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SITE INVESTIGATION FACTUAL REPORT

Registered office: Spring Lodge, Chester Road, Helsby, Cheshire, England, WA6 0AR
Company Registration Number: 04042825
www.rskgroup.com

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Geocore Control Sheet

Client:	The Davies Group
Client Ref:	72229022
Policy Holder:	Ridler
Our Reference Number:	HH/23/70036
Issue Date:	27/03/2023
Office:	Geocore Site Investigations Ltd, Tralee Close, Redcar, TS10 5SG
Version:	Mar-01

Author
L. Hirschinger
Senior Client Services Coordinator
L. Hirschinger

Technical Reviewer
E. Lodge
Operations Director
E. Lodge

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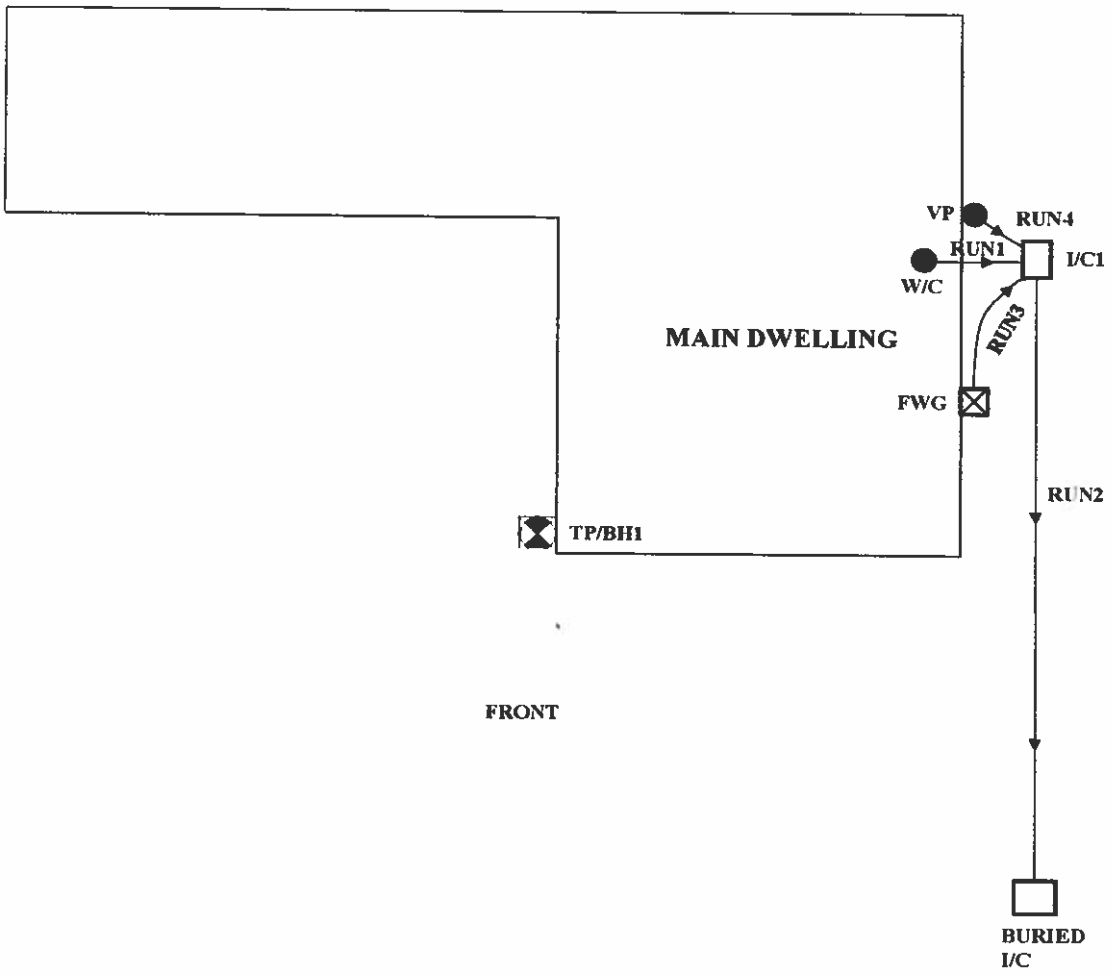
Site Details

