

SITE INVESTIGATION FACTUAL REPORT

Report No: [REDACTED]
Client: Crawford Claims Management
Site: Flat 2, 34 Frognall
Client Ref: [REDACTED]
Date of Visit: 16/01/2020



Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys



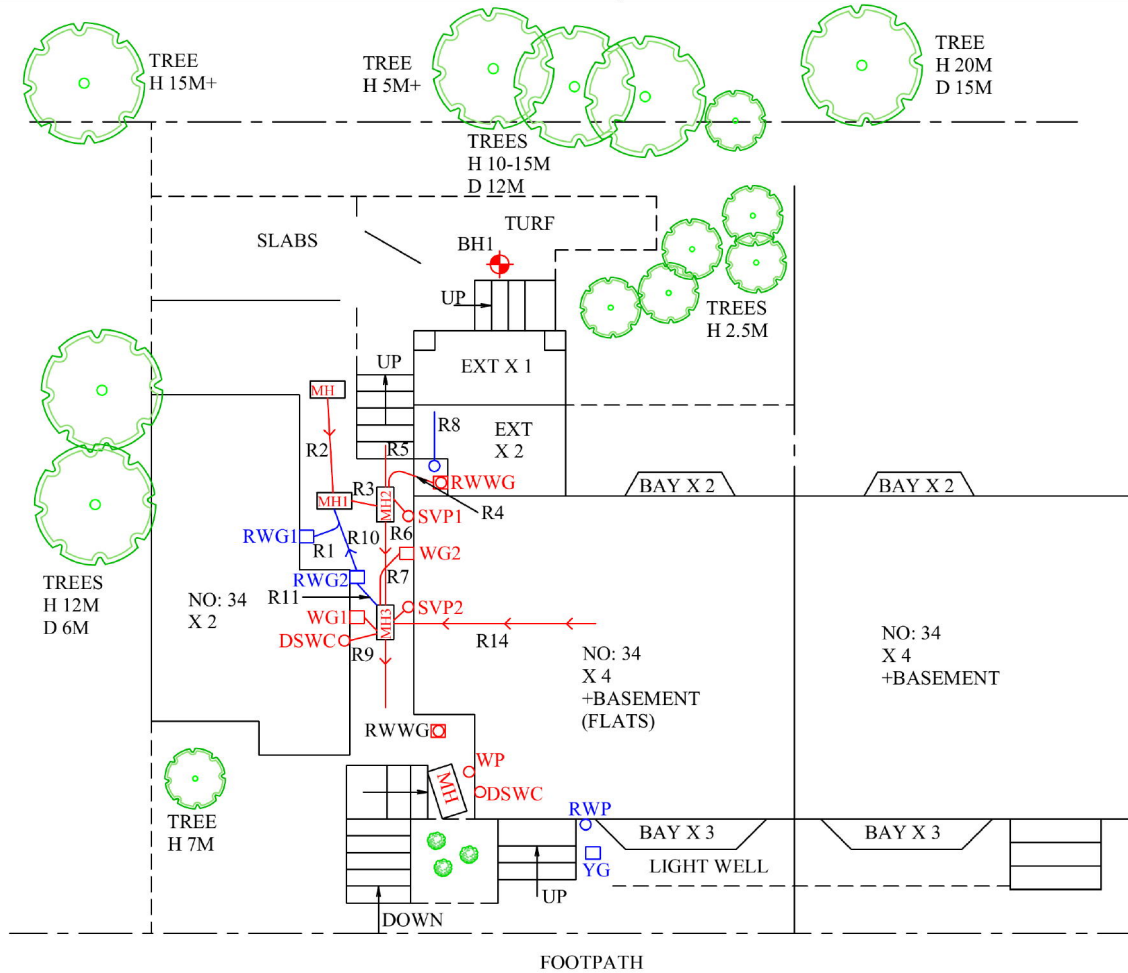
Drainage Layout Plan

Sheet: 1 of 1
Job No: XXXXXXXXXX
Date: 16/01/2020

Site: 34 Frogna! NW3
Work carried out for: Crawford Claims MGMT SUS

(SI) SA (Checked) CFT (Drawn)

Weather: DRY



SLOPE DOWN

FROGNA!

