

L HiltonPK65 HFBP235 Flexi-RodNot SpecifiedPrivate SewerTown or Village:WhitehavenInspection Direction:DownstreamUpstream Node:Inspected Length:Road:Sneakyeat RoadInspected Length:15.00 mUpstream Pipe Depth:Location:FootwayTotal Length:15.00 mDownstream Node:Inspected Length:Surface Type:Joint Length:15.00 mDownstream Node:Inspected Length:Use:FoulTotal Length:Downstream Pipe Depth:Use:FoulDia/Height:150 mmWidth:Type of Pipe:Gravity drain/sewerDia/Height:150 mmWidth:Flow Control:No flow controlMaterial:Vitrified clayYear Constructed:Not SpecifiedLining Type:No LiningInspection Purpose:Sample condition surveyLining Material:No LiningComments:Recommendations:Keromendations:Keromendations:			B A :		tion inspe		-					
Operator Vehicle Camera Preset Length Legal Status LHilton PK65 HFB P235 Flexi-Rod Not Specified Private Sewer toad: Sneakyaat Road Inspectol Length: 15.00 m Upstream Node: I toad: Sneakyaat Road Inspectol Length: 15.00 m Upstream Node: I upstream Fige Depth: Downstream Node: Joint Length: 15.00 m Upstream Pige Depth: specified Gravity drain/sewer Dia/Height: 150 mm Width: togo Of Pipo: Gravity drain/sewer Dia/Height: 150 mm Width: togo Control: No Expectine Urgo Status Uning Type: No Lining tear Constructed: No IS Specified Lining Type: No Lining comments: tearommentations: Iscale: 1:30 Position [m] Code Observation MPEG 0.00 MH Start node, manhole, reference: MH F6 00:00:09 00:02:12 mH F8 15.00 MHF Finish node, manhole, reference: MH F8: Backdrop 00:02:12	PLR MH F6X	ed									1	
own or Village: Whitehaven Inspection Direction: Downstream Downstream Node: Upstream Node: uarface Type: Foul uarface Type: Total Length: 15.00 m Downstream Node: joint Length: 15.00 m Downstream Node: Downstream Node: Downstream Node: see: Foul yee of Pipe: Gravity drain/sewer Pipe Shape: Circular Ustream Pipe Depth: two Control: No flow control Material: Vitrified clay two Control: No Specified Lining Material: No Lining teacommentations: Economers No Lining No Lining cable: 1.13 Position [m] Code Observation MPEG 0.00 MH Start node, manhole, reference: MH F6 00:00:09 MH F8 15.00 MHF Finish node, manhole, reference: MH F8: Backdrop 00:02:12	Alternative ID		Legal Statu	L	Preset Lengt	mera	С	cle	Vehic		rator	Ope
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Ise: Foul Pipe: Cravity drain/sewer to Circular Utility of Control No flow control Material: 150 mm. Width: Uning Type: No Lining Ispection Purpose: Sample condition survey Lining Material: No Lining ispection Purpose: Sample condition survey Lining Material: No Lining Type: No Lining	MH F8				15.00 m	-			otway	Fo		
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MH F8		0.00	МН	Start node, manhole	, reference: MH F8		00:00:10		
		0.00	МН	Start node, manhole	, reference: MH F8		00:00:10		
		0.00	MH	Start node, manhole	, reference: MH F8		00:00:10		
Main Line Depth: m	e	0.20	MHF	Finish node, manhol Manhole	e, reference: Main Line	: Buried	00:01:04		
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tem No. 11 Ope		Data	Time	Client`s Job Ref	tion inspecti		eaned	יח	D
	Insp. No. 1	Date 15/06/23	13:30	Not Specified	No Rain Or Snow		eaned es	PL BRAN(
	rator	Vehi		Camera	Preset Length		Status	Alterna	
ĹH	ilton	PK65	HFB	P235 Flexi-Rod	Not Specified		Sewer	Not Sp	ecified
own or V	illage:	Whitehaven		Inspection Direction:	Upstream	Upstream I	Node:	BRANC	ΗΒ
oad:	0	Sneakyeat F		Inspected Length:	19.40 m	-	Pipe Depth:		
ocation:		Footway		Total Length:	19.40 m	Downstrea		MH F8	
urface Ty	vpe:			Joint Length:		Downstrea	m Pipe Depth	:	
se:		Foul		1	Pipe Shape:	Circular			
pe of Pi	pe:	Gravity drair	n/sewer		Dia/Height:	100 mm	Width:	100 mm	1
ow Cont	rol:	No flow cont	irol		Material:	Polyvinyl ch	nloride		
ear Cons		Not Specifie	d		Lining Type:	No Lining			
-	Purpose:	Sample con	dition surve	у	Lining Material:	No Lining			
omments ecomme	s: ndations:								
cale: 1	l:168 Po	osition [m]	Code	Observation			MPEG	Photo	Grad
	oth: m I F8								
	\mathcal{I}	0.00	МН	Start node, manhole,	reference: MH F8		00:00:08		
	ich B bth: m	<u>19.40</u>	MHF	Finish node, manhole Boundary Line Cover	, reference: Branch B: I ed	Manhole	00:01:46		



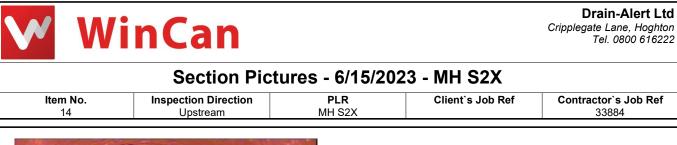
12 1 15/06/23 13:50 Not Specified No Rain Or Snow Yes MH Set	PLR	aned	Pre Clea	. /	ther	Weat	Job Ref	Client`s	ne	Tim	ate	Da	sp. No.	Ins	n No.
L Hillon PR65 HFB P235 Flext-Rod Not Specified Private Sewer Not Specified Cown or Village: Sneakyeak Rodu Inspection Direction: Downstream Node: MH 84 Joint Length: 24.50 m Downstream Node: MAIN LIN Joint Length: 24.50 m Downstream Pipe Depth: 375 mm Vige of Pipe: Gravity drain/sewer DiaHeight: 375 mm Width: 375 mm Vige of Pipe: No Expective No Lining No Lining Sommerics: No Lining Start node, manhole, reference: MH 54 00:00:10 MPEG Photo Difficient m 0.00 MH Start node, manhole, reference: Min Line: Buried 00:01:54 MH 54 MH 54 Finish node, manhole, reference	MH S42								50				1		
own or Village: Whitehaven Sneakyeat Road Inspectol Direction: Downstream Upstream Npde:: MH S4 uarface Type: Footway Joint Length: 24.50 Downstream Node:: MAIN LIN Downstream Node::	Alternativ				-										-
oad: Sneakyeat Road coation: Footway Joint Length: 24.50 m Jowrstream Pipe Depth: Dowrstream Pipe Dowrstream Pipe Depth: Dowrstream Pipe Depth: Downstream Pipe Depth:															
Cocation: Footway Total Length: 24.50 m Downstream Note: MAIN LIN Joint Length: Joint Length: DiarMeight: DiarMeight: DiarMeight: DiarMeight: 375 mm se: Straface water Starting dain/sewer DiarMeight: 375 mm Width: 375 mm spe of Pipe: Gravity drain/sewer DiarMeight: 375 mm Width: 375 mm sec Constructed: Not flow control Material: No Lining No Lining spection Purpose: Sample condition survey Lining Type: No Lining omments: ecommendations: Columnations No Edition cale: 1.213 Position [m] Code Observation MPEG Photo Depth:: m MH Start node, manhole, reference: MH S4 00:00:10				-	n								e:	illage	
urface Type: Joint Length: Downstream Pipe Depth: se: Surface water Pipe Shape: Circular Width: 375 mm Width: 37				-			-			Road	-				
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MH S4 0.00 MH Start node, manhole, reference: MH S4 00:00:10	PEG Photo	MPEG					ion	Observa	ode	C	n [m]	ositior	3 Pc	1:213	e: ′
0.00 MH Start node, manhole, reference: MH 54 00:00:10															-
A MHF Finish node, manhole, reference: Main Line: Buried 00:01:54 Manhole Boundary Line Covered													l l		$\left(\right)$
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Manhole Boundary Line Covered Main Line															,
Depth: m	01:54	00:01:54	1	: Buried	Main Line:				1HF	М	-	24.50		n Line	Main
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L	_ Hilton		PK65 H	IFB	P235	Flexi-Rod	Not Spec	ified	Private	Sewer	Not	Spec	ified
own or	r Village:	White	haven		Inspection	on Direction:	Downstream		Upstream N	ode:	MHS	S3	
oad:			kyeat Ro	oad	-	d Length:	15.50 m		Upstream P				
ocation		Footw	/ay		Total Le	-	15.50 m		Downstream		MHS	S4	
urface	Туре:				Joint Le	ngth:			Downstream	n Pipe Dep	th:		
se:			ce wate				Pipe Shape:		Circular				
ype of ∣			ty drain/				Dia/Height:		375 mm	Width:	375	mm	
low Co			w contr				Material:		Vitrified clay				
	nstructed:		pecified				Lining Type:	_	No Lining				
	on Purpos	e: Samp	le cond	ition surve	ey .		Lining Materi	al:	No Lining				
ommer lecomm	nts: nendation	6:											
cale:	1:135	Position	[m]	Code	Observ	vation				MPEG	Pho	to	Grade
	Depth: m MH S3												
~ (
	\bigcirc	0.00		МН	Start no	ode, manhole,	reference: MH	S3		00:00:10			
•		4.90		JN	Junctio	n at 2 o'clock,	150mm dia			00:00:41			
	MH S4 Depth: m	15.50		MHF	Finish r	node, manhole	e, reference: MH	1 S4		00:02:23			
TR No.	. Def STI	R Peak	STR M	ean ST	R Total	STR Grade	SER No. Def	SER Pe	ak SER N	lean SE	R Total	SEF	R Grac
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tem No.	Insp. No	. Date	Time	Client`s Job Ref	Weathe	r Pro C	leaned	DI	R
14	1	15/06/23	14:08	Not Specified	No Rain Or		res		S2X
	rator		nicle	Camera	Preset Ler		l Status		ative ID
	ilton	PK65	5 HFB	P235 Flexi-Rod	Not Speci		e Sewer	Not Sp	ecified
own or V	illage:	Whitehave	n	Inspection Direction	: Upstream	Upstream	Node:	MH S2	
load:		Sneakyeat		Inspected Length:	18.30 m	-	Pipe Depth:		
ocation:		Footway		Total Length:	18.30 m	-	am Node:	MH S3	
ocation. Surface Ty	me.	i ootway		Joint Length:	10.00 m		am Noue. am Pipe Depth		
Ise:	he.	Surface wa	tor	John Length.	Pipe Shape:	Circular	am Pipe Depti	•	
						300 mm	Width:	300 mr	-
ype of Pi low Cont		Gravity dra No flow co			Dia/Height: Material:			300 mi	n
						Vitrified cla	ау		
ear Cons		Not Specifi			Lining Type:	No Lining			
-	Purpose:	Sample co	ndition surve	ey	Lining Materia	I: No Lining			
comments lecomme	s: ndations:								
cale:	1:159 F	Position [m]	Code	Observation			MPEG	Photo	Grade
	oth: m I S3								
\subseteq		0.00	MH	Start node, manhole	e, reference: MH S	33	00:00:09		
		1.20	СС	Crack, circumferent	al from 12 o'clock	to 12 o'clock	00:00:28		2/2
\$		11.60	JN	Junction at 10 o'clo	ck, 100mm dia		00:01:27		
	S2 oth: m	18.30	MHF	Finish node, manho	le, reference: MH	S2: Buried	00:02:01		
TR No. D				R Total STR Grad					SER Grad
1	10	0 0	.5	10.0 2.0	1	1.0	0.1 1	.0	2.0





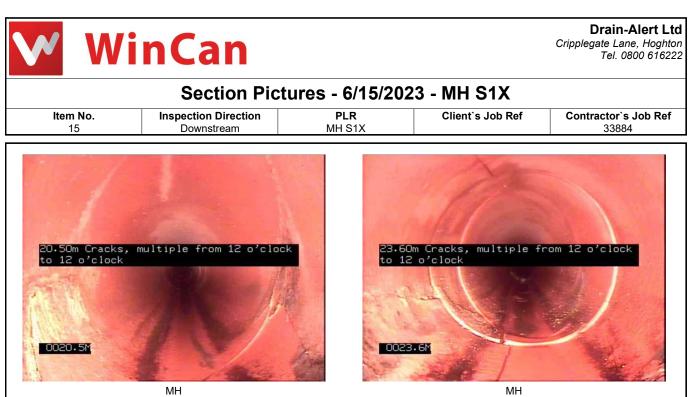
MH S2X_800260c4-c07f-4107-a4ec-0df9db68a9b2_20230615_19 1152_545.jpg, 00:00:28, 1.20 m



