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Consultation Response – 173821/1/0121253 – Land at, Broadfields, Wivenhoe, Colchester

Following receipt of the AWS consultation response dated 23rd May 2022 (REF: 210965), I set out below our response to the points raised.

Surface Water Hierarchy

It is proposed to connect to the existing surface water public sewer to the south east of the application site, to an agreed point with Anglian Water at a rate of 4.0 litres/second. Alternative outfalls have been explored and discounted as follows:-

- Infiltration to the ground This is the most desirable method of surface water disposal, however certain criteria need to be followed. An intrusive ground investigation has been undertaken by REC Ltd, copies of the borehole location plan and logs are attached to this response. It can be seen that across the majority of the site, groundwater is at levels between 0.35 and 2.0m below ground. It is a requirement of the Environment Agency that any infiltration device need to have a clearance of 1.2m from the base of the structure to the highest groundwater level to ensure that the structure operates properly. This would result in the raising of ground levels by between 1.0 and 2.5m, which is not feasible.
- The next option would be to connect to an exiting watercourse. There are existing watercourses adjacent to the site, but these are much too shallow to utilise and again would require the site to be substantially built up in order for it to operate properly.

• The only available option is to connect to the existing surface water public sewer which is at a much lower level than the watercourse running along the eastern boundary of the site.

I trust that the above response and supporting evidence addresses the outstanding points.

Kind regards

TJ Wilson

Tom Wilson



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South Croydon, CR2 OBS

a spectris company

Land off Richard Avenue, Wivenhoe Taylor Wimpey East London

Drawn b	y.	HWW	NOU
Approve	d by:	RH	
Date:	Febru	uary 2020	

NOT TO SCALE

1CO108570-003 **Exploratory Hole** Location Plan

REC		LE DI LE	0HSAS 18001		Т	rial	Pit Log	Borehole No TP201 Sheet 1 of 2	
Project Na	me: Land Ea	ast of R	ichard Avenue	Proj. ID: 1	CO108570)	Easting: 604535.00 Northing: 223077.00	Hole Type TP	
Location:	Wivenh	oe, Ess	ex	Plant: T	B290		Level (m AOD): Final Depth (m): 2.10	Scale: 1:20	
Client:	Tayloe	Wimpey	East London		lolmes Pla Constructio		Start Date: 21/01/2020 End Date: 21/01/2020	REC Enginee HWW	er:
Well Wat		e and Ir Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
	0.20 - 0.30 0.35 - 0.70 0.50 0.50 - 0.60 1.00 1.00 - 1.10 1.50 - 1.60 1.50 - 1.90 1.90 - 2.00 2.00	ES1 B1 D1 ES2 D2 ES3 D3 ES4 B2 ES5 D4		0.35 0.70 1.90 2.10			Grass over dark brown slightly gravelly with occasional rootlets. Sand is fine to is subangular to well rounded fine to co- rare quartzite. [TOPSOIL] Greyish brown very gravelly clayey SA fine to coarse. Gravel is subangular to coarse flint. [KESGRAVE CATCHMENT SUBGROU Orangeish brown mottled light grey slig SAND with frequent clay lenses. Sand medium. Gravel is subangular to subro coarse flint. [KESGRAVE CATCHMENT SUBGROU <i>From 1.20mbgl: Light grey mottled</i> brown. Light grey to cream fine SAND. [KESGRAVE CATCHMENT SUBGROU End of Borehole at 2.10m	ocarse. Gravel varse flint and ND. Sand is rounded fine to JP] htty gravelly is fine to unded fine to JP] orangeish	1
Remarks: Location cl terminated Stability:	eared for services at 2.10mbgl, back Stable	s using a	a Cable Avoidance To ith arisings in reverse	ool [CAT]. N	o groundw made safe	ater enco upon cor	untered. Location npletion.	S CONCEPT SCIENCI	L I F E E S

		10-1	Thruge Men	OHSAS 14001		Т	rial	Pit Log	Borehole No TP202 Sheet 1 of	2
Project	Name:	Land Ea	ast of R	ichard Avenue	Proj. ID:	1CO10857	0	Easting: 604525.00 Northing: 223160.00	Hole Type TP	;
Locatio	on:	Wivenh	oe, Ess	ex	Plant:	TB290		Level (m AOD): Final Depth (m): 2.55	Scale: 1:20	
Client:		Tayloe	Wimpey	r East London		Holmes Pla Constructio		Start Date: 21/01/2020 End Date: 21/01/2020	REC Engine HWW	er:
	Water Strikes			n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type ES1	Results	0.40			Grass over dark brown slightly sandy s CLAY with occasional rootlets. Sand is Gravel is subangular to subrounded fir flint. [TOPSOIL]	fine to medium. ne to coarse	
		0.50 - 0.60 0.50 - 1.00	ES2 B1					Greyish brown to brown slightly gravel Sand is fine to coarse. Gravel is subar rounded fine to coarse flint and rare qu [KESGRAVE CATCHMENT SUBGRO	ngular to well uartzite.	
		1.00 - 1.10	ES3		1.10			Orangeish brown mottled light grey slig very clayey SAND. Sand is fine to coa subrounded to rounded fine to coarse [KESGRAVE CATCHMENT SUBGRO	rse. Gravel is flint.	1
		1.50 - 1.60 1.50 - 2.00 2.00 - 2.10	ES4 B2		2.00					
		2.00 - 2.10	ES5 B3		2.00			Brown to light brown SAND with occas lenses. Sand is fine. [KESGRAVE CATCHMENT SUBGRO] From 2.30mbgl: No clay.	-	2
		2.45 - 2.55	ES6		2.55			End of Borehole at 2.55m		
										3
Remar	ks:							Pit Dimension	s —	- - - - - - - - - - - - - - - - - - -
Locatio	n cleare ated at 2	ed for services 2.55mbgl, back able	using a	a Cable Avoidance To ith arisings in revers	ool [CAT]. N e order and	lo groundw made safe	vater enco e upon cor	untered. Location	CONCEPT SCIENC	ES