DRAIN REPAIR RECOMMENDATIONS

Remarks: MH3 upstream to WG 2 - Run 12. Excavate and replace gully plus pipe work downstream to manhole 3.

Scale: N.T.S.

Parking:

Power:

Water:

Approx age:

Surface Water Drain



Foul Water Drain



Borehole		1	Sheet: 1 of 1 Job No: XXXXXXXXXX Date: 16/01/2020		Site: 34 Froggall
Boring Method:	Hand Auger		Ground Level:		Client: Crawford Claims Management
Diameter (mm):	75	Weather:	Dry		
Depth	Soil Description				Samples and Tests
(m)					Thickness Legend Depth Type Result
0.00	MADEGROUND very loose topsoil				0.10  0.50 DM 18
0.10	MADEGROUND medium compact mid to dark brown silty sandy clay with occasional gravel, brick and clinker pieces.				1.10  1.00 DM 12
1.20	Firm mid brown/orange, grey veined sandy silty CLAY with partings of orange and brown silt and fine sand and very occasional gravel.				0.60  1.50 DV 60
1.80	Very stiff mid brown, grey veined sandy silty CLAY with partings of orange and brown silt and fine sand and very occasional gravel.				0.40  2.00 DV 140+
2.20	Very stiff mid brown, grey veined sandy silty CLAY with partings of orange and brown silt and fine sand.				1.80  3.00 DV 140+
4.00	End of BH				 3.50 DV 140+
Remarks: BH ends at 4.0m. Water seepage at 3.0m. BH open with standing water level at 3.7m on completion. No roots observed below 3.0m.					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample J - Jar Sample V - Pilon Shear Vane (kPa) M - Mackintosh Probe TD - Too Dense To Drive
					To Max Depth Dia (m) (mm) 1.20 6 2.70 2 3.00 1 3.70
Logged:	AC	SA	Checked:	Approved:	Version V1.0 28/01/16 N.T.S.

Laboratory Summary Results

Our Ref : [REDACTED] Date Sampled: 16/01/2020

Location : Flat 2, 34 Froggnall, London Date Received : 17/01/2020

Client: Crawford Claims Management Date Tested : 17/01/2020

Address: [REDACTED] Date of Report : 24/01/2020

Sample Ref	Depth (m)	Type	Moisture Content (%) [1]	Soil Fraction > 0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquidity Index [5]	Modified Plasticity Index (%) [6]	Soil Class [7]	Filter Paper Contact Time (h.)	Soil Sample Suction (kPa) [8]	Oedometer Strain [9]	Estimated Heave Potential (mm) [10]	In situ Shear Vane Strength (kPa) [11]	Organic Content (%) [12]	pH Value [13]	Sulphate Content (g/l) [14]	Class [16]
BH1	0.5	D	21	28	49	20	29	0.05	21	CI	Not suitable for suctions - Made Ground								
	1.0	D	25	16							Not suitable for suctions - Made Ground								
	1.5	D	32	<5							168	37.3			63				
	2.0	D	26	<5	55	21	34	0.14	34	CH	168	97.6			> 140				
	2.5	D	24	<5							168	88.2			> 140				
	3.0	D	21	<5							168	34.7			> 140				
	4.0	D	31	<5	52	20	32	0.33	32	CH	168	19.2			> 140				

Test Methods / Notes

[1] BS 1377 : Part 2 : 1990, Test No 3.2
 [2] Estimated if <5%, otherwise measured
 [3] BS 1377 : Part 2 : 1990, Test No 4.4
 [4] BS 1377 : Part 2 : 1990, Test No 5.3
 [5] BS 1377 : Part 2 : 1990, Test No 5.4
 [6] BS 1377 : Part 2 : 1990, Test No 5.4
 [7] BS 5930 : 2018 : Figure 8 - Plasticity Chart for the classification of fine soils

[8] In-house method S17c adopted from BS 1377 : Part 2 : 1990
 [9] In-house Test Procedure S17c: One Dimensional Swell/Shrink Test
 [10] Estimated Heave Potential (DE)
 [11] Values of shear strength were determined in situ by CPT using a Pileon hand vane or Geosir vane (GV).
 [12] BS 1377 : Part 2 : 1990, Test No 4
 [13] BS 1377 : Part 2 : 1990, Test No 9
 [14] BS 1377 : Part 2 : 1990, Test No 5.6
 [15] SO₄ = 1.2 x SO₄

[16] BS 5930 : 2018 : Figure 8 - Plasticity Chart for the classification of fine soils
 Note that if the SO₄ content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4M or DS-5M class respectively unless water soluble magnesium testing is undertaken to prove otherwise.
 * These tests are not UKAS accredited
 Full reports can be provided upon request.