Table 1 - Site Location

Site Crew	P. Chapmas / D. Jones
Site Address & Postcode	6 Windrush Close, Ickenham, Uxbridge, UB10 8EJ
Date	07/02/2023

Figure 1: Site & Drainage Layout



Red – Shared or Main Sewer Blue – Surface Water Black – Foul Water or Combined

RWG / SWG / YG - Rain Water Gully / Surface Water Gully / Yard Gully

FWG / CWG – Foul Water Gully / Combined Water Gully

R/E - Rodding Eye Surveyed Drain Run Unsurveyed Drain Run

Interceptor SVP, VP, FWP, WC – Soil Vent Pipe, Vent Pipe, Foul Water Pipe

RWP – Rain Water Pipe TP - Trial Pit TPBH – Trial Pit Bore Hole

Boundary Line

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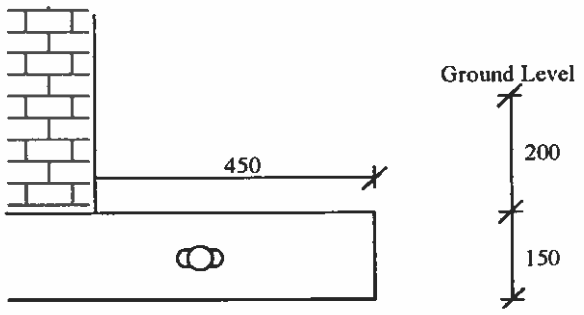
TP/BH1 FOUNDATION DETAIL



For strata information, please refer to borehole log TP/BH1.

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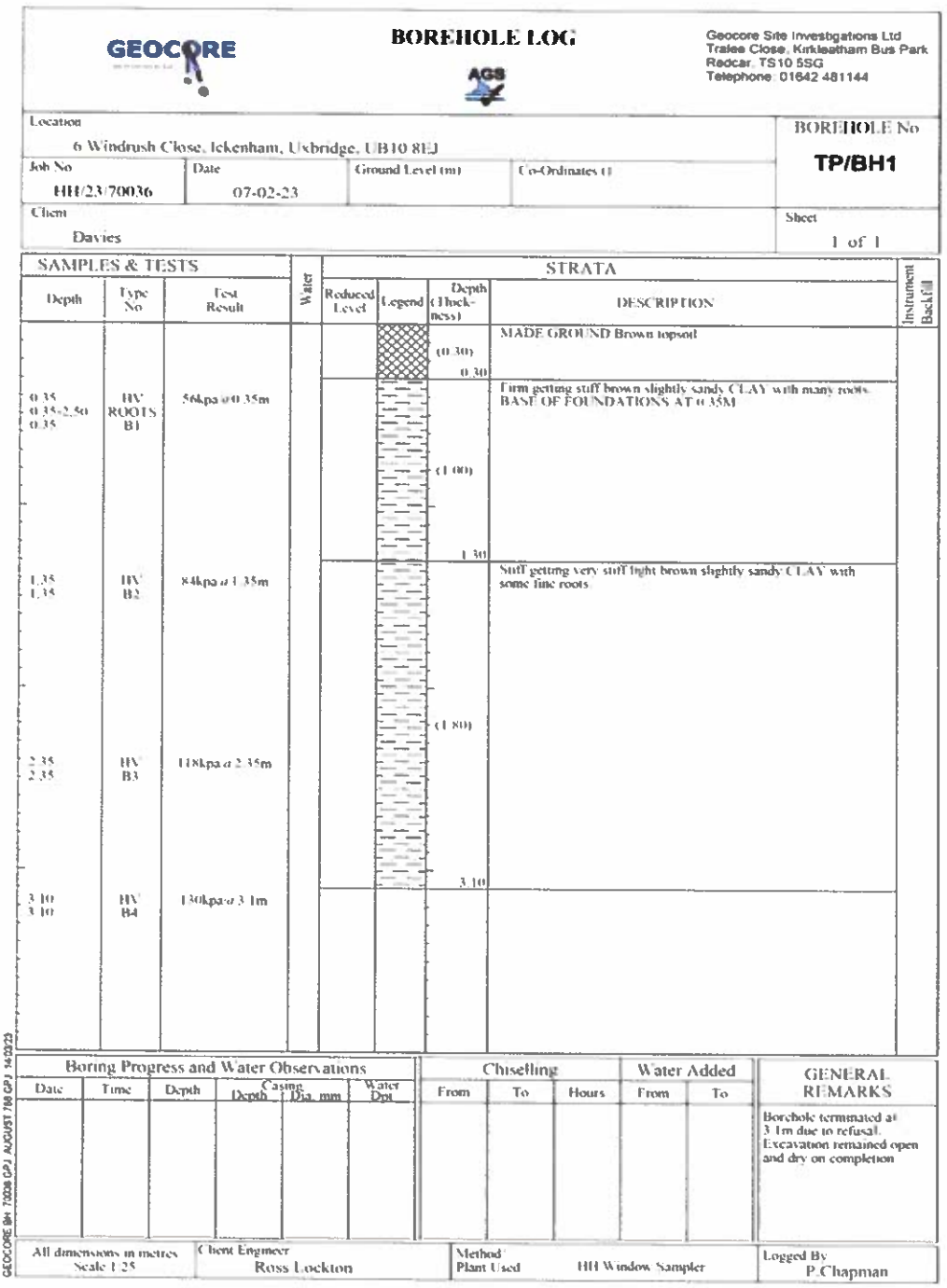
BOREHOLE LOG RECORD