		A (4)	RANCE	BUTAL MANAGEME	overe							Borehole N	lo.
RE	EC		ISO	SYSTEM	OHSAS 18001		Т	rial	Pit Log	g		TP203	3
DELIV	ERING SOLU	TIONS		50 14001						004000.00		Sheet 1 of	
Projec	ct Name:	Land	East of F	Richard Ave	enue	Proj. ID:	1CO10857	0	Easting: 604606.00 Northing: 223091.00			Hole Type TP	e
Locati	on:	Wive	nhoe, Ess	sex		Plant:	TB290		Level (m AOD) Final Depth (m			Scale: 1:20	
Client	:	Taylo	e Wimpe	y East Lon	Idon		Holmes Pla Constructio		Start Date: End Date:	21/01/2020		REC Engine HWW	eer:
	Water	Sam	ple and l	n Situ Tes	ting	Depth	Level		End Date:	21/01/2020			
Well	Strikes	Depth (m)	Туре	r	sults	(m)	(m)	Legend		Stratum Descrip			
		Depth (m) 0.00 - 0.35 0.40 - 0.50 0.40 - 0.60 0.60 - 0.70 1.00 - 1.50 1.20 - 1.30	B1 ES1 ES2 ES2 B3	Ke	SUITS	0.35 0.60 0.85 1.60			CLAY with occa Gravel is subar flint. [TOPSOIL] Greyish brown Sand is medium rounded fine to [KESGRAVE C Orangeish brow SAND with freq medium. Grave coarse flint. [KESGRAVE C Light grey sligh cobble content. subangular to w Cobbles are su	k brown slightly sa sisonal rootlets. Sa igular to subrounded to brown slightly gin to coarse. Grave coarse flint. ATCHMENT SUBC vn mottled light gre uent clay lenses. S i is subangular to r ATCHMENT SUBC Sand is fine to me vell rounded fine to bangular to subrou ATCHMENT SUBC End of Borehole at 1	nd is fine ed fine to ravelly sa i is suba GROUP] ay slightly Sand is fi rounded GROUP] ayey SAI adium. G o coarse inded flir GROUP]	e to coarse. o coarse andy CLAY. ngular to y gravelly ine to fine to ND with low ravel is flint. tt.	
Rema Locati termir	on cleare	ed for servic I.60mbgl, ba	es using ackfilled w	a Cable Av	voidance To s in reverse	ol [CAT]. Ne order and	lo groundv made saf	vater encou e upon con	untered. Location	Length:	sions 2.80 0.65		LIFE
Stabil	lity: St	able									0.65 1.60		

RE			CH DI HOUND	50 14001 OHSAS		т	rial	Pit Log	Borehole N TP204 Sheet 1 of	ŀ
Project	Name:	Land E	ast of R	ichard Avenue	Proj. ID: 1	CO10857	0	Easting: 604609.00 Northing: 223176.00	Hole Type TP	9
.ocatic	n:	Wivenh	oe, Ess	ex	Plant: T	B290		Level (m AOD): Final Depth (m): 2.50	Scale: 1:20	
lient:		Tayloe	Wimpey	e East London		Iolmes Pla		Start Date: 22/01/2020	REC Engine	er:
	Water	Sample	e and Ir	n Situ Testing	Depth	th Level Legend		End Date: 22/01/2020	HWW	
	Strikes	Depth (m)	Туре	Results	(m)	(m)	Legend	Stratum Description		
		0.30 - 0.60 0.40 - 0.50 0.60 - 1.00 0.70 - 0.80	B1 ES1 B2 ES2		0.30			CLAY with occasional rootlets. Sand is angular to subrounded fine to coarse f quartzite. [TOPSOIL] Brownish light grey clayey gravelly SA medium to coarse. Gravel is angular to coarse flint and quartzite. [KESGRAVE CATCHMENT SUBGRO] Brown mottled blueish grey gravelly SA frequent clay lenses. Sand is fine to coa subangular to well rounded fine to coa quartite and care chalk	Int and rare ND. Sand is prounded fine to UP] AND with parse. Gravel is	-
	▼	1.00 - 1.50	В3					quartzite and rare chalk. [KESGRAVE CATCHMENT SUBGRO <i>From 1.00mbgl: Clayey</i> _	JP]	1
		2.00 2.00 2.00 2.00	D1	HVP=108 HVP=109 HVP=98	1.80			Blueish light grey slightly sandy slightly with frequent roots and rootlets. Sand coarse. Gravel is subrounded to well ru coarse flint and quartzite. [KESGRAVE CATCHMENT SUBGRO]	is medium to ounded fine to	
		2.50 2.50 2.50	D2	HVP=110 HVP=79 HVP=89	2.50			End of Borehole at 2.50m		
00000	ke:								6	
etwee	on cleare en 1.20 a s in reve	and 1.40mbgl.	Locatio	a Cable Avoidance T on terminated at 2.50 safe upon completio	mbgl due to	roundwate groundwa	er encount ater. Locat	ered as a seepage ion backfilled with backfilled with kith: 0.65 bepth: 2.50	CONCEPT SCIENC	ES