Key

D Disturbed sample (small)
 B Disturbed sample (bulk)
 U Undisturbed sample
 W Groundwater sample
 ESN Essentially Non-Plastic by inspection
 US Underside of Foundation



Test results reported relate only to the items tested.
 This report shall not be reproduced except in full without approval of the laboratory.

Version: SB01 V1.6 - 26.02.19

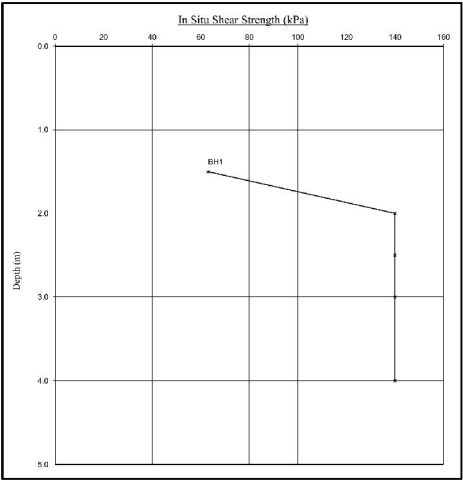
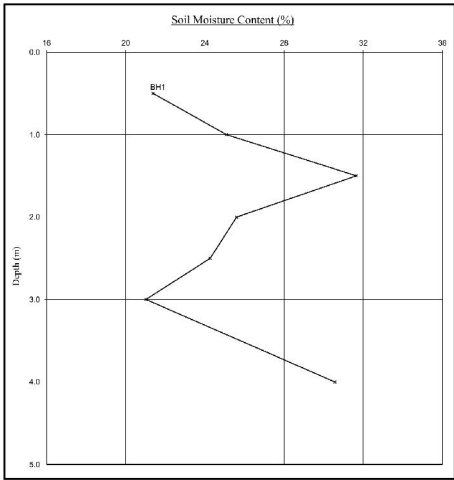
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Moisture Content Profiles

Our Ref: [Redacted]
Location: [Redacted] Plot 2, 34 Froggall, London
Work carried out for: Crawford Claims Management

Shear Strength Profiles

Date Sampled: 16/01/2020
Date Received: 17/01/2020
Date Tested: 17/01/2020
Date of Report: 24/01/2020

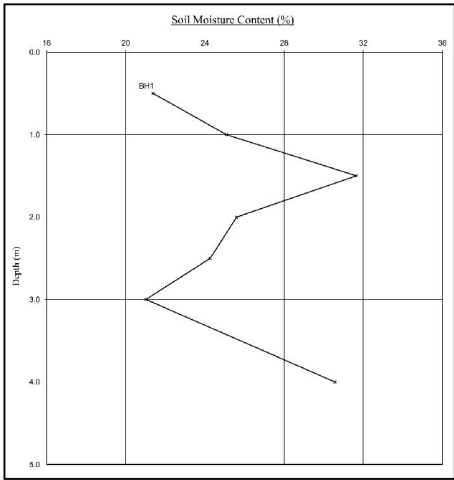


Notes:
1. If plotted, 0.4 LL and PI - 2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

Note:
1. Unless otherwise stated, values of Shear Strength were determined in situ by CPT using a Pkane Hand Vane the calibration of which is limited to a maximum reading of 140 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