Borehole Number 1



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BOREHOLE LOG

AGS

Geocore Site Investigations Ltd
Tralee Close, Kirkleatham Bus Park
Redcar, TS10 5SG
Telephone: 01642 481144

Location: 6 Windrush Close, Ickenham, Uxbridge, UB10 8EJ

BOREHOLE No: **TP/BH1**

Job No	Date	Ground Level (m)	Co-Ordinates (')
HH/23/70036	07-02-23		

Client: Davies

Sheet: 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
						(0.30) 0.30	MADE GROUND Brown topsoil	
0.35 0.35-2.50 0.35	BV ROOTS B1	56kpa @ 0.35m				(1.00) 1.30	Firm getting stiff brown slightly sandy CLAY with many roots. BASE OF FOUNDATIONS AT 0.35M	
1.35 1.35	BV B2	84kpa @ 1.35m				(1.80) 3.10	Stiff getting very stiff light brown slightly sandy CLAY with some fine roots	
2.35 2.35	BV B3	118kpa @ 2.35m						
3.10 3.10	BV B4	130kpa @ 3.1m						

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Borehole terminated at 3.1m due to refusal. Excavation remained open and dry on completion

All dimensions in metres
Scale 1:25

Client Engineer: Ross Lockton

Method / Plant Used: HH Window Sampler