REC DELIVERING SOL	UTIONS	Statement of the statem	OHSAS 1001		Т	rial	Pit Log	Borehole No TP205 Sheet 1 of	5
Project Name	E Land Ea	ast of Richa	rd Avenue	Proj. ID: 1	CO10857	0	Easting: 604662.00 Northing: 223277.00	Hole Type TP)
Location:	Wivenh	oe, Essex		Plant: T	B290		Level (m AOD): Final Depth (m): 1.80	Scale: 1:20	
Client:	Tayloe	Wimpey Ea	st London		lolmes Pla Constructio		Start Date: 22/01/2020 End Date: 22/01/2020	REC Engine HWW	er:
Well Water Strikes		e and In Sit	t u Testing Results	Depth (m)	Level (m)	Legend	Stratum Descriptio	n	
✓	0.50 - 0.60 0.50 - 1.00	ES1 B1 D1 ES2	Results	0.40			Grass over greyish dark brown slight gravelly CLAY with occasional rootlet coarse. Gravel is angular to subround flint. [TOPSOIL] Soft greyish light brown mottled orang slightly sandy slightly gravelly CLAY. medium. Gravel is subangular to subr coarse flint. [COVER SAND]	s. Sand is fine to led fine to coarse geish brown Sand is fine to	1
	1.50	D2		1.20			Brownish light grey mottled orangeish sandy slightly gravelly CLAY. Sand is Gravel is subangular to subrounded f and quartzite. [KESGRAVE CATCHMENT SUBGRC Between 1.40 and 1.50mbgl: Clay From 1.50mbgl: Sandy.	fine to coarse. ine to coarse flint DUP]	
				1.80			End of Borehole at 1.80m	1	3 -
									4 -
at 0.40mbgl. L reverse order	red for services _ocation termin and made safe Jnstable	ated at 1.80	Ombgl due to trial	bol [CAT]. G pit collapse	roundwate . Location	er encount backfilled	ered as a seepage with arisings in Width: 0.5 Depth: 1.80	0 CONCEPT 1 SCIENC	ES

		ALTHOUNAS	0HSAS 14001		Т	rial	Pit Log	Borehole No TP206 Sheet 1 of	i
Project Name:	Land Ea	ast of R	ichard Avenue	Proj. ID: 1	CO10857	0	Easting: 604498.00 Northing: 223235.00	Hole Type TP	
Location:	Wivenho	oe, Ess	ex	Plant: T	B290		Level (m AOD): Final Depth (m): 2.00	Scale: 1:20	
Client:	Tayloe V	Vimpey	East London		lolmes Pla Constructio		Start Date: 22/01/2020 End Date: 22/01/2020	REC Engine HWW	er:
Well Water Strikes			Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
	Depth (m) 0.20 - 0.30 0.50 - 1.00 0.60 - 0.70 1.20 - 1.30 1.20 - 1.50	Type ES1 B1 ES2 ES3 B2	Results	0.40			Grass over brownish dark grey slightly CLAY with occasional rootlets. Sand is Gravel is subangular to well rounded fi flint. [TOPSOIL] Light greyish brown mottled orangeish gravelly sandy CLAY. Sand is medium Gravel is subangular to well rounded fi flint. [COVER SAND] Light grey and orangeish brown clayey GRAVEL. Sand is medium to coarse. 0 rounded to well rounded fine to coarse [KESGRAVE CATCHMENT SUBGRO]	fine to coarse. ne to coarse brown slightly to coarse. ne to coarse r very sandy Gravel is fint.	1
Remarks: Location cleared 1.10mbgl. Locati completion.	I for services	using a	a Cable Avoidance To J0mbgl, backfilled w	pol [CAT]. N	o groundw n reverse	ater as a s	seepage at made safe upon Beepage at made safe upon Beepage at Length: 3.25 Width: 0.60		