Cripplegate Lane, Hoghton Tel. 0800 616222

ltem No.	Insp. No.		Time	Client's Job Ref	Weather	Pre Cle		PL	
15	1	15/06/23	14:30	Not Specified	No Rain Or Snow	Yes		MH	
•	rator ilton		i cle 5 HFB	Camera P235 Flexi-Rod	Preset Length Not Specified	Legal S Private S		Alterna Not Sp	
		•			• •				oomou
'own or V	illage:	Whitehaver		Inspection Direction:		Upstream N		MH S1	
load: .ocation:		Sneakyeat Footway	Road	Inspected Length: Total Length:	44.30 m 44.30 m	Upstream Pi Downstream		MH S2	
Surface Ty	<i>(</i> DO'	FOOlway		Joint Length:	44.30 11		n Pipe Depth:		
Jse:	/he	Surface wa	ter	John Length.	Pipe Shape:	Circular	i Fipe Deptii.		
ype of Pi	ne:	Gravity drai			Dia/Height:	225 mm	Width:	225 mm	'n
low Cont		No flow cor			Material:	Vitrified clay			
ear Cons	tructed:	Not Specifie	ed		Lining Type:	No Lining			
	Purpose:		ndition surve	ey .	Lining Material:	No Lining			
omment	5:	-, ·		·					
	ndations: 1:384 P	osition [m]	Code	Observation			MPEG	Photo	Grade
	oth: m	osition [m]	Code	Observation			WIFEG	FIIOLO	Graue
	I S1								
		0.00	MH	Start node, manhole,	reference: MH S1		00:00:11		
		<u>20.50</u>	СМ	Cracks, multiple from	12 o'clock to 12 o'cloc	k	00:01:45		3 / 2
		22.20	JN	Junction at 2 o'clock,	150mm dia		00:01:58		
-		23.60	СМ	Crocke multiple from	12 o'clock to 12 o'cloc	k	00:02:13		3/2
		23.00	CIM	Clacks, multiple for		r.	00.02.13		572
		26.00	JN	Junction at 11 o'clock			00:02:30		
					, isomm dia		00.02.00		
	I S2 oth: m	44.30	MHF		e, reference: MH S2: Bi	uried	00:02:00		
	I S2 oth: m	<u>44.30</u>	MHF				00:04:01		ER Gra

2023_06_15 33884 Sneakyeat Industrial Estate



S1X_263130bd-fda0-4778-9d8e-105c846b918c_20230615_1 91239_467.jpg, 00:02:13, 23.60 m

MH S1X_cf33a996-a7df-4a86-a3d3-1aa8c43f2ec7_20230615_191 213_943.jpg, 00:01:45, 20.50 m



Cripplegate Lane, Hoghton Tel. 0800 616222

				-	tion inspect				
tem No.	Insp. No.		Time	Client's Job Ref	Weather	Pre Cle		PL	
16 Oper	1 ator	15/06/23 Veh	14:17 icle	Not Specified Camera	No Rain Or Snow Preset Length	Yes Legal S		MAIN L Alterna	
L Hi		PK65		P235 Flexi-Rod	Not Specified	Private S		Not Sp	
own or Vi	llado.	Whitehaver)	Inspection Direction:		Upstream N	ode:	MAIN LI	
oad:	nage.	Sneakyeat		Inspected Length:	42.90 m	Upstream Pi			
ocation:		Footway	Noau	Total Length:	42.90 m	Downstream		MH S1	
urface Ty	pe:	rootinay		Joint Length:	12.00 11		Pipe Depth:		
se:		Surface wa	ter	g	Pipe Shape:	Circular			
ype of Pip	e:	Gravity drai	n/sewer		Dia/Height:	225 mm	Width:	225 mm	ı
ow Contr		No flow con			Material:	Vitrified clay			
ear Const	ructed:	Not Specifie	ed		Lining Type:	No Lining			
spection	Purpose:	Sample cor	dition surve	ey	Lining Material:	No Lining			
omments ecommen						·			
		aitian [m]	Cada	Observation			MDEC	Dhata	Cred
		osition [m]	Code	Observation			MPEG	Photo	Grade
Dep: MH	th: m S1								
\bigcap									
		0.00	МН	Start node, manhole,	reference: MH S1		00:00:09		
				,					
		2.10	JN	Junction at 2 o'clock,	150mm dia		00:00:28		
		21.00	JN	Junction at 9 o'clock,	150mm dia		00:01:55		
	;	33.00	JN	Junction at 2 o'clock,	150mm dia		00:02:58		
Main I Depr		42.90_	MHF	Finish node, manhole	e, reference: Main Line\	∕: End of Line	00:03:53		

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Item No.Insp. No.DateTimeClient's Job Ref Not SpecifiedWeatherPre CleanedPLR MH F4X115/06/2314:43Not SpecifiedNo Rain Or SnowYesMH F4XOperator L HiltonVehicle PK65 HFBCamera P235 Flexi-RodPreset Length Not SpecifiedLegal Status Private SewerAlternative ID Not SpecifiedTown or Village:Whitehaven Sneakyeat RoadInspection Direction: Inspected Length:DownstreamUpstream Node: Upstream Node:MH F4Location:FootwayInspected Length: Joint Length:12.30 mUpstream Node: DownstreamMH F5Surface Type:Joint Length: Joint Length:12.30 mDownstream Node: Downstream Node:MH F5Use:FoulFoulPipe Shape: Lining Type:Circular Dia/Height:150 mmWidth: 150 mmFlow Control:Not SpecifiedNot SpecifiedLining Type: Lining Material:Not LiningYear Constructed:Not SpecifiedLining Material: Recommendations:No Lining				C	ompleted sec	tion inspec	tion			
Operator Vehicle Camera Preset Length Legal Status Net Specified Town or Village: Whitehaven Inspection Direction: Downstream Upstream Node: MH F4 Road: Sneakyeat Road Inspection Direction: Downstream Upstream Node: MH F4 Surface Type: Joint Length: 12.30 m Dewnstream Node: MH F5 Surface Type: Joint Length: 12.30 m Dewnstream Node: MH F6 Dist Foul Joint Length: Downstream Node: MH F6 Dist General Distream Distream Node: MH F6 Dist General Distream Distream Node: MH F6 Distream Node: No flow control Material: No flow control Material: No Lining Tope Optication No Specified Lining Type: No Lining No Lining Comments: Recommediations: Scale: 1.17 Position [m] Code Observation MF6 Photo Grad Dint F4 0.00<	47	Insp. No	. Date		-	-		aned	P	LR
Lillion PK65 HFB P235 Flash.Rod Not Specified Pivale Sewer Not Specified Town of Village: Whitehaven Imspection Direction: Downstream Upstream Node:: MH F4 Location: Footway Total Length: 12.30 m Downstream Node:: MH F5 Joint Length: 12.30 m Downstream Node:: MH F5 Downstream Node:: MH F5 Use: Foul Total Length: 12.30 m Downstream Node:: MM F5 Use: Foul Tope of Pipe: Circular DiaMeight: 150 mm Width:: 150 mm Flow Control: No flow control Material: Vitrified clay Lining Material:: No Lining Kecommendations: Scale: 1.107 Position [m] Code Observation MFEG Photo Grad Depth: m MH F4 Use: MH F5 MH F4 00:00:10 MH F5 M H F4 Use: MH F4 Use: Not Lining Visc: 00:01:00 Not Section M H F4 Use: MH F5 MH F4 00:00:10 00:01:00 00:01:00<										
Town or Village: Whitehaven Inspection Direction: Downstream Upstream Node: MH F4 Road: Sneakyest Road Inspection Direction: J 230 m Upstream Pipe Depth: H H F5 Burface Type: Joint Length: J 230 m Downstream Pipe Depth: MH F5 Downstream Pipe Depth: MH F5 Downstream Pipe Depth: MH F5 Downstream Pipe Depth: J 50 mm Width: 150 mm Width: 150 mm For Construct: No Row control Kere Construction: No Lining Inspection Purpose: Sample condition survey Comment: Recommendations: State: 1:107 Position (m) Code Observation MF6 Depth: m MH F4 0:000 MH Start node, manhole, reference: MH F5: Burled 00:00:10 MH F5 Depth: m Strike Strike Strik										
Road: Sneakyeat Road Inspected Length: 12.30 m Upstream Pipe Dpt:: Location: Fookway Joint Length: 12.30 m Upstream Pipe Dept:: Use: Foul Joint Length: 12.30 m Upstream Pipe Dept:: Use: Foul Joint Length: 12.30 m Winfled clay Use: Gravity drain/sever Dial/Height: 100 mWidth: 150 mm Plow Control: No flow control Material: Vitrified clay Vera Constructations: Not Epsecified Lining Metrial: No Lining Recommendations: Scale: 1:107 Position [m] Code Observation MPEG Photo Gravity Material: Scale: 1:107 Position [m] Code Observation MPEG Photo Gravity Minited clay Scale: 1:107 Position [m] Code Observation MPEG Photo Gravity Minited clay Scale: 1:107 Position [m] Code Observation MPEG Photo Gravity Minited clay MH F 0.00 MH Start node, manhole, referen	LH	ilton	PK65	HFB	P235 Flexi-Rod	Not Specified	Private	Sewer	Not S	pecified
Location: Foolway Total Length: 12.0 m Downstream Node: MH FS Joint Length: Downstream Node PD Depth: Joint Length: Downstream Node PD Depth: Joint Length: Circular Type of Pipe: Gravity drain/sever Pipe Shape: Circular Waterial: Withe day Vear Constructet: Not Specified Inning Material: No Lining Scale: 1:07 Position [m] Code Observation Meterial: No Lining Comments: Recommendations: Scale: 1:07 Position [m] Code Observation Meterial: No Lining MH F4 0.00 MH Start node, manhole, reference: MH F4 00:00:10 MH F4 0.00 MH Start node, manhole, reference: MH F5: Buried 00:00:10 MH F5 Depth: m	Town or V	illage:	Whitehaver	ſ	Inspection Direction:	Downstream	Upstream No	ode:	MH F4	
Surface Type: Joint Length: Downstream Pipe Depth: Use: Foul Pipe Shape: Circular Use: Gravity drain/sever DialHeight: 150 mm Flow Control: No flow control Material: 150 mm Waterial: Not Specified Lining With: 150 mm Comments: Recommendations: Scale 1107 Position [m] Code Observation MPEG Photo Grav Depth: m MHF Output: 0.00 MH Start node, manhole, reference: MH F4 00:00:10 00:00:10 MH F5 Dupth: m MHF Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 MH F5 Dupti: m MHF Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 MH F5 Str No. Dof Str Peak Str Mean Str Total Str Grade Str Reak Str Total Str Rotal	Road:		Sneakyeat	Road	Inspected Length:	12.30 m	Upstream Pi	ipe Depth:		
Use: Foul Foul Pipe Shape: Circular Use of Pipe Shape: Gravity drain/sewer Row Control Dia/Height: 150 mm Width: 1	Location:		Footway		Total Length:	12.30 m	Downstream	n Node:	MH F5	
Type of Pipe: Gravity drain/sewer Diff/eight: 150 mm Width: 150 mm Flow Control: Not flow control Material: Vitrified clay Vitrified clay Insepction Purpose: Sample condition survey Lining Type: Not Lining Comments: Recommendations: State in the second of the s	Surface Ty	/pe:			Joint Length:		Downstream	n Pipe Depth	:	
Filew Control: No flow control Material: Vitrified clay Lining Type: No Lining Execommendations: Ining Material: No Lining Recommendations: Recommendations: Baselat: 1:107 Position [m] Code Observation MPEG Photo Grad Depth:::m MH Start node, manhole, reference: MH F4 00:00:10 MH F4 0.00 MH Start node, manhole, reference: MH F4 00:00:10 MH F5 Depth::m MH Finish node, manhole, reference: MH F5 00:01:00 MH F5 MH F Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 MH F Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 MH F Finish node, manhole, reference: MH F5: Burled 00:01:00	Use:		Foul		•	Pipe Shape:	Circular			
Year Constructed: Not Specified Lining Type: Not Lining Inspection Purpose: Sample condition survey Lining Material: Not Lining Comments: Recommendations: Recommendations: Scale: 1:107 Position [m] Code Observation MPEG Photo Great MH F4 0:000 MH Start node, manhole, reference: MH F4 00:00:10 0:00:00 MH F4 0:000 MH Start node, manhole, reference: MH F4 00:00:10 MH F5 Burlet MHF Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 Depth: m MHF Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 Depth: m STR No. Def [STR Peak STR Mean STR Total STR Grade SER No. Def SER Peak SER Mean SER Total SER Grade	Type of Pi	pe:	Gravity drai	in/sewer		Dia/Height:	150 mm	Width:	150 m	m
Inspection Purpose: Sample condition survey Lining Material: No Lining Comments: Recommendations: Scale: 1:107 Position [m] Code Observation MPEG Photo Grad Depth: m HIF4 0.00 MH Start node, manhole, reference: MH F4 00:00:10 If the second	Flow Cont	rol:	No flow con	ntrol		Material:	Vitrified clay			
Comments: Recommentations: Scale: 1:107 Position [m] Code Observation MPEG Photo Grad Depth: m MH F4 0.00 MH Start node, manhole, reference: MH F4 00:00:10 MH Start node, manhole, reference: MH F4 00:00:10 MH F5 Depth: m STR No. Def STR Peak STR Mean STR Total STR Grade SER No. Def SER Peak SER Mean SER Total SER Grad	Year Cons	tructed:	Not Specifie	ed		Lining Type:	No Lining			
Recommendations: Scale: 1:107 Position [m] Code Observation MPEG Photo Grad Depth:::n MH	nspection	Purpose:	Sample cor	ndition surve	ey	Lining Material:	No Lining			
Scale: 1:107 Position [m] Code Observation MPEG Photo Grad Depth: m MH F4 0.00 MH Start node, manhole, reference: MH F4 00.00:10 Image: MH F4 0.00 MH Start node, manhole, reference: MH F4 00.00:10 Image: MH F4 0.00 MH Start node, manhole, reference: MH F5: Burled 00.01:00 Image: MH F5 0.01:00 MHF Finish node, manhole, reference: MH F5: Burled 00.01:00 Image: MH F5 Depth: m STR No. Def STR Peak STR Mean STR Total STR Grade SER No. Def SER Nean SER Total SER Grade					-					
Depth: m MH Start node, manhole, reference: MH F4 00:00:10 MH Start node, manhole, reference: MH F4 00:00:10 MH Finish node, manhole, reference: MH F5: Burled 00:01:00 MH F5 Depth: m 00:01:00			Position [m]	Code	Observation			MPEG	Photo	Grade
0.00 MH Start node, manhole, reference: MH F4 00:00:10 0.00 MH Start node, manhole, reference: MH F4 00:00:10 0.00 MH Finish node, manhole, reference: MH F5; Burled 00:01:00 0.00 MH Finish node, manhole, reference: MH F5; Burled 00:01:00 0.00 MH Start node, manhole, reference: MH F5; Burled 00:01:00	Dep	oth: m		Code				MFEG	FIULO	Graue
MH F Finish node, manhole, reference: MH F5: Buried 00:01:00 MH F5 Bopth: m										
MH F5 Depth: m STR No. Def STR Peak STR Mean STR Total STR Grade SER No. Def SER Peak SER Mean SER Total SER Gra			0.00	MH	Start node, manhole,	reference: MH F4		00:00:10		
Depth: m STR No. Def STR Peak STR Mean STR Total STR Grade SER No. Def SER Peak SER Mean SER Total SER Gra	¥									
			12.30	MHF	Finish node, manhole	e, reference: MH F5: E	Buried	00:01:00		
	MH Dep	IF5 oth: m	12.30	MHF	Finish node, manhole	a, reference: MH F5: E	Buried	00:01:00		
	Dep	oth: m							Total	