Moisture Content Profiles

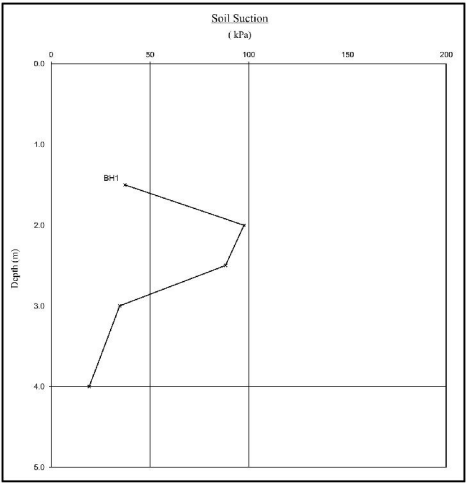
Our Ref: [redacted]
Location: Flat 2, 34 Froggall, London
Work carried out for: Crawford Claims Management



Notes:
1. If plotted, $\theta_{4.7.1}$ and $PI-2$ (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

Soil Suction Profiles

Date Sampled: 16/01/2020
Date Received: 17/01/2020
Date Tested: 17/01/2020
Date of Report: 24/01/2020



Note:
When shown, the theoretical equilibrium suction profile are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependent on the method of sampling and any subsequent recompaction. The above plots show this to be 100kPa which is the value suggested by the BS7 on the basis of their limited number of tests on recompacted samples. This may or may not be appropriate in this instance and judgement should be exercised.

EPSL European Plant Science Laboratory	Sheet: 1 of 1	Site: 34 Frognall,
	Job No: [REDACTED]	Work carried out for: Crawford Claims MGMT SUS
	Date: 22/01/2020	
	Order No: [REDACTED]	
	EPSL Ref: [REDACTED]	

Certificate of Analysis

The following work was commissioned by CET on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.
 The results were as follows -

<u>Trial pit/ Borehole number</u>	<u>Root diameter (mm)</u>	<u>Tree, shrub or climber from which root originates</u>	<u>Result of starch test</u>
BH1 (0-2m)	4 mm	Platanus spp. 2 roots	Positive
BH1 (0-2m)	2 mm	Tilia spp.	Positive
BH1 (2-3m)	1.5 mm	Platanus spp. 3 roots	Positive

Platanus spp. include London plane and Oriental plane.
 Tilia spp. are limes.


 RJS

Head of Laboratory Services : M D Mitchell B.Sc. (Hons), M.Phil.
Plant Anatomist : Dr G S Turner B.Sc. (Hons), M.Sc., Ph.D
Plant Anatomist : Dr R J Shaw B.Sc. (Hons), Ph.D
Consultant: Dr M P Denne B.Sc. (Hons), M.Sc., Ph.D

Classification: General

To:
Ftaco: Neil Crawford
Site:

Crawford Claims Management
34 Froggnall

Date: 20-Jan-20

ESTIMATE

Item	
1.0	Location
	Shared System
	Condition Grade
	Drain Serviceability
	Work Spec
	MH3 upstream to WG 2 - Run 12.
	No
	B
	Unserviceable
	Excavate and replace gully plus pipe work downstream to manhole 3.
Notes	
Repairs to shared runs and off boundary pipe-work may be the responsibility of the water authority.	
Condition Grade	
A - Structurally sound with no leakage evident.	
B - Cracks and fractures observed.	
C - Structurally unsound	
Total	
plus VAT @20%	
Total + VAT	
Quotation is binding only if accepted within 28 days from date of issue and is subject to our Standard Terms and Conditions	
The price qualification notes, stated on the drainage solutions schedule of rates, apply to this quotation.	
CET Structures Ltd undertakes to return to site free of charge to carry out remedial work to the drainage repairs set out above for a	
period of 2 months from the date of this invoice. The company standard charge rates will apply to the visit should the work	
requested be unrelated to the said repairs.	

ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE		Client Ref	
Site:-	34 Frognaill	Job No.	
Client :-	Crawford Claims Management	Claim No.	
		Date	
		Recommendation	
		1	
Rate Code	Description	Unit	Qty
	MH3 upstream to WG 2 - Run 12.		
TITLE	Gullies / Rest Bend / Rodding Eye - 110mm Isolated repair or connections to lined drains		
SN0590	Gully, 150mm x 150mm. Remove existing and replace with new PVCu item. Bed, surround and backfill.	nr	1
TITLE	110mm Pipework - Isolated repair of lengths up to 1.0m		
SN0605	Excavate & remove isolated length. Replace in new 110mm PVCu. Bed, surround & backfill. n.e. 1000mm deep.	nr	1
TITLE	110mm Pipe Replacement - Bends / Junctions / etc		
SN0880	Short Radius Bend. Remove existing item and replace with new 110mm PVCu.	nr	3
TITLE	Extra-Over Surfacing Costs for drainage Repair / Replacement		
SN1045	Removal, set aside and reinstatement of concrete slab paving n.e 100mm thick.	m2	2
TITLE	Preparations / General Groundworks / Reinstatements		
SN0025	Protection Temporary works to floors, 1000 gauge polythene.	m2	2
SN2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	2
SN006	1 Litre of disinfectant.	nr	1
Total subject to VAT @ 20%			
Note: Subject to the attached Terms and Conditions Depths are taken to the base of excavations. Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed. All rates exclude VAT. Depths are taken to the base of excavations. The above rates are subject to re-measurement. Daywork rates do not include for materials that are charged at cost plus KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour			

Coding Sheet				Sheet:		Site:	34 Frognall		
				Job No.:					
				Date:	#####	Client:	Crawford Claims Management		

Run:	1									
From:	MH1		Invert Level:	380		Direction:	U/S			
To:	RWG1		Invert Level:			Function:	S/W			
Pipe Material:	PVC		Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No		Gully Condition:	As Built			
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion %	mm	Shared Run:	No			
0.00	ST					Remarks	Surface Material	Length (m)		
0.20	LR					Line deviates right	slabs	0.5		
0.50	FH					reached RWG1				
Comments:										

Run:	2									
From:	MH1		Invert Level:	450		Direction:	U/S			
To:	MH		Invert Level:			Function:	F/W			
Pipe Material:	PVC		Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No		Gully Condition:				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion %	mm	Shared Run:	No			
0.00	ST					Remarks	Surface Material	Length (m)		
2.50	MH					Manhole	slabs	2.5		
2.50	FH					reached MH (unable to access)				
Comments:										

Run:	3									
From:	MH1		Invert Level:	380		Direction:	U/S			
To:	MH2		Invert Level:	450		Function:	F/W			
Pipe Material:	VC		Pipe Dia:	75						
Water/Pressure Test:			Drain Break-In:	No		Gully Condition:				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion %	mm	Shared Run:	No			
0.00	ST					Remarks	Surface Material	Length (m)		
0.20	WL			20		Water level	slabs	0.4		
0.30	DEG			20		Debris grease				
0.40	MH					MH2				
0.40	FH					reached MH2				
Comments:										

Run:	4									
From:			MH1	Invert Level:	450		Direction:	U/S		
To:			RWWG1	Invert Level:			Function:	Comb		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:	As Built		
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
0.10	LR						Line deviates right	Concrete	0.8	
0.80	FH						reached RWWG1			
Comments:										
Run:	5									
From:			MH1	Invert Level:	450		Direction:	U/S		
To:			U/S	Invert Level:			Function:	F/W		
Pipe Material:			PVC	Pipe Dia:	68					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
0.50	LU						Line deviates up	concrete	0.4	
0.50	SA						unable to push further	steps	0.1	
Comments:										
Run:	6									
From:			MH1	Invert Level:	450		Direction:	U/S		
To:			SVP1	Invert Level:			Function:	F/W		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
0.10	LU						Line deviates up	slabs	0.4	
0.40	FH						reached SVP1			
Comments:										
Run:	7									
From:			MH2	Invert Level:	450		Direction:	D/S		
To:			MH3	Invert Level:			Function:	Comb		
Pipe Material:			Cast Iron	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
3.30	MH						MH3	slabs	3.4	
3.40	FH						reached MH3			
Comments:										

Run:	8									
From:		RWWG1	Invert Level:		Direction:	U/S				
To:		U/S	Invert Level:		Function:	S/W				
Pipe Material:		PVC	Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No	Gully Condition:					
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	No				
					If Shared How:					
0.00	ST				Remarks	Surface Material	Length (m)			
0.40	DES			30	Debris silt	under extension	1			
1.00	DES			100	Debris silt					
1.00	SA				unable to push further					
Comments:										
unsure where this comes from, could be dis-used(run is dry).										