Logged By: P.Chapman

GEOCORE BH 7003B GPJ AUGUST 768 GPJ 14/03/23

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TESTING

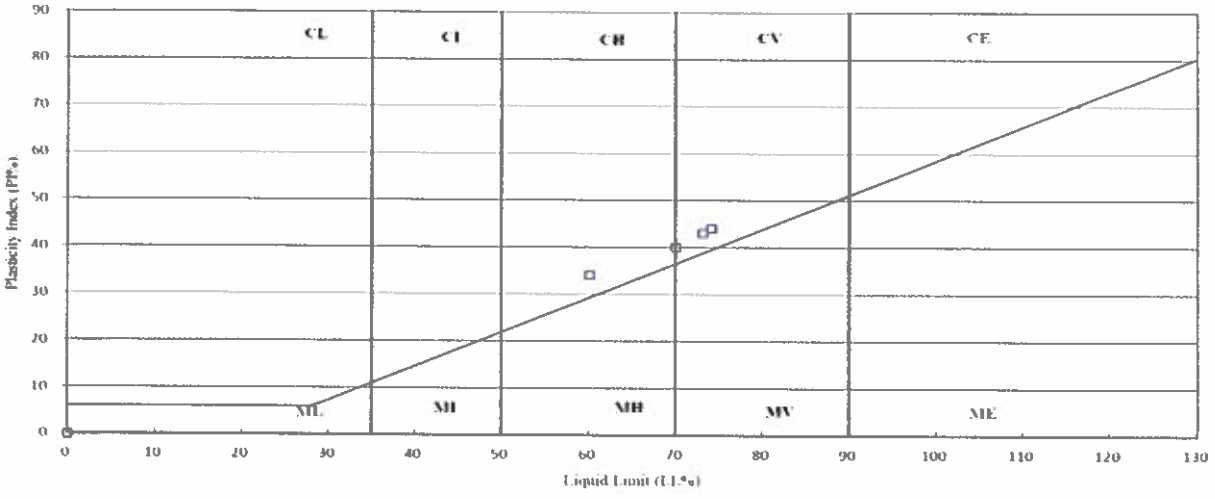
SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m³ Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP/BH	1	B	0.35		28			60	26	34	87	High Plasticity CH
TP/BH	2	B	1.35		29			70	30	40	96	Very High Plasticity CV
TP/BH	3	B	2.35		28			74	30	44	100	Very High Plasticity CV
TP/BH	4	B	3.10		27			73	30	43	100	Very High Plasticity CV

SYMBOLS : NP : Non Plastic * : Liquid Limit and Plastic Limit Wet Sieved.

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



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TESTING

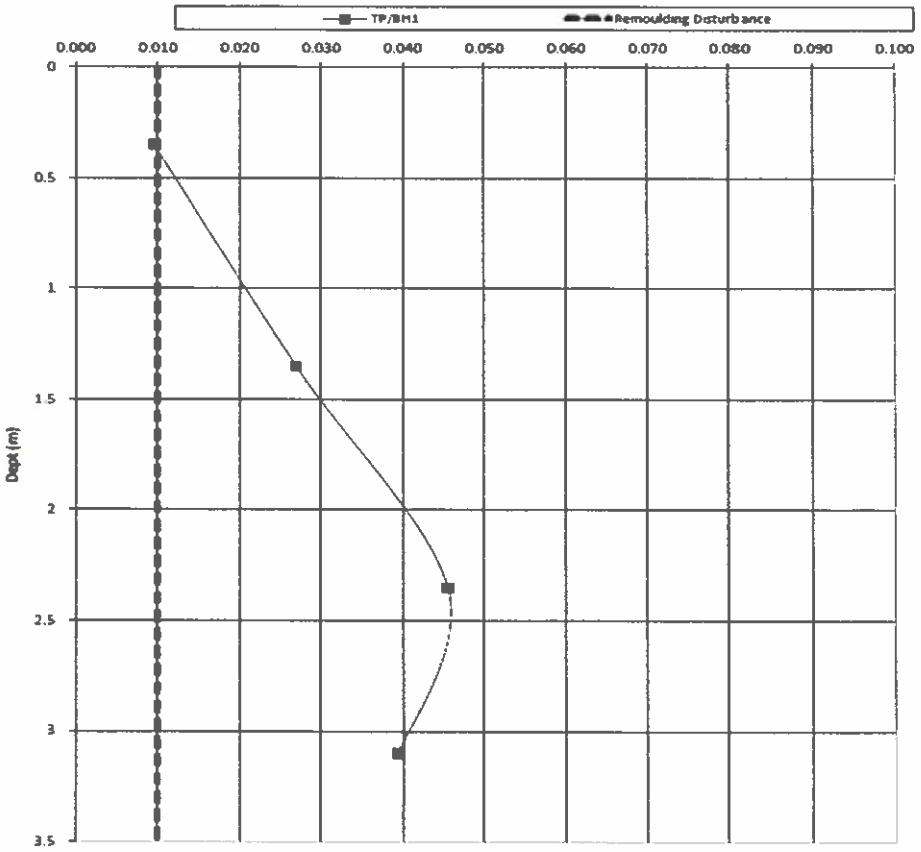
Summary of results

One Dimensional Swell / Strain test - In House Method

Hole Number	Sample Number	Sample Type	Depth m	Strain	Dd (mm)	Moisture Content (%)	Remarks
TP/BH1	1		0.35	0.0095	1.7	28	
TP/BH1	2		1.35	0.0269	13.6	29	
TP/BH1	3		2.35	0.0455	22.7	28	
TP/BH1	4		3.10	0.0394	14.8	27	
Total column Dd TP/BH1 =				52.6 mm			