Number MHF				Date C	of Survey	15/06/2023
Status PR		Function	F	Туре	:	
Cover Details: Square Recta ☑ D CoverLevel	ouble Triang 🗆 Si 0.00		Circular 🗆 over Load Cla		Hinged	□ Lockable □
Cover 600 X Shaft 0 X	400		0 X	0	ToxicA	eOfSurcharge
Brick Reducing Slab □	Precast Concret Taper	e□ PVC □ □ Side Entry □	- Segmen		No.RegCo Step Irons	
PlanPhoto		LocationPhoto		Pla	nofManhol A	B
Chamber Conditi						
Cover Irons/Ladder	OK OK	Shaft Chamb		K K]	
Benching/Channel	ОК					
A -1.950 1. B -1.050 1.	FrdUpstreamRe1Do 95 MH 05 MH 98 MH	wnstrean Pipe Sh C C HF2 C	SizeHeight S	50 VC 00 VC		Lining Material



Number	MHF2	2				D	ate Of	Survey	1	5/06/2023
Status	PR		Func	tion	F		Туре		Μ	
Cover Det Square Rea CoverLeve	cta 🔽 D	ouble Triang	□ Single Tri		rcular 🗆 ver Load C			Hinged	□ _{Lo}	ckable 🗆
CoverShaftBrick	600 X 0 X ✓ Slab		ncrete PV		0 X Depth Segmo No.La	_		Evidenc ToxicA No.RegCo Step Irons	tmospł	-
Reducing S PlanPhoto		Taper		e Entry 🗌	INO.L2	una		ofManhol		
								ļ	A X	В
Chamber	• Conditi									
Cover		OK	P	Shaft		OK				
Irons/Lado		OK		Chamber		OK				
Benching/	Channel	OK								
		FreUpstreamR	elDownstrea	nPipe Sh: S	izeHeight		-	Material	Lining	Material
A -2.18		18 MHF1		C		150	VC			
B -1.42 X -2.21		42 MH 21	MHF3	C C		100 150	VC VC			
				C		100				



Numbe	er MHF	3				Da	te Of Survey	1	5/06/2023
Status	PR		Func	tion	F	Т	ype	Μ	
Cover I Square 1 CoverLe	Recta 🔽 🛙	Oouble Triang	□ Single Tri		ircular 🗆 ver Load Cl		Hinged	□ _{Lo}	ckable 🗆
Cover Shaft	600 X 0 X	400 0 Precast Co	Cha ncrete PV(0 X Depth	0 0 ents	Evidenc ToxicA No.RegCo	tmosph	
Reducin	ng Slab 🛛			e Entry 🗌	No.La				Ladder
PlanPh				onPhoto			PlanofManhol	A X	B
	oer Condit				ſ				
Cover		OK	P	Shaft		OK			
Irons/La Benchin	adder ng/Channe	0K 1 0K		Chamber		OK			
A -2 B -1	2.340 2 .400 1	Fr(UpstreamR .34 MHF2 .40 .45	Le1Downstrea	n Pipe Sha C C C		SizeWidth 150 100 150	Pipe Material VC VC VC	Lining	Material
A -2	2.450 2	.43	IVIHF4	L		130	٧C		



Number MHS	1				Date O	f Survey	1	5/06/2023
Status PR		Function	F		Туре		М	
Cover Details: Square Recta ☑ D CoverLevel	Double Triang [0.00] Single Triangl	Circular Circular	-	ple 🗆 H	Hinged	□ _{Lo}	ckable 🗆
Cover 600 X Shaft 0 X Brick	400 0 Precast Con	Chambe	ShaftDepth	X 0 0 gments		Evidenc ToxicA No.RegCo	tmospł	
Reducing Slab		Side En		o.Land	0	Step Irons		Ladder
PlanPhoto		LocationPh	ioto		Pla	nofManhol		
					Ą		В	
Chamber Condit								
Cover	OK		aft	OK				
Cover Irons/Ladder	OK OK		aft amber	OK OK				
Cover	OK OK							
Cover Irons/Ladder	OK OK I OK	Ch	namber	ОК	th Pip	e Material	Lining	Material
Cover Irons/Ladder Benching/Channe PipeInvert L Depth A -1.880 1	OK OK I OK NFr(UpstreamRe .88 GULLY	Downstream Pip	namber	OK ght SizeWic 100	VC	e Material	Lining	Material
Cover Irons/Ladder Benching/Channe PipeInvert L Depth A -1.880 1 B -2.000 2	OK OK I OK	Downstrean Pip	namber	OK		e Material	Lining	Material



Number	MHF4					Da	te Of Survey	1	5/06/2023
Status	PR		Fı	inction	F]	Гуре	Μ	
Cover Deta Square Rec CoverLeve	eta 🔽 Do	ouble Triar	ng 🗆 Single		Circular 🗆 Cover Load (e 🗌 Hinge	d 🗆 Lo	ckable 🗆
Cover Shaft Brick	600 X 0 X	400 0 Precast	(Concrete F		0 X aftDepth ☐ Segm	0 0 nents		nceOfSur Atmosph Courses	_
Reducing S	Slab 🗆	Taper		Side Entry	-		Step Iror		Ladder
									B
Chamber	Conditi	ons:							
Cover		OK		Shaft		OK			
Irons/Ladd		OK		Chamb	ber	OK			
Benching/0	Channel	OK							
PipeInvert	LDepthl	FreUpstream	mReiDownsti	eanPipe Sl	n:SizeHeigh	t SizeWidth	Pipe Materia	ıl Lining	Material
A -2.55		55 MHF3		С		150	VC		
B -1.12		12 MH		С		100	VC		
X 0.00	0 0.0	00	MHF2	С		150	VC		



Number MHS	3			Date (Of Survey	15/06/2023
Status PR		Function	S	Тур	e	Μ
Cover Details: Square Recta ☑ D CoverLevel	ouble Triang [0.00	Single Triangl 🗆	Circular 🗆 Cover Load C	1	Hinged	□ Lockable □
Cover 600 X Shaft 0 X Brick ✓	400 0		0 X			eOfSurcharge
Reducing Slab	Taper	Side Entry	- Segm		Step Irons	
PlanPhoto		LocationPhoto			A X	В
Chamber Condit						
Cover	OK	Shaft		OK OK		
Irons/Ladder Benching/Channe	OK	Cham	ber	OK		
PipeInvert L Depth A -2.500 2 B -1.500 1		Downstream Pipe S C C MHS4 C	haSizeHeight	SizeWidth Pi 100 VC 300 VC 375 VC		Lining Material



Status PR Function F Ty	
	mpe M
Cover Details: Square Recta	□ Hinged □ Lockable □
Cover 600 X 400 Chamber 0 X 0 Shaft 0 X 0 ShaftDepth 0 Brick Image: Precast Concrete PVC Segments 0 Reducing Slab Taper Side Entry No.Land 0	EvidenceOfSurcharge
	PlanofManhol
Chamber Conditions:	
Cover OK Shaft OK	
Irons/Ladder OK Chamber	
Benching/Channel OK	
PipeInvert LDepthFr(UpstreamRetDownstreamPipe Sh: SizeHeight SizeWidth I	Pipe Material Lining Material
	/C
	/C //C



Number MHF7	,			Da	te Of Survey	15/06/2023
Status PR		Function	F]	Гуре	Μ
Cover Details: Square Recta ☑ Do CoverLevel	ouble Triang] Single Triangl	Circular C		e 🗌 Hinged	□ _{Lockable} □
Cover 600 X Shaft 0 X	600 0	Chamber	r 0 X ShaftDepth	0		eOfSurcharge
Brick 🗹 Reducing Slab	Precast Cond Taper	erete PVC	-	ments Land 0	No.RegCoStep Irons	_
PlanPhoto		LocationPho	oto		PlanofManhol	A
Chamber Conditi	ons:					
	OK	Sha	aft	OK		
Irons/Ladder	OK	Cha	amber	OK		
Benching/Channel	OK					
PipeInvert L DepthI A -1.210 1.2 X -1.230 1.2	21 redundant	Downstrean Pipe C MHF6 C	e ShaSizeHeig	ht SizeWidth 150 150	Pipe Material VC VC	Lining Material



Number MH	84				Date	Of Survey	15/	06/2023
Status PR		Functio	n S		Тур	e	Μ	
Cover Details: Square Recta ☑ CoverLevel	Double Triang [0.00	∃ Single Trian		ular 🗌 🛛 M r Load Class	1] Hinged	Lock	able 🗆
Cover 600 X Shaft 0 X		Cham	ber ShaftDe	0 X	0		eOfSurcl tmosphe	
Brick Reducing Slab		crete PVC	ntry 🗌	Segments No.Land	0	No.RegCo Step Irons	_	Ladder
PlanPhoto		Location	Photo			anofManhol	A X	
Chamber Cond	tions:							
Cover	OK		Shaft	OK				
Irons/Ladder	OK	(Chamber	OK				
Benching/Chann	el OK							
	hFr(UpstreamRe 1.51 MHS3 2.12	Downstrean P C BMH C	2	eHeight Siz 300 375		-	Lining N	laterial



Number MHF8				Date Of	Survey	15/06/	2023
Status PR	F	Function	F	Туре		М	
Cover Details: Square Recta → Dou CoverLevel 0	ble Triang 🗆 Single		rcular 🗌 M ver Load Class	ultiple 🗆 H	Hinged	Lockabl	e 🗆
Cover 600 X Shaft 0 X Brick Reducing Slab	400 0 Precast Concrete Taper □	Chamber ShaftI ShaftI PVC Side Entry	0 X				ge [
PlanPhoto		cationPhoto	NO.Lanu		ofManhol		
					Ŷ	x	
Chamber Condition							
	K	Shaft	OK				
	DK	Chamber	OK				
B -1.710 1.71	(UpstreamRetDowns MHF6 MH	C C	150 100	VC PVC		Lining Mate	rial
X -1.900 1.90	BMH	С	150	VC			

Appendix E: - Trial Hole Investigation Logs

TRIAL PI	T LO	G							
LOCATION ID:	PROJEC	T No:	2020.221						
TPOI	PROJEC	T TITLE	SNECKYEAT IN	IDUSTRIAL ESTATE,	WHITEHAVE	٧	1		
SITE 2	CLIENT		NORTHERN TR	UST			1		
	PLANT			START & END DA	TE 04.11	.20]		
GROUND LEVEL	(m AOD)								
GROUND WATER	EUL LEVEL (m		STRATA		LEGEND DEPTH		BAMPLES	IN-SITU	
STRIKE BACK	AOD)	abundant ro angular to General Fill builders wa Thin layer S grey slight medium. Graded Lim Thin layer S	iste (Hardcore) Soft to Firm dark orang ly sandy slightly gravel nestone MOT Material Soft to Firm dark orang	y slightly CLAY with o coarse. Gravel is arse. (Topsoil) nicks/concrete and general gish brown mottled bluish ly CLAY. Sand is fine and gish brown mottled bluish ly CLAY. Sand is fine and			ROM (m) TO (m)		RESULT
				REMARKS					
Reason for Terminaton: Target depth reached. Groundwater Notes: No groundwater encounte Other Remarks:	red.				GRAHAM SCH Consulting Civ Suite 3 Balfour Court Off Hough Lane Leyland PR25 2TF tel: (01772) 459383 email: reception@gsa	vil and \$		ineers	GSA

TRIAL P	IT LO	G								
LOCATION ID:	PROJEC	T No:	2020.221							
TPO2	PROJEC	T TITLE	SNECKYEAT IN	DUSTRIAL ESTATI	E, WH	ITEHAVEN	1			
SITE 2	CLIENT		NORTHERN TRUST					-		
JIL Z	PLANT			START & END D	ATE	04.11	.20			
GROUND LEVEL	(m AOD)									
		1	STRATA				2	BAMPLES	IN-SITU	
GROUND WATER STRIKE BAC	KFILL LEVEL (m AOD)	Grass over abundant ro angular to General Fill bricks/conc Thin layer S	DESCRIPT resoft dark brown sandy ootlets. Sand is fine to subrounded fine to cou- imaterial comprising Li prete and general build boft to Firm dark orano iy sandy slightly gravel Hole Terminated at	y slightly CLAY with o coarse. Gravel is arse. (Topsoil) MESTONE ers waste (Hardcore) gish brown mottled bluis ly CLAY. Sand is fine and		DEPTH (m BGL)	TYPE F	ROM (m) TO (m)	TYPE DEPTH (m)	RESULT
						<u> </u>				
				REMARKS						
Reason for Terminaton: Target depth reached. Groundwater Notes: No groundwater encount Other Remarks:	ered.				Con Suite Off Ho Leylar PR25 tel: (1	Sulting Civ 3 Balfour Court ough Lane nd	vil and \$	D ASSOCIATES Structural Eng		GSA

Appendix F: - HR Wallingford Greenfield Runoff Rate Estimation for Sites



Growth curve factor 200 years:

Greenfield runoff rate estimation for sites

54.53182° N

3779967155

Oct 01 2020 16:27

3.5608° W

www.uksuds.com | Greenfield runoff tool

Site Details

Latitude:

Longitude:

Calculated by:	Oliver Clark	
Site name:	Block 1	
Site location:	Sneckyeat Industrial Estate, Whitehaven	

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be

the basis for setting consents for the drainage of surface water runoff from sites.

