st vater encounter	ered in tri	al pit.	0 Depth	1: 3.00	U() U D D B B W W	y C.Cop /Test key: 100 Sample isturbed sam ulk sample /ater sample rogress & Da roundwater l	(blows) Sple (Penetration T 3 () Standar 2 () Cone (N Blows a when 3 achieve	d (N value) value) nd penetration DOmm not

richard Jackson Pic



TRIAL PIT No.

	ONSULTING ENGINEERS			PATRICIS STATES	20多种性 医克克特	-	∍ plc		E	Sheet 1 of 1	
Method Mac	hine Excavator		Date	15/04/04		Site	0	ld North	Road, Saw	try	
Orientation	E-W	Coord		Ground Lo	evel	Client	Davies Street Sawtry Ltd				
Soil Sampl	es/Tests	*				Depth	D	escription	of Strata (t	hickness in m.)	
Type/Test	Depth m.	Field	Records/Cor	mments	Legend	m.		[re	duced level	in m.]	
D 1	0.00 - 0.31					_	Brown cla	ayey sand	dy TOPSOIL	with frequent 1-2mm	
-					× - × - × - × - × - × - × - × - × - × -	0.31	flint.(GI Unit cont	LACIAL TI	LL) (1.39) asional 1-	cavelly CLAY. Gravel angular to rounded came roots and depockets of orange	
. D2	1.00	HV @ 1.	Om = 42kN/	m2	× ×		clayey gr	ravelly s	and.		
			# ±		X						
		0 %			×	1.70	Very soft	brown t	o light br	own mottled very	
. D3	2,00	HV @ 2.	Om = 10kN/	m2	x		sandy cha	ii. (GIAC	145 1155)	(1.00)	
		21	•		x						
D4	3.00	HV @ 3.	Om = 82kN/1	m2	× × × × × × × × × × × × × × × × × × ×	2.70	Stiff dar	k grey m	ottled sli Y FORMATIC	ghtly fissured N) (0.40)	
s:	4				s					¥	
8	ù.			ı					2 8		
								a.			
		Q P			165					*	
	sides were s		-			Logged b	y C.Cop	Scale	1:25	Report No. 25864	
No ground	ns - Length:		Width: 0.6	o Depth	ո։ 3.10	U() U D D B B W V	Test key: 100 Sample Isturbed sam ulk sample Jater sample rogress & Da roundwater	(blows) aple	C () Cone * Blows	ard (N value) (N value) and penetration 300mm not	