REC		CE HARAGE	OHSAS 18001		Т	rial	Pit Log	Borehole No TP207	
ELIVERING SO		ISO 1	4001				-	Sheet 1 of	1
oject Nam	e: Land E	ast of Richa	ard Avenue	Proj. ID: 1	CO10857	0	Easting: 604554.00 Northing: 223195.00	Hole Type TP	;
cation:	Wivenh	oe, Essex		Plant: T	B290		Level (m AOD):	Scale:	
	Witein	00, <u>2000</u>				t 9	Final Depth (m): 2.55 Start Date: 22/01/2020	1:20 REC Engine	
ient:	Tayloe	Wimpey Ea	ist London		lolmes Pla constructio		End Date: 22/01/2020	HWW	
ell Water Strikes	-	e and In Si Type	tu Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
	0.50 - 0.60 0.80 - 1.00 0.90 - 1.00	ES1 B1 ES2		0.45			Grass over greyish dark brown slightly gravelly CLAY with occasional rootlets. coarse. Gravel is subangular to well roo coarse flint and rare quartzite. [TOPSOIL] Brown gravelly sandy CLAY. Sand is m coarse. Gravel is subangular to rounde flint. [KESGRAVE CATCHMENT SUBGROL Orange slightly clayey gravelly SAND. medium to coarse. Gravel is angular to fine to coarse flint. [KESGRAVE CATCHMENT SUBGROL	Sand is fine to inded fine to edium to d fine to coarse IP] Sand is subrounded	-
	1.10	D1 D2		1.40			Light blueish grey mottled orange slight sandy CLAY. Sand is medium to coarse subangular to rounded fine to coarse fil	ily gravelly 9. Gravel is nt.	
	2.00 - 2.55	B2		1.90			[KESGRAVE CATCHMENT SUBGROU Orangeish light brown mottled light gre gravelly SAND. Sand is fine to medium subangular to subrounded fine to mediu [KESGRAVE CATCHMENT SUBGROU	y slightly . Gravel is .m flint.	
								n.	
				2.55			End of Borehole at 2.55m		
emarks:							Pit Dimensions	3	L
ocation clea rminated a			able Avoidance T arisings in revers				untered. Location		Е

ΠL	EC		AND CEMEN	0HSAS 18001		B	oreh	ole Log	Borehole No WS101	1
roiec	t Name:	Land Ea	ast of R	ichard Avenue	Proj. ID: 1	CO10857	0	Easting: 604502.00	Sheet 1 of Hole Type	
, ocati		Wivenh	oe Ess	ex	-	Archway D		Northing: 223197.00 Level (m AOD):	WLS Scale:	
lient				e East London	Crew: E	Borehole S		Final Depth (m): 4.00 Start Date: 17/12/2019	1:30 REC Engine	
	Water	-		Situ Testing	Depth	lorth Ltd		End Date: 17/12/2019	HWW / AB	}
ell	Strikes	Depth (m)	Туре	Results	(m)	(m)	Legend	Stratum Descriptio		
		0.10 - 0.20 0.20 - 0.30 0.40 - 0.60 0.50 - 0.60 0.50 - 0.60 0.80 - 1.20 0.90 - 1.00 1.20 1.40 - 1.50 1.50 - 1.60 2.20 - 2.30 2.20 - 2.30 3.00 3.00 3.20 - 3.30 3.90 - 4.00	ES1 D1 B1 D2 ES2 D3 B2 ES3 SPT ES4 D4 D5 SPT D6 B3 SPT D7 D7 D8	N=35 (5,8/7,10,9,9) N=23 (4,6/6,5,5,7) N=13 (2,2/3,2,3,5)	0.35 0.70 1.65 2.10 4.00			Grass over very soft dark brown sligh gravelly CLAY with occasional rootlets medium. Gravel is subangular to subr medium flint. [TOPSOIL] Dark brown slightly sandy slightly gra low cobble content. Sand is fine to medium are rounded flint. [KESGRAVE CATCHMENT SUBGRC Medium dense ight grey and orangeis gravelly SAND. Sand is fine to medium subangular to subrounded fine to medium. [KESGRAVE CATCHMENT SUBGRC From 1.10mbgl: Greyish brown w mottling. [KESGRAVE CATCHMENT SUBGRC From 1.85mbgl: Light grey. Medium dense light brown and yellow SAND. Sand is fine to medium. [KESGRAVE CATCHMENT SUBGRC From 2.40mbgl: Light grey. Between 2.75 and 2.85mbgl: Brow [SAND. Sand is fine to medium. Between 3.00 and 3.40mbgl: Light [From 3.80mbgl: Gravelly. Gravel 1 fine to coarse flint. End of Borehole at 4.00m	s. Sand is fine to rounded fine to velly CLAY with adium. Gravel is n flint. Cobbles DUP] sh brown slightly m. Gravel is dium flint. DUP] ith rare light grey g sandy CLAY. DUP] vish brown DUP] wish brown DUP] wish slightly clayey at brown.	