Runoff estimation approach IH124 Site characteristics Notes Total site area (ha): 0.369 (1) Is Q_{BAR} < 2.0 I/s/ha? Methodology When Q_{BAR} is < 2.0 I/s/ha then limiting discharge rates are set at QBAR estimation method: Calculate from SPR and SAAR 2.0 l/s/ha. SPR estimation method: Calculate from SOIL type Soil characteristics Default Edited (2) Are flow rates < 5.0 I/s? SOIL type: 4 4 HOST class: N/A N/A Where flow rates are less than 5.0 l/s consent for discharge is SPR/SPRHOST: usually set at 5.0 l/s if blockage from vegetation and other 0.47 0.47 materials is possible. Lower consent flow rates may be set where Hydrological characteristics the blockage risk is addressed by using appropriate drainage Default Edited elements. SAAR (mm): 1188 1188 (3) Is SPR/SPRHOST ≤ 0.3 ? Hydrological region: 10 10 Growth curve factor 1 year: Where groundwater levels are low enough the use of soakaways 0.87 0.87 to avoid discharge offsite would normally be preferred for Growth curve factor 30 years: 1.7 1.7 disposal of surface water runoff. Growth curve factor 100 years: 2.08 2.08

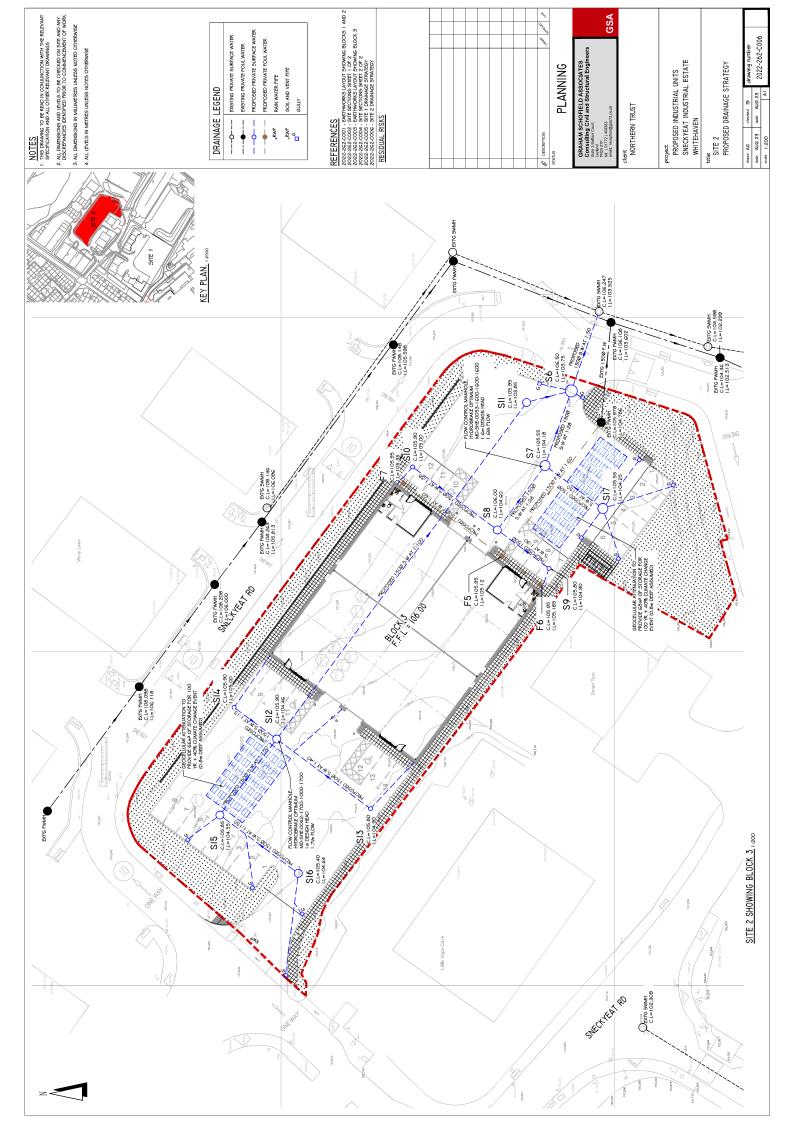
Greenfield runoff rates Default Edited Q_{BAR} (I/s): 3.31 3.31 1 in 1 year (I/s): 2.88 2.88 1 in 30 years (I/s): 5.62 5.62 1 in 100 year (l/s): 6.88 6.88 1 in 200 years (I/s): 7.84 7.84

2.37

2.37

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

Appendix G: - Proposed Drainage Strategy and Calculations



Graham Schofield Associates						
72 Balcarres Road	Northern Trust					
Leyland	Proposed Commercial Units					
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro				
Date 07/10/2020	Designed by O. Clark	Drainage				
File Proposed Drainage Networks	Checked by G. Scofield	Diamage				
XP Solutions	Network 2020.1					

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Block 1 - West SW

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and WalesReturn Period (years)2PIMP (%)100M5-60 (mm)16.000Add Flow / Climate Change (%)0Ratio R0.258Minimum Backdrop Height (m)0.600Maximum Rainfall (mm/hr)50Maximum Backdrop Height (m)1.500Maximum Time of Concentration (mins)30Min Design Depth for Optimisation (m)1.200Foul Sewage (l/s/ha)0.000Min Vel for Auto Design only (m/s)1.00Volumetric Runoff Coeff.0.750Min Slope for Optimisation (1:X)500

Designed with Level Soffits

Network Design Table for Block 1 - West SW

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)		Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S11.000	22.000	0.376	58.5	0.033	5.00	0.0	0.600	0	150	Pipe/Conduit	8
S12.000	3.630	0.076	47.8	0.020	5.00	0.0	0.600	0	150	Pipe/Conduit	ð
S11.001	16.769	1.209	13.9	0.000	0.00	0.0	0.600	0	150	Pipe/Conduit	ď
S13.000	14.216	0.095	150.0	0.060	5.00	0.0	0.600	0	150	Pipe/Conduit	ð
S11.002 S11.003	11.920 8.836		30.0 32.1	0.009 0.012	0.00 0.00		0.600 0.600	0		Pipe/Conduit Pipe/Conduit	e e

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)		Add Flow (1/s)	Vel (m/s)	Cap (1/s)	Flow (1/s)
S11.000	43.97	5.28	105.785	0.033	0.0	0.0	0.0	1.32	23.3	3.9
S12.000	44.71	5.04	105.485	0.020	0.0	0.0	0.0	1.46	25.8	2.4
S11.001	43.66	5.38	105.409	0.053	0.0	0.0	0.0	2.72	48.1	6.3
S13.000	43.93	5.29	104.295	0.060	0.0	0.0	0.0	0.82	14.5	7.1
S11.002 S11.003	43.34 43.09		104.200 103.803	0.122 0.134	0.0	0.0 0.0	0.0	1.84 1.78	32.6 31.5	14.3 15.6

Graham Schofield Associates		Page 2
72 Balcarres Road	Northern Trust	
Leyland	Proposed Commercial Units	
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro
Date 07/10/2020	Designed by O. Clark	Drainage
File Proposed Drainage Networks	Checked by G. Scofield	Diamaye
XP Solutions	Network 2020.1	

Manhole Schedules for Block 1 - West SW

MH Name	MH CL (m)	MH Depth (m)		MH Nection	MH Diam.,L*W (mm)	PN	Pipe (Inve Level	rt	Diameter (mm)	PN	Pipes Inve Level	rt	Diameter (mm)	Backdrop (mm)
S11	106.685	0.900	Open	Manhole	600	S11.000	105.	785	150					
S12	106.685	1.200	Open	Manhole	600	S12.000	105.	485	150					
S13	106.685	1.276	Open	Manhole	600	S11.001	105.	409	150	S11.000	105.	409	150	
										S12.000	105.	409	150	
S14	106.310	2.015	Open	Manhole	1200	S13.000	104.	295	150					
S15	105.400	1.200	Open	Manhole	1800	S11.002	104.	200	150	S11.001	104.	200	150	
										S13.000	104.	200	150	
S16	105.300	1.497	Open	Manhole	1800	S11.003	103.	803	150	S11.002	103.	803	150	
S17	104.700	1.172	Open	Manhole	1200		OUTF	ALL		S11.003	103.	528	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S11	299094.686	516302.580	299094.686	516302.580	Required	
S12	299079.318	516281.962	299079.318	516281.962	Required	1
S13	299081.490	516284.876	299081.490	516284.876	Required	Y
S14	299076.533	516306.284	299076.533	516306.284	Required	· _
S15	299068.047	516294.879	299068.047	516294.879	Required	4
S16	299057.113	516299.655	299057.113	516299.655	Required	-
S17	299049.015	516303.190			No Entry	•

Graham Schofield Associates		Page 3
72 Balcarres Road	Northern Trust	
Leyland	Proposed Commercial Units	
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro
Date 07/10/2020	Designed by O. Clark	Drainage
File Proposed Drainage Networks	Checked by G. Scofield	Diamacje
XP Solutions	Network 2020.1	

PIPELINE SCHEDULES for Block 1 - West SW

<u>Upstream Manhole</u>

PN	Hyd Sect		MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S11.000	0	150	S11	106.685	105.785	0.750	Open Manhole	600
S12.000	0	150	S12	106.685	105.485	1.050	Open Manhole	600
S11.001	0	150	S13	106.685	105.409	1.126	Open Manhole	600
s13.000	0	150	S14	106.310	104.295	1.865	Open Manhole	1200
S11.002 S11.003	0	150 150		105.400 105.300			Open Manhole Open Manhole	1800 1800

Downstream Manhole

PN	Length (m)	Slope (1:X)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S11.000	22.000	58.5	S13	106.685	105.409	1.126	Open Manhole	600
S12.000	3.630	47.8	S13	106.685	105.409	1.126	Open Manhole	600
S11.001	16.769	13.9	S15	105.400	104.200	1.050	Open Manhole	1800
S13.000	14.216	150.0	S15	105.400	104.200	1.050	Open Manhole	1800
S11.002 S11.003	11.920 8.836			105.300 104.700			Open Manhole Open Manhole	1800 1200

Free Flowing Outfall Details for Block 1 - West SW

Outfall	Outfall	c.	Level	I.	Level		Min	D,L	W
Pipe Number	Name		(m)		(m)	I.	Level	(mm)	(mm)
							(m)		

S11.003 S17 104.700 103.528 103.162 1200 0

Simulation Criteria for Block 1 - West SW

Volumetric Runoff Coeff 0.750Additional Flow - % of Total Flow 0.000Areal Reduction Factor 1.000MADD Factor * 10m³/ha Storage 0.000Hot Start (mins)0Hot Start Level (mm)0 Flow per Person per Day (l/per/day) 0.000Manhole Headloss Coeff (Global)0.500Foul Sewage per hectare (l/s)0.000Output Interval (mins)1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	16.000	Storm Duration (mins)	30
Ratio R	0.260		