Run:	9									
From:		MH3	Invert Level:	700	Direction:	U/S				
To:		DS/WC1	Invert Level:		Function:	F/W				
Pipe Material:		VC	Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No	Gully Condition:					
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	No				
					If Shared How:					
0.00	ST				Remarks	Surface Material	Length (m)			
0.10	JN	6	100		backdrop	concrete	0.3			
0.70	LU				Line deviates up					
1.00	FH				reached DS/WC1					
Comments:										

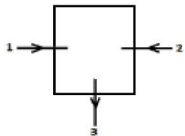
Run:	10									
From:		MH3	Invert Level:	700	Direction:	U/S				
To:		WG1	Invert Level:		Function:	F/W				
Pipe Material:		VC	Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No	Gully Condition:	As Built				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:					
					If Shared How:					
0.00	ST				Remarks	Surface Material	Length (m)			
0.10	FH				reached WG1	slabs	0.1			
Comments:										

Run:	11									
From:		MH3	Invert Level:	700	Direction:	U/S				
To:		RWG2	Invert Level:		Function:	S/W				
Pipe Material:		VC	Pipe Dia:	100						
Water/Pressure Test:			Drain Break-In:	No	Gully Condition:	As Built				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	No				
					If Shared How:					
0.00	ST				Remarks	Surface Material	Length (m)			
0.10	LR				Line deviates right	slabs	0.6			
0.60	FH				reached RWG2					
Comments:										

Run:	12									
From:			MH3	Invert Level:	700		Direction:	U/S		
To:			WG2	Invert Level:			Function:	F/W		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
0.10	LR						slight	slabs	1	
0.60	JDM						Joint displaced medium			
0.90	JDL						Joint displaced large			
1.00	FH						reached WG2			
Comments:										
Run:	13									
From:			MH3	Invert Level:	700		Direction:	U/S		
To:			SVP2	Invert Level:			Function:	F/W		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
0.10	LU						Line deviates up	slabs	0.3	
0.30	FH						reached SVP1			
Comments:										
Run:	14									
From:			MH3	Invert Level:	700		Direction:	U/S		
To:			U/S	Invert Level:			Function:	F/W		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
1.30	WL				5		Water level	slabs	0.1	
6.20	JN	3		100			unknown	under building	7.7	
7.50	LR						Line deviates right			
7.80	LU						Line deviates up			
7.80	FH						reached unknown			
Comments:										
Run:	15									
From:			MH3	Invert Level:	700		Direction:	D/S		
To:			D/S	Invert Level:			Function:	Comb		
Pipe Material:			VC	Pipe Dia:	100					
Water/Pressure Test:				Drain Break-In:	No		Gully Condition:			
Distance (m)	Code	Clock Ref at	to	Dia mm	Intrusion %	mm	Shared Run:	No		
							If Shared How:			
0.00	ST						Remarks	Surface Material	Length (m)	
2.00	FH						Reached D/S	slabs		
Comments:										

Manhole Details		Sheet:	1 of 1	Site:	34 Froggall
		Job No.:	[REDACTED]		
		Date:	16/01/20	Client:	Crawford Claims Management

MH:- MH1 Depth:- 380 (mm)



Chamber Dimension:- 450 / 450 (mm)

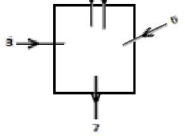
Depths of run if different to invert level:-

Run	Depth (mm)

Manhole Condition:- Good

Reasons for poor condition.

MH:- MH2 Depth:- 450 (mm)



Chamber Dimension:- 600 / 450 (mm)

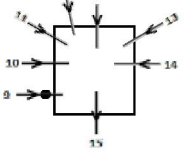
Depths of run if different to invert level:-

Run	Depth (mm)
5	150

Manhole Condition:- Good

Reasons for poor condition.

MH:- MH3 Depth:- 700 (mm)



Chamber Dimension:- 600 / 450 (mm)

Depths of run if different to invert level:-

Run	Depth (mm)
9	250
10	350
11	450
14	250

Manhole Condition:- Good

Reasons for poor condition.

Key


Interceptor


Internal Back Drop.


External Back Drop.

Additional Comments for Poor Condition