Construction Description Project Name: Land East of Richard Avenue Proj. ID: 1C0108670 Northing: Easting: 223120.00 Bitest 101 Works Opped Name: Land East of Richard Avenue Plant: Archway Dart Final Deph (m): 3.00 Scale:: Final Deph (m): 3.00 Scale:: Fi	R	EC		THUREMENT	50 14001 OHSAS		B	oreh	ole Log	Borehole N	2
Junction: Wivenhoe, Essex Plant: Archway Dat Level (m AOD): Final Depth (m): 3.00 Scale: Final Depth (m): 3.00 Jient: Tayloe Wimpey East London Crew: Borehole Solutions North Ltd Borehole Solutions Start Date: 17/12/2019 REC Engineer: HWW // AB Vate: Sample and In Situ Testing Depth (m) Depth (m) Type Results Depth (m) Level (m) Crew: Borehole Solutions Stratum Description True Description Vate: Dapth (m) Type Results Depth (m) Type Results 0.35 Grass over very soft greyinh brown slighty andy dight gravely CLAY with occasional notates. Sand Is find to coarse (find and particle. Tropo coarse (Grave Is aubangular to subrounded fine to coarse (Grave Is aubangular to subrounded fine to coarse (RESERVE CATCHMENT SUBGROUP) 1.00 - 1.10 D2 1.00 - 1.10 D2 1.200 SFT N=23 (3.5/5.5.6.7) 0.90 2.00 - 2.10 D4 2.00 D5 5FT N=23 (3.5/5.5.6.7) 1.75 2.00 2.00 - 2.10 D4 2.200 D5 5FT N=40 (6.9/10.9.1.1) 2.00 1.75 1.00 - 1.10 correction to coarse (RESERVE CATCHMENT SUBGROUP) 1.00 - 1.10 correction to coarse (Revel Is sub-rounded fine to coarse (Revel Is sub-rounded	Proje			ast of R	lichard Avenue	Proj. ID: 1	CO10857	0	U U		
Lieffic Large with py Last London Crew: North Lid End Date: 17/12/2019 HWW/AB Well Water Strikes Sample and In Stu Testing Depth (m) Depth (m) Level (m) Legend Stratum Description 0 0.20 - 0.30 ES1 0.35 Image: Comparison of the stratum Description Stratum Description 0 0.40 - 0.80 E1 0.35 Image: Comparison of the stratum Description Stratum Description 0 0.40 - 0.80 E1 0.35 Image: Comparison of the stratum Description Stratum Description 0 0.00 - 0.00 ES2 0.35 Image: Comparison of the stratum Description 1 0.00 - 1.00 ES3 0.35 Image: Comparison of the stratum Description 1 1.00 - 1.10 D2 D2 O.35 Image: Comparison of the stratum Description 1 1.00 - 1.10 D2 Image: Comparison of the stratum Description Image: Comparison of the stratum Description 1 1.00 - 1.10 D2 Image: Comparison of the stratum Description Image: Comparison of the stratum Description	Locat	ion:	Wivenh	noe, Ess	sex	Plant: A	Archway D	art	Level (m AOD):	Scale: 1:30	
Viel Strikes Depth (m) Type Results (m) (m) Legend Strikum Description 0.20 - 0.30 E81 0.35 (m) (m) <th>Client</th> <th>:</th> <th>Tayloe</th> <th>Wimpe</th> <th>y East London</th> <th></th> <th></th> <th>olutions</th> <th></th> <th>-</th> <th></th>	Client	:	Tayloe	Wimpe	y East London			olutions		-	
0.20 - 0.30 ES1 0.35 Grass over very over solver solver solver solver over solver over solver solver solver solver solver solver over solver s	Nell				-			Legend	Stratum Descriptio	on	
			0.20 - 0.30 0.40 - 0.80 0.50 - 0.60 0.50 - 0.60 0.80 - 0.90 1.00 - 1.10 1.00 - 1.10 1.00 - 1.50 1.20 1.80 - 1.90 2.00 - 2.10 2.00 2.50 - 2.60 2.80 2.85 2.90 - 3.00 2.90	ES1 B1 D1 ES2 ES3 D2 ES4 B2 SPT D3 D4 SPT D5 D6	N=23 (3,5/5,5,6,7) N=40 (6,9/10,9,10,11) HVP=101 HVP=110 HVP=90 48 (10,23/48 for	0.90			slightly gravelly CLAY with occasiona fine to medium. Gravel is subangular fine to coarse flint and quartzite. [TOPSOIL] Brown slightly gravelly clayey SAND coarse. Gravel is subangular to roun flint and quartzite. [KESGRAVE CATCHMENT SUBGR medium dense light grey and orange gravelly SAND with clay lenses. San coarse. Gravel is subangular to subr coarse. Gravel is subangular to subr coarse flint. [KESGRAVE CATCHMENT SUBGR From 1.00mbgl: Very clayey. From 1.25mbgl: Orangeish brown grey mottling. Light grey with rare orangeish brown grey mottling. Light grey with rare orangeish brown CLAY. Sand is fine to medium. [KESGRAVE CATCHMENT SUBGR Dense brown slightly sandy slightly g Sand is fine to medium flint. [KESGRAVE CATCHMENT SUBGR From 2.20mbgl: Light grey with c mottling. From 2.40 and 2.65mbgl: Lig medium SAND. From 2.65mbgl: Gravelly. Gravel fine to medium flint. Between 2.80 and 3.00mbgl: Stif Sand is fine to coarse.	al rootlets. Sand is r to subrounded . Sand is fine to ded fine to coarse OUP] bish brown slightly d is fine to ounded fine to OUP] n with rare light n wottling sandy OUP] gravelly CLAY. bangular to OUP] orangeish brown ht brown fine to ' is sub-rounded ff sandy CLAY.	4