Graham Schofield Associates		Page 4
72 Balcarres Road	Northern Trust	
Leyland	Proposed Commercial Units	
Lancashire PR25 3ED		
Date 07/10/2020		
File Proposed Drainage Networks	Drainage	
XP Solutions		
	Objective Minimise upstream s Application S Sump Available Diameter (mm)	00-1700 1.000 1.7 culated
	Pipe Diameter (mm) hole Diameter (mm)	75 1200
Control Points Head	(m) Flow (1/s) Control Points	Head (m) Flow (l/s)
Design Point (Calculated) 1.	0001.7Kick-Flo2701.6Mean Flow over Head Range	
Flush-Flo™ 0.		
The hydrological calculations have be	en based on the Head/Discharge relation type of control device other than a Hy ns will be invalidated	
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio	type of control device other than a Hy	/dro-Brake Optimum® be utilised
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio	type of control device other than a Hy ns will be invalidated	/dro-Brake Optimum® be utilised
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio Depth (m) Flow (1/s) Depth (m) Flow (1	type of control device other than a Hy ns will be invalidated 1/s) Depth (m) Flow (l/s) Depth (m) Flo	vdro-Brake Optimum® be utilised ow (l/s) Depth (m) Flow (l/s)
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio Depth (m) Flow (1/s) Depth (m) Flow (1 0.100 1.4 0.800	type of control device other than a Hyns will be invalidated L/s) Depth (m) Flow (1/s) Depth (m) Flow 1.5 2.000 2.3 4.000 1.7 2.200 2.4 4.500 1.8 2.400 2.5 5.000	vdro-Brake Optimum® be utilised ow (l/s) Depth (m) Flow (l/s) 3.2 7.000 4.2
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio Depth (m) Flow (1/s) Depth (m) Flow (1 0.100 1.4 0.800 0.200 1.6 1.000 0.300 1.6 1.200 0.400 1.5 1.400	type of control device other than a Hyns will be invalidated L/s) Depth (m) Flow (1/s) Depth (m) Flow 1.5 2.000 2.3 4.000 1.7 2.200 2.4 4.500 1.8 2.400 2.5 5.000 2.0 2.600 2.6 5.500	ydro-Brake Optimum® be utilised ow (l/s) Depth (m) Flow (l/s) 3.2 7.000 4.2 3.4 7.500 4.3 3.6 8.000 4.4 3.7 8.500 4.6
The hydrological calculations have be Optimum as specified. Should another then these storage routing calculatio Depth (m) Flow (1/s) Depth (m) Flow (1 0.100 1.4 0.800 0.200 1.6 1.000 0.300 1.6 1.200	type of control device other than a Hyns will be invalidated L/s) Depth (m) Flow (1/s) Depth (m) Flow 1.5 2.000 2.3 4.000 1.7 2.200 2.4 4.500 1.8 2.400 2.5 5.000	ydro-Brake Optimum® be utilised ow (l/s) Depth (m) Flow (l/s) 3.2 7.000 4.2 3.4 7.500 4.3 3.6 8.000 4.4

Graham Schofield Associates		Page 5						
72 Balcarres Road	Northern Trust							
Leyland	Proposed Commercial Units							
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro						
Date 07/10/2020	Designed by O. Clark	Desinado						
File Proposed Drainage Networks	Drainage							
XP Solutions Network 2020.1								
In	<u>Cellular Storage Manhole: S15, DS/PN: S11.002</u> Invert Level (m) 104.200 Safety Factor 2.0							
	Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000							
Depth (m) Area (m ²) Inf. Area (m ²) Depth (m	h) Area (m^2) Inf. Area (m^2) Depth (m) Area (m^2)	Inf. Area (m²)						
0.000 82.0 0.0 1.80	00 0.0 0.0 3.600 0.0	0.0						

0.0

0.0

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0.0

3.800

4.000

4.200

4.400

4.600

4.800

5.000

0.0

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0.400

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0.800

0.801

1.200

1.400

1.600

82.0

82.0

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2.400

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3.200

3.400

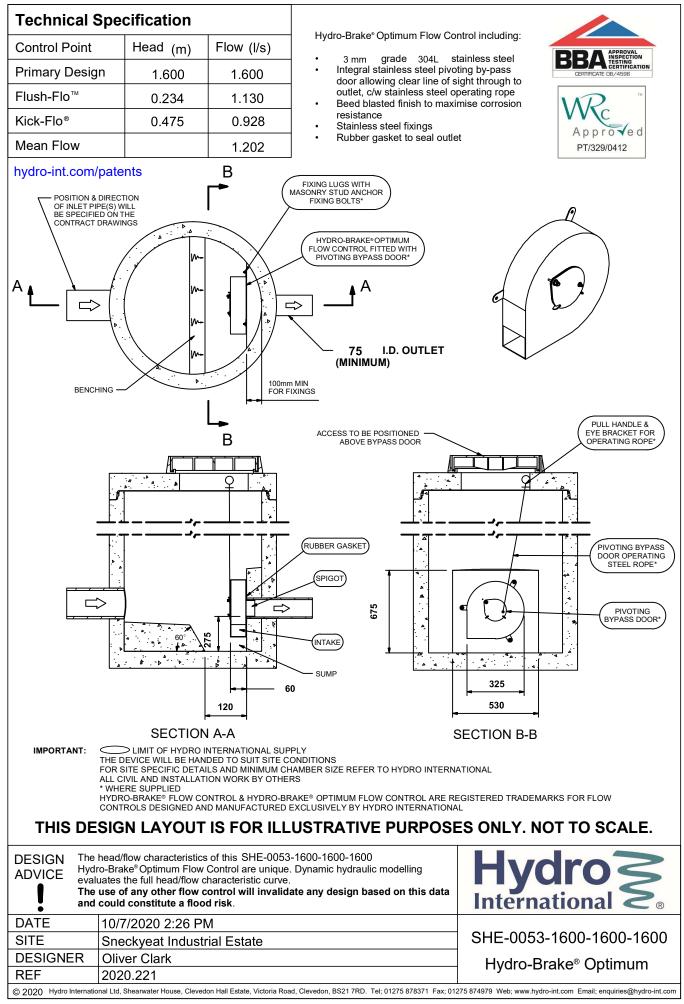
Graham Schofield Assoc	iates			Page 6
72 Balcarres Road		Northern Trust		
Leyland		Proposed Commer	cial Units	
Lancashire PR25 3ED		Sneckyeat Indus	trial Estate	Micro
Date 07/10/2020		Designed by O. (Clark	
File Proposed Drainage	Networks	Checked by G. Se	cofield	Drainage
XP Solutions		Network 2020.1		
<u>1 year Return Period</u>	Summary of Crit	ical Results by M <u>West SW</u>	aximum Level (Ra	nk 1) for Block 1 -
H Manhole Head Foul Sewag Number of Input Hyd	al Reduction Facto Hot Start (mins ot Start Level (mm loss Coeff (Global e per hectare (l/s drographs 0 Numb) 0) 0.500 Flow per Per) 0.000 Per of Offline Contro	actor * 10m³/ha Sto: Inlet Coeffiec: son per Day (l/per/d ls 0 Number of Time	rage 0.000 ient 0.800 day) 0.000 /Area Diagrams 0
Number of Online	Controls 1 Number	of Storage Structur	es 1 Number of Real	Time Controls 0
Rainfal	l Model	<u>thetic Rainfall Detai</u> FSR M5-60 (mm) 1 nd Wales Ratio R	16.000 Cv (Summer) (
Margin	-	arning (mm) is Timestep 2.5 Secor DTS Status DVD Status rtia Status	nd Increment (Extend	0.0 led) OFF OFF OFF
Return Peric	Profile(s) on(s) (mins) 15 d(s) (years) e Change (%)	9, 30, 60, 120, 180, 1 1440, 2160, 2880,	240, 360, 480, 600, 4320, 5760, 7200, 80 1, 2	
US/MH PN Name Storm	Return Climate Period Change	First (X) First (X Surcharge Flood	() First (Z) Overflo Overflow Act.	Water Surcharged ow Level Depth (m) (m)
\$11.000\$1115 Winte\$12.000\$1215 Winte\$11.001\$1315 Winte\$13.000\$1415 Winte\$11.002\$15120 Winte\$11.003\$16120 Winte	r 1 +0% r 1 +0% r 1 +0% 3 r 1 +0% 3	30/15 Winter 30/30 Summer 1/15 Summer		105.823-0.112105.518-0.117105.443-0.116104.365-0.080104.285-0.065104.2800.327
	Flooded /MH Volume Flow / ame (m³) Cap.	Half Drain / Overflow Time (l/s) (mins)	Flow	Level Exceeded
S12.000 S11.001 S13.000 S11.002	S11 0.000 0.14 S12 0.000 0.11 S13 0.000 0.11 S14 0.000 0.43 S15 0.000 0.11 S16 0.000 0.06	1 1 3 1 6:	3.2 OK 1.9 OK 5.0 OK 5.7 OK 3.3 OK 1.5 SURCHARGED	

Graham Schofield Associates					Pa	age 7
72 Balcarres Road		Northern Tr	ust			
Leyland			mmercial Uni	ts		
Lancashire PR25 3ED		-	Sneckyeat Industrial Estate			Micco
Date 07/10/2020		-	Designed by O. Clark			Micro
File Proposed Draina		Checked by G. Scofield			Drainage	
XP Solutions	<u> </u>	Network 2020				
<u>2 year Return Perio</u> P Manhole He	d Summary of Cri areal Reduction Fact Hot Start (min Hot Start Level (r eadloss Coeff (Globa wage per hectare (1)	<u>Simulation Crite</u> Simulation Crite tor 1.000 Addit ns) 0 Mi nm) 0 al) 0.500 Flow pe	<u>by Maximum I</u> eria ional Flow - % ADD Factor * 1 Inle	of Total Fl Om³/ha Stora t Coeffiecie	ow 0.000 ge 0.000 nt 0.800	<u>Block 1 -</u>
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0						
<u>Synthetic Rainfall Details</u> Rainfall Model FSR M5-60 (mm) 16.000 Cv (Summer) 0.750 Region England and Wales Ratio R 0.259 Cv (Winter) 0.840						
Mar	-	Warning (mm) rsis Timestep 2.5 DTS Status DVD Status wertia Status	Second Increme	OH OH	1)	
Return Pe:	Profile(s) ation(s) (mins) riod(s) (years) mate Change (%)	15, 30, 60, 120, 3 1440, 2160, 28	180, 240, 360, 880, 4320, 576	0, 7200, 864 1, 2,	20, 960,	
US/MH PN Name Stor	Return Climate m Period Change		rst (Y) First Plood Overfl			Surcharged Depth (m)
S11.000 S11 15 Win S12.000 S12 15 Win S11.001 S13 15 Win S13.000 S14 15 Win S11.002 S15 180 Win S11.003 S16 180 Win	hter 2 +0% hter 2 +0% hter 2 +0% hter 2 +0% hter 2 +0%				105.829 105.523 105.447 104.376 104.325 104.320	-0.106 -0.112 -0.112 -0.069 -0.025 0.367
PN	Flooded US/MH Volume Flow Name (m³) Cap	y / Overflow Ti p. (l/s) (mi	Drain Pipe me Flow .ns) (l/s)		Level ceeded	
S11.000 S12.000 S11.001 S13.000 S11.002 S11.003	S12 0.000 0. S13 0.000 0. S14 0.000 0. S15 0.000 0.	19 14 15 55 10 06	4.1 2.5 6.5 7.4 91 2.8 1.5 S	OK OK OK OK URCHARGED		

Graham Schofield Asso	ociates					Page 8
72 Balcarres Road		Northern	Trust			
Leyland		Proposed	l Commercia	l Units		
Lancashire PR25 3ED		Sneckyea	t Industri	al Estate		Micco
Date 07/10/2020		-	l by O. Cla			Micro
File Proposed Drainad	ge Networks	2	by G. Scof			Drainage
XP Solutions		Network	-			
Manhole He Foul Sew	real Reduction F Hot Start (Hot Start Level adloss Coeff (Gl age per hectare	Simulation actor 1.000 A mins) 0 (mm) 0 obal) 0.500 (1/s) 0.000	<u>SW</u> Criteria dditional Fl MADD Fact w per Person	ow — % of Tota or * 10m³/ha s Inlet Coeff: per Day (1/pe	al Flow 0.00 Storage 0.00 iecient 0.80 er/day) 0.00	0 0 0 0
Number of Input Number of Onli	Hydrographs 0 ne Controls 1 Nu					
Rainf	all Model Region Englar		60 (mm) 16.0	000 Cv (Summer 259 Cv (Winter		
	gin for Flood Ris Ana	alysis Timestep DTS Status DVD Status Inertia Status	2.5 Second 1	increment (Ext	300.0 ended) OFF OFF OFF	
Return Per	Profile(s) ation(s) (mins) riod(s) (years) ate Change (%)	15, 30, 60, 1 1440, 216		, 360, 480, 60 D, 5760, 7200,)
US/MH PN Name Stor	Return Clima n Period Chan			First (Z) Over Overflow Ad	Water flow Level ct. (m)	Surcharged Depth (m)
S11.000 S11 15 Wir S12.000 S12 15 Wir S11.001 S13 15 Wir S13.000 S14 240 Wir S11.002 S15 240 Wir S11.003 S16 240 Wir	ter 30 + ter 30 + ter 30 + ter 30 +	+0% +0% +0% +0% 30/15 Winter +0% 30/30 Summer +0% 1/15 Summer	-		105.84 105.53 105.46 104.53 104.52 104.52	3 -0.097 3 -0.096 0 0.085 7 0.177
PN	Flooded US/MH Volume Fl Name (m³) (ipe low L/s) Status	Level Exceeded	
S11.000 S12.000 S11.001 S13.000 S11.002 S11.003	S110.000S120.000S130.000S140.000S150.000S160.000	0.35 0.27 0.27 0.27 0.09 0.06	204	4.6	D	

22 Balcarres Read Northerr Trust: Proposed Commercial Units Leyland Brockyeat Industrial Estate Dista C/10/2020 Data C/10/2020 Designed by C. Scotisld Dista C/10/2020 Data C/10/2020 Designed by C. Scotisld Dista C/10/2020 Taile Proposed Drainage Networks Network 2020.1 Dista C/10/2020 100 year Return Period Summary of Critical Results by Maximum Level (Rank 11 for Block 1 - Kest 30 Network 2020.1 100 year Return Period Summary of Critical Results by Maximum Level (Rank 11 for Block 1 - Kest 30 Network 2020.1 Memory of Critical Results by Maximum Level (Rank 11 for Block 1 - Kest 30 Memory of Critical Results by Maximum Level (Rank 11 for Block 1 - Kest 30 Memory of Critical Results by Maximum Level (Rank 11 for Block 1 - Kest 30 Memory of Critical Results 100 Maximum Level (Rank 11 for Block 1 - Kest 30 Memory of Critical Results 100 Maximum Level (Rank 11 for Block 1 - Mest 300 Memory of Critical Results 100 Namber of Input Hydrographs 3 Number of Start Hydrographs 3 Multer: Function 1 Multer Summer and Xinter <td <="" colspan="2" th=""><th>Graham Sc</th><th>hofie</th><th>ld Ass</th><th>ociat</th><th>es</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Page 9</th></td>	<th>Graham Sc</th> <th>hofie</th> <th>ld Ass</th> <th>ociat</th> <th>es</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Page 9</th>		Graham Sc	hofie	ld Ass	ociat	es								Page 9
Lancastire FR62.3 32D Grackyeat Industrial Facate Designed by 0. Clark Date 07/10/2020 Designed by 0. Clark Checked by G. Sofield Designed by 0. Clark Elis Frequencied Drainage Networks Checked by G. Sofield Designed by 0. Clark Designed by 0. Clark XF Solutions Network 2020.1 Designed by 0. Clark Designed by 0. Clark Designed by 0. Clark 100 year Return Period Summary of Critical Results by Maximun Level (Rank 1) for Block 1 - Neet SN Neet SN Simulatic Criteris Namber of Total Trow 0.000 Neet SN Not Start Period (Boot Additional Flow - % of Total Trow 0.000 Not Start Period (Boot Additional Flow - % of Total Trow 0.000 Not Start Period (Boot Additional Flow - % of Total Trow 0.000 Not Start Period (Boot Additional Flow - % of Total Trow 0.000 Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Minter Dot Start Structures 1 Number of Storage Structures 1 Number of Number of Number of Storage Structures 1 Number of Number of Storage Structures 1 Number of Result N Store 0 Period N Number of Storage Structures 1 Number of Storage Structures 1 Number of Store Period N Store Period Store 0 Period N Store Period N Store Period N Store 0 Period	72 Balcar	res R	oad				Norther	n Trust							
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\$11.001 \$13 15 Winter 100 +40% 105.484 -0.075 \$13.000 \$14 360 Winter 100 +40% 30/15 Winter 104.958 0.513 \$11.002 \$15 360 Winter 100 +40% 30/30 Summer 104.955 0.605 \$11.003 \$16 360 Winter 100 +40% 1/15 Summer 104.955 0.605 \$11.003 \$16 360 Winter 100 +40% 1/15 Summer 104.949 0.996 Flooded Half Drain Pipe PN Name (m³) Cap. (l/s) Status Exceeded \$11.000 \$11 0.000 0.62 13.6 OK Status Exceeded \$11.001 \$13 0.000 0.48 8.3 OK Status Exceeded \$11.001 \$13 0.000 0.48 8.3 OK Status Status Exceeded \$11.002 \$14 0.000 0.37 4.9 SURCHARGED SURCHARGED \$11.002 \$15 0.000 0.06 340 1.9 SURCHARGED	s11.000	S11	15 Wi	nter	100	+40%						105.873	-0.064		
\$13.000 \$14 360 Winter 100 +40% 30/15 Winter 104.958 0.513 \$11.002 \$15 360 Winter 100 +40% 30/30 Summer 104.955 0.605 \$11.003 \$16 360 Winter 100 +40% 1/15 Summer 104.949 0.996 Flooded Half Drain Pipe VS/MH Volume Flow / Overflow Time Flow Level PN Name (m³) Cap. (l/s) (mins) (l/s) Status Exceeded \$11.000 \$11 0.000 0.62 13.6 OK \$12.000 \$12 0.000 0.48 8.3 OK \$11.001 \$13 0.000 0.49 21.7 OK \$13.000 \$14 0.000 0.37 4.9 SURCHARGED \$11.002 \$15 0.000 0.06 340 1.9 SURCHARGED															
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US/MH Volume Flow / Overflow Time Flow Level PN Name (m³) Cap. (l/s) (mins) (l/s) Status Exceeded S11.000 S11 0.000 0.62 13.6 OK S12.000 S12 0.000 0.48 8.3 OK S11.001 S13 0.000 0.49 21.7 OK S13.000 S14 0.000 0.37 4.9 SURCHARGED S11.002 S15 0.000 0.06 340 1.9 SURCHARGED									.						
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S11.000 S11 0.000 0.62 13.6 OK S12.000 S12 0.000 0.48 8.3 OK S11.001 S13 0.000 0.49 21.7 OK S13.000 S14 0.000 0.37 4.9 SURCHARGED S11.002 S15 0.000 0.06 340 1.9 SURCHARGED			PN							Stat					
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	4.9	SURCHARGED
340	1.9	SURCHARGED
	1.8	SURCHARGED

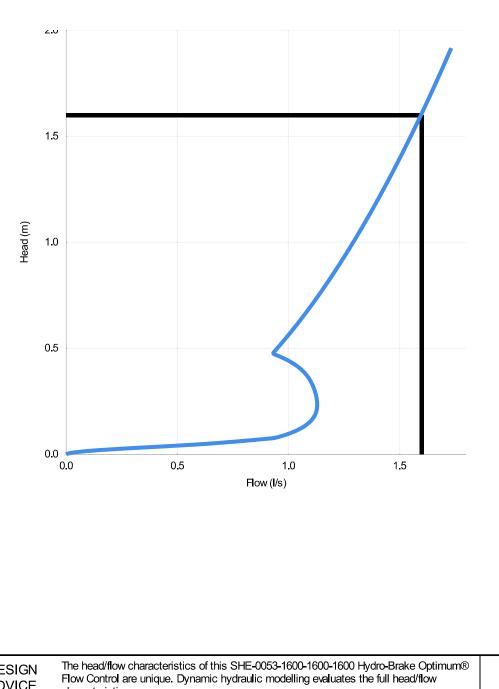


Technical Specification										
Control Point	Head (m)	Flow (l/s)								
Primary Design	1.600	1.600								
Flush-Flo	0.234	1.130								
Kick-Flo®	0.475	0.928								
Mean Flow		1.202								





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Head (m)	Flow (I/s)
0.000	0.000
0.055	0.700
0.110	1.032
0.166	1.107
0.221	1.129
0.276	1.125
0.331	1.107
0.386	1.072
0.441	1.001
0.497	0.946
0.552	0.991
0.607	1.034
0.662	1.075
0.717	1.113
0.772	1.151
0.828	1.187
0.883	1 <u>.</u> 221
0.938	1.255
0.993	1.287
1.048	1.319
1.103	1.350
1.159	1.380
1.214	1.409
1.269	1.437
1.324	1.465
1.379	1.493
1.434	1.519
1.490	1.545
1.545	1.571
1.600	1.596

DESIGN ADVICE	The head/flow characteristics of this SHE-0053-1600-1600-1600 Hydro-Brake Optimum® Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.	Hydro International
!	The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.	International S ®
DATE	07/10/2020 14:26	SHE-0053-1600-1600-1600
Site	Sneckyeat Industrial Estate	SITE-0055-1000-1000-1000
DESIGNER	Oliver Clark	Hydro-Brake Optimum®
Ref	2020.221	
© 2018 Hydro Inter	national, Shearwater House, Clevedon Hall Estate, Victoria Road, Clevedon, BS21 7RD, Tel 01275 878371 Fax 01275 874979 W	/eb.www.by.dro-int.com.Email.designtools@by.dro-int.com

Sector By the sector of the sector Based Sec

Graham Schofield Associates						
72 Balcarres Road	Northern Trust					
Leyland	Proposed Commercial Units					
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro				
Date 07/01/2021	Designed by O. Clark	Drainage				
File Proposed Drainage Networks	Checked by G. Scofield	Diamaye				
XP Solutions	Network 2020.1					

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Block 1 - East SW

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and WalesReturn Period (years)2PIMP (%)100M5-60 (mm)16.000Add Flow / Climate Change (%)0Ratio R0.260Minimum Backdrop Height (m)0.600Maximum Rainfall (mm/hr)50Maximum Backdrop Height (m)1.500Maximum Time of Concentration (mins)30Min Design Depth for Optimisation (m)1.200Foul Sewage (l/s/ha)0.000Min Vel for Auto Design only (m/s)1.00Volumetric Runoff Coeff.0.750Min Slope for Optimisation (1:X)250

Designed with Level Soffits

Network Design Table for Block 1 - East SW

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)		Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	12.845	0.220	58.4	0.020	5.00	0.0	0.600	0	150	Pipe/Conduit	ð
S2.000	12.871	0.220	58.5	0.021	5.00	0.0	0.600	0	150	Pipe/Conduit	ð
S1.001	17.069	1.250	13.7	0.021	0.00	0.0	0.600	0	150	Pipe/Conduit	ď
S3.000	12.871	0.086	150.0	0.056	5.00	0.0	0.600	0	150	Pipe/Conduit	ð
S1.002 S1.003	8.781 11.613		53.5 21.1	0.000 0.013	0.00 0.00		0.600 0.600	0		Pipe/Conduit Pipe/Conduit	ð

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)		Add Flow (l/s)	Vel (m/s)	Cap (1/s)	Flow (1/s)
S1.000	44.50	5.16	105.785	0.020	0.0	0.0	0.0	1.32	23.3	2.4
S2.000	44.50	5.16	105.785	0.021	0.0	0.0	0.0	1.32	23.3	2.5
S1.001	44.18	5.27	105.565	0.062	0.0	0.0	0.0	2.74	48.4	7.4
S3.000	44.19	5.26	104.401	0.056	0.0	0.0	0.0	0.82	14.5	6.7
S1.002 S1.003	43.85 43.59		104.315 104.151	0.118 0.131	0.0	0.0	0.0	1.38 2.20	24.4 38.9	14.0 15.5

Graham Schofield Associates	Page 2	
72 Balcarres Road	Northern Trust	
Leyland	Proposed Commercial Units	
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro
Date 07/01/2021	Designed by O. Clark	Drainage
File Proposed Drainage Networks	Checked by G. Scofield	Diamaye
XP Solutions	Network 2020.1	

Manhole Schedules for Block 1 - East SW

MH Name	MH CL (m)	MH Depth (m)	Conr	MH nection	MH Diam.,L*W (mm)	PN	Pipe C Inver Level	t	Diameter (mm)	PN	Pipes Inve Level	rt	Diameter (mm)	Backdrop (mm)
S1	106.685	0.900	Open	Manhole	600	S1.000	105.	785	150					
S2	106.685	0.900	Open	Manhole	600	S2.000	105.	785	150					
S3	106.685	1.120	Open	Manhole	1200	S1.001	105.	565	150	S1.000	105.	565	150	
										S2.000	105.	565	150	
S4	105.735	1.334	Open	Manhole	1200	S3.000	104.	401	150					
S5	106.485	2.170	Open	Manhole	1200	S1.002	104.	315	150	S1.001	104.	315	150	
										S3.000	104.	315	150	
S6	106.150	1.999	Open	Manhole	1800	S1.003	104.	151	150	S1.002	104.	151	150	
S7	105.600	2.000	Open	Manhole	1200		OUTF.	ALL		S1.003	103.	600	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	299125.193	516279.923	299125.193	516279.923	Required	۶
S2	299109.897	516259.252	299109.897	516259.252	Required	1
S3	299117.553	516269.598	299117.553	516269.598	Required	X
S4	299123.591	516249.063	299123.591	516249.063	Required	1
S5	299131.247	516259.409	299131.247	516259.409	Required	X
S6	299138.292	516254.167	299138.292	516254.167	Required	Sec.
S7	299148.085	516247.925			No Entry	N

Graham Schofield Associates		Page 3
72 Balcarres Road	Northern Trust	
Leyland	Proposed Commercial Units	
Lancashire PR25 3ED	Sneckyeat Industrial Estate	Micro
Date 07/01/2021	Designed by O. Clark	
File Proposed Drainage Networks	Checked by G. Scofield	Drainage
XP Solutions	Network 2020.1	i

PIPELINE SCHEDULES for Block 1 - East SW

<u>Upstream Manhole</u>

PN	Hyd Sect		MH Name		I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	0	150	S1	106.685	105.785	0.750	Open Manhole	600
S2.000	0	150	S2	106.685	105.785	0.750	Open Manhole	600
S1.001	0	150	S3	106.685	105.565	0.970	Open Manhole	1200
s3.000	0	150	S4	105.735	104.401	1.184	Open Manhole	1200
S1.002 S1.003	0	150 <mark>150</mark>		106.485 106.150			Open Manhole Open Manhole	1200 1800

Downstream Manhole

PN	Length (m)	Slope (1:X)			I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	12.845	58.4	S3	106.685	105.565	0.970	Open Manhole	1200
S2.000	12.871	58.5	S3	106.685	105.565	0.970	Open Manhole	1200
S1.001	17.069	13.7	S5	106.485	104.315	2.020	Open Manhole	1200
S3.000	12.871	150.0	S5	106.485	104.315	2.020	Open Manhole	1200
S1.002 S1.003	8.781 11.613	53.5 21.1		106.150 105.600			Open Manhole Open Manhole	1800 1200

Free Flowing Outfall Details for Block 1 - East SW

Outfall	Outfall	c.	Level	I.	Level		Min	D,L	W
Pipe Number	Name		(m)		(m)	I.	Level	(mm)	(mm)
							(m)		