RI	EC		ANN GEMEN	50 14001 OHSAS		B	oreh	ole Log	Borehole No WS103	3
Proje	ering solu	Land E	ast of R	lichard Avenue	Proj. ID: 1	CO10857	0	Easting: 604566.00 Northing: 223077.00	Sheet 1 of Hole Type WLS	
.ocat	ion:	Wivenh	oe, Ess	sex	Plant: A	Archway D	art	Level (m AOD): Final Depth (m): 3.00	Scale: 1:30	
Client	:	Tayloe	Wimpe	/ East London		Borehole S North Ltd	olutions	Start Date: 17/12/2019 End Date: 17/12/2019	REC Engine HWW / AB	
Vell	Water Strikes			n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Descriptio	n	
		Depth (m) 0.20 - 0.30 0.50 - 0.60 0.70 - 1.20 0.80 - 0.90 1.00 1.10 - 1.20 1.25 1.60 - 1.70 2.00 2.00 2.00 2.00 2.00 3.00 3.00 3.00	Type ES1 ES2 B1 ES3 D1 SPT D2 SPT1 SPT D3 D4 SPT2 SPT	Results HVP=80 HVP=100 N=24 (5,3/4,5,7,8) HVP=91 N=36 (6,9/9,8,10,9) N=50 (5,9/13,15,19,3)	0.35 0.70 1.30 2.60 3.00			Grass over soft dark brown slightly sa gravelly CLAY with occasional roottet medium flint. [TOPSOIL] Brown slightly gravelly SAND. Sand i Gravel is subangular to subrounded f flint. [KESGRAVE CATCHMENT SUBGRO Firm to stiff blueish light grey mottled slightly sandy CLAY. Sand is fine. [KESGRAVE CATCHMENT SUBGRO Dense orangeish brown mottled blue slightly clayey SAND. Sand is fine to [KESGRAVE CATCHMENT SUBGRO [.From 1.60mbgl: Orangeish brown Between 1.80 and 1.90mbgl: Blue Between 2.00 and 2.30mbgl: Slig Gravel is rounded medium flint. Very dense brown slightly gravelly S/ to medium. Gravel is angular to subro medium flint. [KESGRAVE CATCHMENT SUBGRO End of Borehole at 3.00n	s. Sand is fine to rounded fine to s fine to medium. ine to medium OUP] orangeish brown OUP] ish light grey coarse. OUP] n. eish light grey. htly gravelly.	
ervic	on cleare es. No gr	oundwater en	counter	a Cable Avoidance To ed. Location terminat stalled to 3.00mbgl a	ed at 3.00m	nbgl due to	SPT refus	avated to 1.20mbgl to clear for sha sal. 50mm internal diameter ver set in concrete.	llow	<u> </u>

REC		AND REAL	50 14001 OHSAS		В	oreh	ole Log	Borehole No WS104	ŀ
Project Name		ast of R	ichard Avenue	Proj. ID: 1	CO108570	0	Easting: 604570.00 Northing: 223207.00	Sheet 1 of 1 Hole Type WLS	
Location:	Wivenh	oe, Ess	sex		Archway Da		Level (m AOD): Final Depth (m): 3.00	Scale: 1:30	
Client:	Tayloe	Wimpey	/ East London	('row'	Borehole Se North Ltd	olutions	Start Date: 18/12/2019 End Date: 18/12/2019	REC Enginee HWW / AB	
Well Water Strikes	Sample Depth (m)	e and li Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description	ı	
	0.20 - 0.30 0.30 - 0.40 0.50 - 0.60 0.70 - 0.80 0.70 - 1.00 0.80 - 0.90 1.10 - 1.20 1.20 1.40 - 1.50 1.55 1.70 - 1.80 1.90 - 2.15 2.00 2.40 - 2.50 3.00 3.00	D1 ES1 D2 ES2 ES3 B1 D3 D4 SPT1 SPT D5 D6 B2 SPT D7 SPT2 SPT	N=41 (9,13/13,11,9,8) HVP=105 N=45 (7,9/9,9,12,15) N=50 (6,6/14,14,19,3)	0.40 0.60 1.00 1.40 1.60 2.30 3.00			Grass over soft dark brown slightly sa gravelly CLAY with occasional rootlets medium. Gravel is angular to subroun coarse flint. [TOPSOIL] Brown slightly gravelly sandy CLAY. S coarse. Gravel is subangular to subro medium flint. [COVER SAND] Orangeish brown mottled light grey sli sandy CLAY. Sand is fine to medium. It to subrounded fine to medium flint. [KESGRAVE CATCHMENT SUBGRO]. <i>From 0.85mbgl: Gravelly.</i> Dense orangeish brown gravelly SAN medium to coarse. Gravel is angular to fine to coarse flint. [KESGRAVE CATCHMENT SUBGRO] Stiff light grey with orangeish brown m gravelly sandy CLAY. Sand is fine to n is subangular to rounded fine to coars [KESGRAVE CATCHMENT SUBGRO] Dense yellowish brown slightly clayey fine to medium. [KESGRAVE CATCHMENT SUBGRO] <i>From 1.90mbgl: Light brown to cre.</i> <i>From 2.15mbgl: Yellowish brown.</i> Very dense light grey to cream fine SA [KESGRAVE CATCHMENT SUBGRO] . <i>From 2.90mbgl: Light grey with ra.</i> <i>brown mottling.</i> End of Borehole at 3.00m	Sand is fine to ded fine to and is fine to unded fine to ghtly gravelly Gravel is angular UP] D. Sand is o subrounded UP] ottling slightly nedium. Gravel e flint. UP] SAND. Sand is UP] SAND. Sand is UP] the sam. UP]	1 - 2 - 3 - 4 - 5 -