S1.003 S7 105.600 103.600 103.600 1200 0

Simulation Criteria for Block 1 - East SW

Volumetric Runoff Coeff 0.750Additional Flow - % of Total Flow 0.000Areal Reduction Factor 1.000MADD Factor * 10m³/ha Storage 0.000Hot Start (mins)0Hot Start Level (mm)0 Flow per Person per Day (l/per/day) 0.000Manhole Headloss Coeff (Global)0.500Foul Sewage per hectare (l/s)0.000Output Interval (mins)1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	16.000	Storm Duration (mins)	30
Ratio R	0.260		

Graham Schofield Associates			Page	4
72 Balcarres Road	Northern Trust			
Leyland	Proposed Commercial	Units		
Lancashire PR25 3ED	Sneckyeat Industria	Estate	Mic	
Date 07/01/2021	Designed by O. Clark	2		
File Proposed Drainage Networks	Checked by G. Scofie	eld	Uld	inage
XP Solutions	Network 2020.1			
<u>Online Cont</u> <u>Hydro-Brake® Optimum Manh</u>	erols for Block 1 - Ea nole: S6, DS/PN: S1.00) <u>: 5.2</u>	
Ur. Des Desig Su E	Lit Reference MD-SHE-0053- sign Head (m) gn Flow (l/s) Flush-Flo™ Objective Minimise up Application mp Available Diameter (mm) ert Level (m) Diameter (mm)	-1600-1600-1600 1.600 1.6 Calculated		
Control Points Head (m) F	low (1/s) Control Po	oints Head	(m) Flow (l/s)
Design Point (Calculated) 1.600 Flush-Flo™ 0.234	1.6 1.1 Mean Flow over		475 0. - 1.	
	1.1 Mean Flow over sed on the Head/Discharge of control device other t	Head Range relationship for	- 1. the Hydro-Br	2 ake®
Flush-Flo™ 0.234 The hydrological calculations have been bas Optimum as specified. Should another type	1.1 Mean Flow over sed on the Head/Discharge of control device other t ll be invalidated	Head Range relationship for han a Hydro-Brak	- 1. the Hydro-Br e Optimum® be	2 ake® e utilised
Flush-Flo™ 0.234 The hydrological calculations have been bas Optimum as specified. Should another type then these storage routing calculations will Depth (m) Flow (1/s) Depth (m) Flow (1/s) 0.100 1.0	1.1 Mean Flow over sed on the Head/Discharge of control device other t 11 be invalidated Septh (m) Flow (1/s) 2.000 1.8	Head Range relationship for than a Hydro-Brak n (m) Flow (l/s) 4.000 2.4	- 1. the Hydro-Br e Optimum® be	2 Take® tilised ow (l/s) 3.2
Flush-Florm0.234The hydrological calculations have been bas Optimum as specified. Should another type then these storage routing calculations willDepth (m) Flow (1/s)Depth (m) Flow (1/s)0.1001.00.2001.11.0001.3	1.1 Mean Flow over sed on the Head/Discharge of control device other t 11 be invalidated Pepth (m) Flow (1/s) 2.000 1.8 2.200 1.8	Head Range relationship for than a Hydro-Brak n (m) Flow (l/s) 4.000 2.4 4.500 2.6	 1. the Hydro-Bree Optimum® bee Depth (m) Fl 7.000 7.500 	2 make® wtilised ow (1/s) 3.2 3.3
Flush-Florm0.234The hydrological calculations have been bas Optimum as specified. Should another type then these storage routing calculations willDepth (m) Flow (1/s)Depth (m) Flow (1/s)0.1001.00.2001.10.2001.10.3001.11.2001.4	1.1 Mean Flow over sed on the Head/Discharge of control device other t 11 be invalidated Pepth (m) Flow (1/s) 2.000 1.8 2.200 1.8 2.400 1.9	Head Range relationship for than a Hydro-Brak (m) Flow (1/s) 4.000 2.4 4.500 2.6 5.000 2.7	 - 1. the Hydro-Bree Optimum® bee Depth (m) Fl 7.000 7.500 8.000 	2 ake® wtilised ow (1/s) 3.2 3.3 3.4
Flush-Florm0.234The hydrological calculations have been bas Optimum as specified. Should another type then these storage routing calculations willDepth (m) Flow (1/s)Depth (m) Flow (1/s)0.1001.00.2001.11.0001.3	1.1 Mean Flow over sed on the Head/Discharge of control device other t 11 be invalidated Pepth (m) Flow (1/s) 2.000 1.8 2.200 1.8 2.400 1.9 2.600 2.0	Head Range relationship for than a Hydro-Brak n (m) Flow (l/s) 4.000 2.4 4.500 2.6	 1. the Hydro-Bree Optimum® bee Depth (m) Fl 7.000 7.500 	2 make® wtilised ow (1/s) 3.2 3.3

Graham Scho	field As:	sociates						Page 5
2 Balcarre	s Road			Northern	Trust			
Leyland				Proposed	Commercial	Units		
Lancashire	PR25 3E	D		Sneckyeat	t Industria	l Estate		Micro
ate 07/01/	2021			Designed	by O. Clar	`k		
File Propos	ed Draina	age Networks	5	Checked B	by G. Scofi	eld		Drainage
XP Solution				Network 2	-			
		<u>Stora</u>	<u>ge Struct</u>	<u>ures for</u>	Block 1 -	<u>East SW</u>		
		Cellula	r Storag	e Manhole	e: S4, DS/P	N. 53 000		
		OCTIG	I DEOLAG			<u></u>		
			Thus	rt Torrol /	m) 104.535 S	afatu Eastan	2 0	
	1	Infiltration C		,		Porositv		
		Infiltration C			,	rorosrcy	0.95	
			OCTITCICIT	brac (m/n	1, 0.00000			
)epth (m) Ar	ea (m²) In	nf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m	n²) Depth (m)) Area (m²)	Inf. Area (m²
0.000	85.0	0.0	1.800	0.0	(3.60	0.0	0
	85.0	0.0	2.000			3.80		
0.400	85.0	0.0	2.200				0.0	
0.600	85.0	0.0	2.400	0.0			0.0	0
0.800	85.0	0.0	2.600	0.0	(0.0 4.40	0.0	0.
0.801	0.0	0.0	2.800	0.0	(0.0 4.60	0.0	0.
1.200	0.0	0.0	3.000	0.0	(.0 4.80	0.0	0.

0.0

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3.200

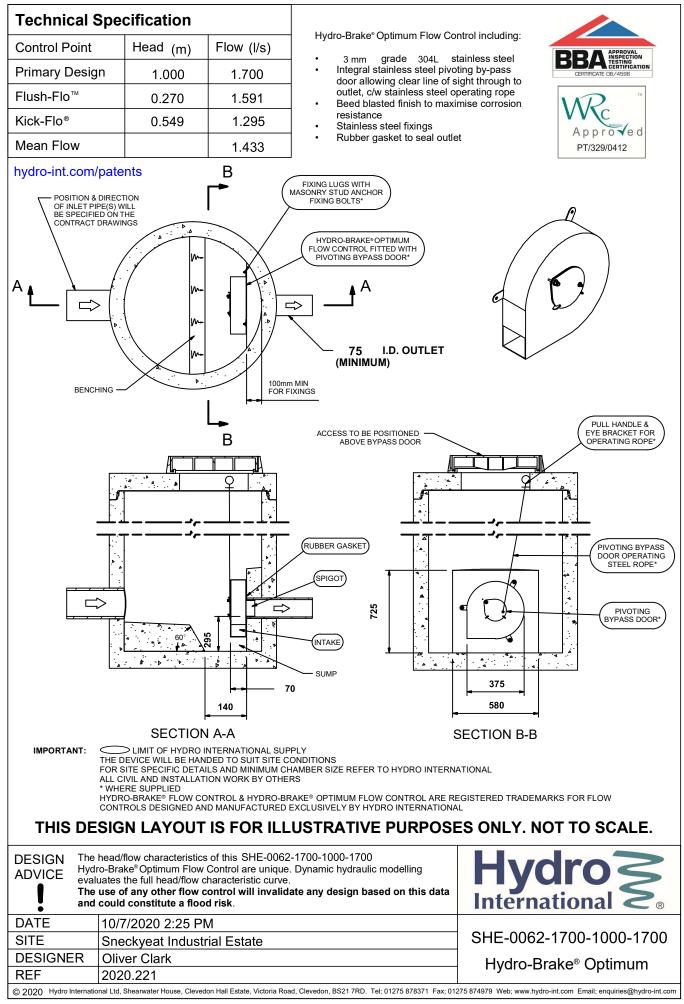
3.400

		field Ass	ociat	es							Page 6	
		s Road					hern Trus					
Leylan						Prop	osed Com	nercia	l Units			
		PR25 3ED					-		al Estate		— Micr	n
Date O	7/01/	2021				Desi	gned by (D. Cla	rk			nage
File P	ropos	ed Draina	ge Ne	twoj	rks	Chec	ked by G	. Scof	ield		Digi	liage
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<u>1 yea</u>	Numbe	Amanhole He Foul Sev r of Input ber of Onli Rain	Areal F Hot S eadloss wage pe Hydrog ine Cor fall M Re	Reduc Hot S Start s Coe er he graph htrol odel gion	Etion F Start (E Level eff (G] ectare as 0 .s 1 Nu Engla ood Ri	<u>Simulat</u> Factor 1.000 (mins) (1 (mm) (10bal) 0.500 (1/s) 0.000 Number of C umber of Sto <u>Synthetic</u>	<u>ast SW</u> <u>tion Criter</u> Additic Additic Flow per Cffline Con Dffline Con Drage Struc R M5-60 (mm S Ratio (mm) step 2.5 S atus atus	<u>ria</u> DD Facto Person trols (tures : <u>etails</u> n) 16.0 R 0.2	ow - % of T or * 10m³/h Inlet Coe per Day (1 0 Number of 1 Number of 1 Number of 00 Cv (Sum 59 Cv (Win	otal Flow a Storage ffiecient /per/day) E Time/Area Real Time mer) 0.750 ter) 0.840 300.0	0.000 0.800 0.000 Diagrams 0 Controls 0	
		Return Pe	ation(s) (1) (ye	ears)				Su , 360, 480,), 5760, 72		960, 10080 , 100	
PN	US/MH Name	Storm			imate hange	First (X) Surcharge	First (Y) Flood	First Overf:			Surcharged Depth (m)	Floode Volume (m³)
S1.000	S1	15 Winter		1	+0%					105.815	-0.120	0.00
S2.000	S2	15 Winter		1	+0%					105.816	-0.119	0.00
S1.001 S3.000	S3 S4	15 Winter 180 Winter		1 1	+0% +0%	1/15 0,,,,,,,				105.600 104.615		0.00
S3.000 S1.002		180 Winter 180 Winter		1 1		1/15 Summer 1/15 Summer				104.615		0.00
S1.003		180 Winter		1		1/15 Summer				104.611		0.00
51.003	06	100 WINCEL		T	TU %	I/IJ SUUUUEI				104.011	0.310	0.0
			ប៖	S/MH	Flow,) / Overflow	Half Drain Time	Pipe Flow		Level		
		F		ame	Cap.		(mins)	(1/s)	Status	Exceeded		
					0.09	9		1.9	OK			
		S1.	000	S1	0.0.	-						
		S2.	000	S2	0.10	C		2.0	OK			
		S2. S1.	000	S2 S3	0.10 0.12) 2	0.0	5.6	OK			
		S2. S1. S3.	000	S2	0.10) 2 3	89	5.6 1.0				

		field As	soci	ates							Page 7	
72 Bal	Lcarre	s Road				Nort	hern Trus	st				
Leylar	nd					Prop	osed Comr	mercia	l Units			
Lancas	shire	PR25 3E	D			Snec	kyeat Ind	dustri	al Estate	9	— Micr	
Date C	07/01/	2021				Desi	gned by (D. Cla	ırk			
File F	Propos	ed Drain	age 1	Netwo	rks	Chec	ked by G.	. Scof	ield		Uldi	nage
XP Sol	Lution	.s				Netw	ork 2020.	.1				
<u>2 ye</u> a	Numbe	Manhole H Foul Se er of Input uber of Onl	Area Ho Headld ewage Hydr .ine (l Redu Hot t Star oss Cc per h rograp	Start Start t Leve eff (G. ectare hs 0 ls 1 N	<u>Simulat</u> Factor 1.000 (mins) (1 (mm) (lobal) 0.500 (1/s) 0.000 Number of C umber of Sto <u>Synthetic</u>	<u>ast SW</u> <u>tion Criter</u> Additic MAI) Flow per) Dffline Con prage Struc Rainfall De	ria Dnal Fl DD Fact Person trols tures etails	ow — % of I or * 10m³/h Inlet Coe per Day (1 0 Number of	Cotal Flow ha Storage effiecient ./per/day) f Time/Area f Real Time	0.000 0.000 0.800 0.000 Diagrams 0	
				Regior	n Engla lood Ri	FS. Ind and Wale Isk Warning Dalysis Time DTS St DVD St	s Ratio (mm) step 2.5 S atus	R 0.2	259 Cv (Win	ter) 0.840 300.0		
		Return P	eriod	n(s)					Su , 360, 480, 0, 5760, 72		960, 10080 , 100	
PN	US/MH Name	Storm			limate Change	First (X) Surcharge	First (Y) Flood	First Overf		ow Level	Surcharged Depth (m)	Floode Volume (m³)
s1.000	S1	15 Winte:	r	2	+0%					105.819	-0.116	0.00
S2.000	S2	15 Winte:	r	2	+0%					105.820	-0.115	0.00
S1.001	S3			2	+0%	1 /15 ~				105.606		0.00
S3.000 S1.002		240 Winte: 240 Winte:		2 2		1/15 Summer 1/15 Summer				104.660 104.658		0.00
s1.002		240 Winte: 240 Winte:		2		1/15 Summer				104.655		0.00
				US/MH	Flow , Cap.	/ Overflow	Half Drain Time (mins)	Pipe Flow (1/s)	Status	Level Exceeded		