REC DELIVERING SOLUTIONS					Borehole No. WS105					
			Proj. ID: 1	CO10857	Sheet 1 of 1 Hole Type					
Locat					Plant: A	rchway D	art	Northing: 223244.00 Level (m AOD):	WLS Scale:	
Client	··	Tayloe V	Vimpe	/ East London	Crew: B	orehole S		Final Depth (m): 2.00 Start Date: 18/12/2019	1:30 REC Engine	
	Water			n Situ Testing	Depth	lorth Ltd Level		End Date: 18/12/2019	HWW / AB	3
Well	Strikes	Depth (m)	Туре	Results	(m)	(m)	Legend	Stratum Descriptio		
		0.20 - 0.30 0.20 - 0.30 0.30 - 0.60 0.40 - 0.50 0.70 - 0.80 1.10 - 1.20 1.20 - 1.70 1.20 1.90 - 2.00 2.00	D1 ES1 D2 ES2 D3 ES3 ES4 B2 SPT D4 SPT	N=33 (7,7/12,10,6,5) N=50 (11,10/15,11,13,11)	0.30 0.60 0.80 1.70 2.00			Grass over dark brown slightly sandy CLAY with occasional rootlets. Sand Gravel is subangular to subrounded to fine. [TOPSOIL] Dark brown slightly gravelly very san fine to coarse. Gravel is subangular to fine to coarse. Gravel is subangular to to subrounded fine to coarse flint. [KESGRAVE CATCHMENT SUBGR(Dense greyish brown to brown slightly Sand is fine to coarse flint. [KESGRAVE CATCHMENT SUBGR(.Between 1.00 and 1.50mbgl: Slig [.From 1.50mbgl: Gravelly. Very stiff light grey and brown slightly CLAY. Sand is fine to medium. Grave rounded fine to coarse flint and quart [KESGRAVE CATCHMENT SUBGR(.From 1.90mbgl: Light grey with ra brown mottling. End of Borehole at 2.00r	is fine to medium. ine to medium dy CLAY. Sand is o subrounded lightly gravelly Gravel is angular DUP] y gravelly SAND. angular to DUP] is angular to DUP] is angular to DUP] are orangeish	1

REC DELIVERING SOLUTIONS					Borehole Log WS1					
			Proj. ID: 1	Proj. ID: 1CO108570						
_ocat	ion:	Wivenho	e, Ess	ex	Plant: A	rchway D	art	Northing: 279338.00 Level (m AOD):	WLS Scale: 1:30	
Client: Tayloe Wimpey East London C					Borehole S Iorth Ltd	olutions	Final Depth (m): 2.00 Start Date: 18/12/2019 End Date: 18/12/2019	REC Engine HWW / AB		
Nell	Water	Sample	and li	n Situ Testing	Depth	Level	Legend	Stratum Descriptio		
	Strikes	Depth (m) 0.20 - 0.30 0.20 - 0.30 0.40 - 0.50 0.40 - 0.80 0.70 - 0.80 0.70 - 0.80 1.10 - 1.65 1.20 - 1.30 1.70 1.75 1.80 1.90 - 2.00 1.95 2.00	Type D1 ES1 D2 ES2 B1 D3 ES3 D4 SPT D5 D6 SPT	Results N=32 (9,13/11,7,7,7) HVP=130 HVP=130 HVP=130 N=50 (12,17/11,15,16,8)	 (m) 0.30 1.15 1.65 2.00 	(m)		Grass over dark brown slightly gravel with occasional rootlets. Sand is fine is angular to subrounded fine to coars [TOPSOIL] Greyish brown mottled orangeish bro gravelly clayey SAND. Sand is fine to is angular to subrounded fine to coars [KESGRAVE CATCHMENT SUBGRO GRAVEL. Sand is fine to coarse. Gra subrounded fine to coarse fint. [KESGRAVE CATCHMENT SUBGRO Stiff to very stiff grey with rare orange mottling slightly sandy CLAY. Sand is [KESGRAVE CATCHMENT SUBGRO <i>From 1.65mbgl: Slightly sandy.</i> End of Borehole at 2.00n	lly sandy CLAY to coarse. Gravel se flint. win slightly o coarse. Gravel se flint. DUP] yey sandy vel is angular to DUP] sish brown fine. DUP]	1

Northing: 223282.00 WLS ocation: Wivenhoe, Essex Plant: Archway Dart Level (m AOD): Final Depth (m): 1.20 1:30 lient: Tayloe Wimpey East London Crew: Borehole Solutions North Ltd Start Date: 18/12/2019 REC Engineer: HWW / AB	REC		AND THE REAL	OHSAS 18001		B	oreh	ole L	og	Borehole N WS107	7
Scation: Wivenhoe, Essex Plant: Archway Dart Level (m AOD): Final Depth (m): 1.20 Scale: 1.30 lient: Tayloe Wimpey East London Crew. Borehole Solutions North Ltd Borehole Solutions Stratum Description REC Engineer: 18/12/2019 HWW / AB velid Water Strikes Capeth (m) Type Results Oppth (m) Level (m) Legerd Stratum Description velid 0.20 - 0.30 ES1 0.30 Os0 Oso Oso <td< th=""><th colspan="4">Project Name: Land East of Richard Avenue</th><th colspan="3">Proj. ID: 1CO108570</th><th>-</th><th></th><th>Hole Type</th><th></th></td<>	Project Name: Land East of Richard Avenue				Proj. ID: 1CO108570			-		Hole Type	
Iterat: Tayloe Wimpey East London Crew: Borehole Solutions Statu Date: 18/12/2019 RECE Engineer: HWW / AB /rel Water Strikes Sample and In Situ Testing Depth (m) Depth (m) Type Results Develoant (m) Stratum Description /rel 0.20 - 0.30 ES1 0.30 Crew: Meretoine (m) (m) Level (m) Level (m) Crew: An opping the transmitty start (m) 0.30 - 0.60 B1 0.30 ES1 0.30 Crew: Strikes Strikes Strikes Strike Strikes Strikes Strikes Strikes Strikes Strikes Strikes Strike Strikes Strikes<	_ocation:	Wivenh	oe, Ess	ex	Plant: A	Archway D	Part	Level (m AOD):		Scale:	
Vela Sample and In Situ Testing Depth (m) Type Results Level (m) Level (m) Care of a register brown sliphly sardy sliphly gravely CLAV with occasine lincels. Sand is fine. Sand is fi	lient:	Tayloe	Wimpey	East London			Solutions	Start Date:	18/12/2019	REC Engine	
Deput (m) Type Results C C 0.20 - 0.30 ES1 0.30		1.00					Legend			•	
		0.20 - 0.30 0.30 - 0.60 0.40 - 0.50 0.50 - 0.60 0.60 - 1.00 0.80 - 0.90 0.90 - 1.00 1.00	ES1 B1 ES2 D1 B2 ES3 D2 SPT1	N=50	0.30	(m)		gravelly CLAN Gravel is ang [TOPSOIL] Orangeish bri slightly grave is subrounder [COVER SAN Dense to verj medium to co coarse flint ar [KESGRAVE From 1.00m	ark greyish brown slightly	y sandy slightly . Sand is fine. barse flint. lightly sandy medium. Gravel se flint. AND. Sand is p rounded fine to UP] th rare	2

REC 1501 14001 REC 1501 14001 REC 1501 14001 REC 1501 14001 REC 1501 14001 REC 1501 14001 REC 1501 14001 14					B	oreh	ole Log	•	
Project Name: Land East of Richard Avenue				Proj. ID: 1	CO10857	0	Easting: 604513.00 Northing: 223267.00	Sheet 1 of Hole Type WLS	
-				Plant: A	rchway D	art	Level (m AOD): Final Depth (m): 1.50	Scale:	
Client:	Tayloe	Wimpey	/ East London		orehole S lorth Ltd	olutions	Start Date: 18/12/2019 End Date: 18/12/2019	REC Engined HWW / AB	
Well Water		e and li	n Situ Testing	Depth	Level	Legend	Stratum Description		,
Strikes	Depth (m)	Туре	Results	(m)	(m)		Grass over dark grey slightly sandy sl CLAY with occasional rootlets. Sand is	ightly gravelly	
	0.20 - 0.30 0.50 - 0.60 0.50 - 1.00 1.00 - 1.50 1.20 1.40 1.50	ES1 ES2 B2 SPT1 D1 SPT2 SPT2 SPT	50 (14,20/50 for 150mm) 50 (23,24/50 for 150mm)	0.35			Gravel is anguar to subrounded fine to chert. [TOPSOIL] Very dense orangeish brown and light clayey very sandy GRAVEL. Sand is f Gravel is angular to rounded fine to co quartzite and chert. [KESGRAVE CATCHMENT SUBGRO [From 1.00mbgl: Very gravelly. End of Borehole at 1.50m	o coarse flint and t grey very ine to coarse. barse flint, PUP]	1 2 3 4
									5