Graham Schofield Associates							Page 8	
72 Balcarres Road		Nort	hern Trus	st				
Leyland		Prop	osed Comm	nercial	l Units			
Lancashire PR25 3ED		Snec	kyeat Inc	dustria	al Estate		Micr	
Date 07/01/2021		Desi	gned by (). Cla	rk			
File Proposed Drainage Netwo	orks	Chec	ked by G.	Scof	ield		Uldli	nage
RP Solutions			ork 2020.					
<u>30 year Return Period Summa</u>	iry of Cri		Results b ast SW	y Max:	imum Level	(Rank 1	.) for Blo	ck 1 –
Hot	Start (min rt Level (m beff (Globa hectare (1/ bhs 0 Num	or 1.000 s) C m) C 1) 0.500 s) 0.000) MAD)) Flow per))))	nal Flo D Facto Person trols (Number of	Storage fiecient per/day) Time/Area	0.000 0.800 0.000 Diagrams 0	
			Rainfall De		. Number of	Near IIMe	CONCIONS 0	
Rainfall Mode. Regio:		FSI	R M5-60 (mr	n) 16.0	00 Cv (Summe 59 Cv (Winte			
Margin for F	Analys		step 2.5 Se atus atus	econd I	ncrement (Ex	300.0 stended) OFF OFF OFF		
Prof. Duration(s) Return Period(s) (j Climate Chan	years)				Sumr 360, 480, (, 5760, 7200		960, L0080 100	
US/MH Return C PN Name Storm Period C		rst (X) rcharge	First (Y) Flood	First Overf]	(Z) Overflow Low Act.		Surcharged Depth (m)	Flooded Volume (m³)
	2	-						
S1.000 S1 15 Winter 30	+0%					105.833	-0.102	0.000
s2 000 s2 15 Winter 30	+0%					105 834	-0 101	0 000
S2.000 S2 15 Winter 30 S1.001 S3 15 Winter 30	+0% +0%					105.834 105.624	-0.101 -0.091	
\$1.001\$315Winter30\$3.000\$4240Winter30		5 Summer						0.000
\$1.001\$315 Winter30\$3.000\$4240 Winter30\$1.002\$5240 Winter30	+0% +0% 1/15 +0% 1/15	5 Summer				105.624 104.874 104.872	-0.091 0.323 0.407	0.00
\$1.001\$315Winter30\$3.000\$4240Winter30	+0% +0% 1/15	5 Summer				105.624 104.874	-0.091 0.323	0.00
\$1.001\$315 Winter30\$3.000\$4240 Winter30\$1.002\$5240 Winter30	+0% +0% 1/15 +0% 1/15	5 Summer 5 Summer				105.624 104.874 104.872	-0.091 0.323 0.407	0.000 0.000 0.000
\$1.001 \$3 15 Winter 30 \$3.000 \$4 240 Winter 30 \$1.002 \$5 240 Winter 30 \$1.003 \$6 240 Winter 30	+0% +0% 1/15 +0% 1/15 +0% 1/15	5 Summer 5 Summer F	Half Drain	-		105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000 0.000 0.000
S1.001 S3 15 Winter 30 S3.000 S4 240 Winter 30 S1.002 S5 240 Winter 30 S1.003 S6 240 Winter 30 US/ME	+0% +0% 1/15 +0% 1/15 +0% 1/15	5 Summer 5 Summer Ferflow	Half Drain Time	Flow	Statue	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000 0.000 0.000
\$1.001 \$3 15 Winter 30 \$3.000 \$4 240 Winter 30 \$1.002 \$5 240 Winter 30 \$1.003 \$6 240 Winter 30	+0% +0% 1/15 +0% 1/15 +0% 1/15	5 Summer 5 Summer F	Half Drain	-	Status E	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000
S1.001 S3 15 Winter 30 S3.000 S4 240 Winter 30 S1.002 S5 240 Winter 30 S1.003 S6 240 Winter 30 US/ME PN Name S1.000 S1	+0% +0% 1/15 +0% 1/15 +0% 1/15 H Flow / Ov Cap.	5 Summer 5 Summer Ferflow	Half Drain Time	Flow (1/s) 4.6	OK	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000 0.000 0.000
S1.001 S3 15 Winter 30 S3.000 S4 240 Winter 30 S1.002 S5 240 Winter 30 S1.003 S6 240 Winter 30 US/MH PN Name S1.000 S1 S2.000 S2	+0% +0% 1/15 +0% 1/15 +0% 1/15 H Flow / Ov Cap. L 0.22 2 0.23	5 Summer 5 Summer Ferflow	Half Drain Time	Flow (1/s) 4.6 4.9	OK OK	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000 0.000 0.000
S1.001 S3 15 Winter 30 S3.000 S4 240 Winter 30 S1.002 S5 240 Winter 30 S1.003 S6 240 Winter 30 US/MH PN Name S1.000 S1 S2.000 S2 S1.001 S3	+0% +0% 1/15 +0% 1/15 +0% 1/15 H Flow / Ov Cap. L 0.22 2 0.23 3 0.32	5 Summer 5 Summer Ferflow	Half Drain Time (mins)	Flow (1/s) 4.6 4.9 14.6	OK OK	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	0.000 0.000 0.000
S1.001 S3 15 Winter 30 S3.000 S4 240 Winter 30 S1.002 S5 240 Winter 30 S1.003 S6 240 Winter 30 US/MH PN Name S1.000 S1 S2.000 S2	+0% +0% 1/15 +0% 1/15 +0% 1/15 H Flow / Ov Cap. 0.22 0.23 0.32 4 0.08	5 Summer 5 Summer Ferflow	Half Drain Time	Flow (1/s) 4.6 4.9 14.6 1.1 s	OK OK	105.624 104.874 104.872 104.869	-0.091 0.323 0.407	

Ancashire FR25 3ED Sneckyeat Industrial Estate Microarconstance ate 07/01/2021 Designed by 0. Clark Decked by 0. Scofield Decked by 0. Clark 16 Proposed Drainage Networks Checked by 0. Clark Designed by 0. Clark Decked by 0. Clark 9 Solutions Network 2020.1 Network 2020.1 Decked by 0. Clark Decked by 0. Clark Simulation Criteria Areal Reduction Factor 1.000 Additional Plow - % of Total Plow 0.000 Not Start (mins) MADD Factor * 10m*/h Storage 0.000 Number of Storage Structures 1 Number of Ful Sevage per hectare (1/s) 0.000 Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Real Time Controls 0 Number of Flood Pisk Warning (mm) Marchael Status Marchael Status OPF Profile(s) Summer and Winter Duration(s) (mins) Duration(s) (mins) Duration(s) (mins) Duration(s) (mins) Duration(s) (mins) Duration(s) (mins) </th <th>Graham</th> <th>Schc</th> <th>field As</th> <th>ssocia</th> <th>tes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Page 9</th> <th></th>	Graham	Schc	field As	ssocia	tes							Page 9		
Ancashire PR25 3FD Sineckyast Industrial Estate Designed by 0. Clark Designed by 0. Clark Designed by 0. Clark Sineckyast Industrial Estate Sineckyast Industrial Sineckyast Sineckyast Industrial Sineckyast Si	72 Bal	carre	s Road				Nort	hern Trus	st					
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P Solutions Network 2020.1 Colutions Network 2020.1 Over Return Period Summary of Critical Results by Maximum Level (Rank 1) for Block 1 - <u>East SW</u> Simulation Criteria Areal mediction Factor 1.000 Additional Wox - 4 of Total Tlow 0.000 Hot Start Level (rm) 0 MOD Factor 1000/As Storage 0.000 Hot Start Level (rm) 0 MOD Factor 1000/As Storage 0.000 Foul Sewage per bectare (1/s) 0.000 Number of Input Bydrographs 6 Number of Offline Controls 0 Number of Time/Area Diagrams 0 Number of Online Controls 1 Number of Storage Structures 1 Number of Time/Area Diagrams 0 Number of Online Controls 1 Number of Storage Structures 1 Number of Storage 0.000 Mary 1000 Summer of Online Controls 1 Number of Storage Structures 1 Number 0 As Storage 0.000 Mary 15 Storage 0.000 (mm) 16.000 or (Summer) 0.750 Region England and Wales Ratic R 0.259 Or (Winter) 0.840 Maryin for Flood Risk Warding (mm) Distatus 000 Not Status 0000 Roturn Forlod(Is (years) Climate Change (3) Summer and Winter Profile(s) (years) Climate Change (3) Name Stora Period Change Surdarge Plood Overflow Act. (m)	Date 0	7/01/	2021				Desi	gned by (). Clar	k				
O0 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Block 1 - East 5% East 5% Simulation Critical Areal Reduction Tactor 1.000 Add total Flow - % of Total Flow 9.000 Reduction Tactor 1.000 Add total Flow - % of Total Flow 9.000 Beduction Tactor 1.000 Mathematical Start mins) O Mathematical Start mins) Colspan="2">Colspan=20.000 Particle Colspan="2">Period Particle Colspan="2">Colspan=20.000 Particle Colspan="2">Period Particle Colspan="2">Colspan=20.000 Number of Input Hydrographs 0 Mathematical Controls 0 Mathematical Controls 0 Mathematical Controls 0 Mathematical Decartis Back March 0	File P	ropos	ed Draim	nage N	ietwo	orks	Chec	ked by G.	. Scofi	eld		Uldi	Idye	
East SN Simulation First Citeria Areal Reduction Factor 1.000 Additional Flow = % of Total Flow 0.000 Hot Start Lewel (mm; 0) Inlet Coefficient 0.800 Nambole Beadloss Coeli (Clobal; 0.500 Flow per Person per Day (L/per/day) 0.000 Foul Seage per Notater (J/S) 0.000 Simulation Controls 0 Number of Inme/Area Diagrams 0 Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Real Time Controls 0 Number of Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0 Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Real Time Controls 0 Number of Input Hydrographs 0 Summer (J/S) Region England and Wales Ratio R 0.259 Cv (Winter) 0.840 Number of Flow Risk Warning Immi Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 720, 960, 720, 960, 1240, 2160, 2880, 4320, 5760, 720, 960, 720, 960, 1000 Return Feriod(s) (years) Climate Change (s) VS/Met Return Climate First (N) First (N) First (S) Overflow Act. Name Storm Return Climate First (N) First (N) First (S) Overflow Immer and Winter Climate Change (h) Note the first (N) First (N) First (S) Overflow Immer and Winter Climate Change (h) Note the first (N) First (N) First (S) Overflow Immer (M) (M) Note the first (N) First (N) First (S) Overflow Immer (M) (M) Note the first (N) First (S) Overflow Immer (M) (M) Note the first (N) First (S) Overflow Immer (M) (M) Note the first (N) First (N) First (S) Overtary (m	XP Sol	ution	IS	_				-						
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SI.005 50 0.07 I.4 SUNCHANDED														
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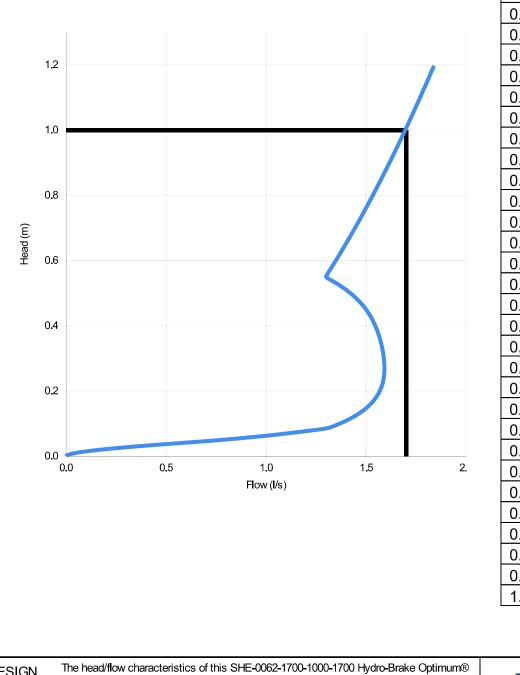


Technical Sp	pecificatio	on
Control Point	Head (m)	Flow (l/s)
Primary Design	1.000	1.700
Flush-Flo	0.270	1.591
Kick-Flo®	0.549	1.295
Mean Flow		1.433





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Head (m)	Flow (I/s)	
. ,		
0.000	0.000	
0.034	0.431 1.084	
	1.379	
0.103	1.479	
0.138	1.539	
0.207	1.573	
	1.588	
0.241		
0.270	1.591 1.586	
0.345	1.575	
0.379 0.414	1.559 1.536	
0.414	1.502	
0.448	1.454	
0.517	1.385	
0.552	1.299	
0.586	1.334	
0.621	1.368	
0.655	1.402	
0.690	1.434	
0.724	1.466	
0.759	1.497	
0.793	1.527	
0.793	1.556	
0.862	1.585	
0.897	1.613	
0.931	1.641	
0.966	1.668	
1.000	1.695	
1.000	1.095	

	DESIGN ADVICE	Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.	Hydro S
	<u>!</u>	The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.	International S ®
	DATE	07/10/2020 14:25	SHE-0062-1700-1000-1700
	Site	Sneckyeat Industrial Estate	3HE-0002-1700-1000-1700
	DESIGNER	Oliver Clark	Hydro-Brake Optimum®
	Ref	2020.221	
	0040		

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