Oedometer Strain

One Dimensional Swell / Strain test - In House Method



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ROOT ANALYSIS

Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS

James Richardson
BSc (Hons. Biology)

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Reading
RG6 7BB
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Geocore Site Investigations Limited

Tralee Close
Kirkleatham Business Park
REDCAR

Cleveland TS10 5SG

Your ref **70036**
Our ref **85/8801**

14/03/2023

Dear Sirs

6 Windrush Close, Ickenham, UB10 8EJ

The samples you sent in relation to the above on 07/02/2023 have been examined. Their structures were referable as follows:

TP/BH1, 0.35-2.50m

1 root: a conifer, similar in many ways to CEDRUS (Cedar) and also PINUS (Pine). Dead*.

1 root: could be the family Rosaceae, subfamily ROSOIDEAE (shrubs including Roses, Brambles, Raspberries, Kerria and Potentilla). A further sample, not examined in detail appeared similar under low magnification. Alive, recently*.

1 root: a SHRUB. Referable in many ways to the family CAPRIFOLIACEAE (the most common members being Viburnum (Laurestinus and Guelder-rose), Weigela, Symphoricarpos (Snowberry), Lonicera (Honeysuckle)). 3 further samples, not examined in detail appeared similar under low magnification. Alive, recently*.

2 pieces of BARK only - insufficient material for recognition.

7 samples: unfortunately insufficient cells for identification.

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

Dr Ian B K Richardson

Identified with no information on vegetation on or off site

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HEAVE ANALYSIS

Moisture contents in TP/BH1 are approaching or below both the plastic limit and 40% of the Liquid limit. It is therefore likely that the ground has attained desiccation in this area. Oedometer strain test results are indicative of this showing potential heave of 52.6mm.

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CCTV SURVEY DETAILS

Run: 1	Dir: U/S	Pipe Dia(mm):	100	System:	F/W	Made Of:	V/C
From:	I/C 1	Inv(m):	0.9	To:	W/C	Inv(m):	Internal

Metres	Faults/Defects	Internal Condition Grade (ICG)	Remarks
0	ST		
0	WL: 0%		
0.6	RB		
0.7	LU: Vertical		
0.9	FH	Grade 1	

Run: 2	Dir: D/S	Pipe Dia(mm):	100	System:	F/W	Made Of:	V/C
From:	I/C 1	Inv(m):	0.9	To:	Buried I/C	Inv(m):	Not located

Metres	Faults/Defects	Internal Condition Grade (ICG)	Remarks
0	ST		
0	WL: 0%		
2.63	CC: 4 o'clock to 6 o'clock	Grade 2	
4.42	CC: 5 o'clock to 12 o'clock	Grade 2	
5.3	RF		
5.54	CM: 4 o'clock to 7 o'clock	Grade 3	
7.2	FH: At Buried I/C		

Key: I/C = Inspection Chamber, Inv=Invert, RWG=Rainwater Gully, FWG=Foul Water Gully, CWG=Combined Water Gully

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CCTV SURVEY DETAILS

Run: 3	Dir: U/S	Pipe Dia(mm):	100	System:	F/W	Made Of:	V/C
From:	I/C 1	Inv(m):	0.9	To:	FWG	Inv(m):	N/A
Metres	Faults/Defects					Internal Condition Grade (ICG)	Remarks
0	ST						
0	WL: 0%						
0.45	FH					Grade 1	

Key: I/C = Inspection Chamber, Inv=Invert, RWG=Rainwater Gully, FWG=Foul Water Gully, CWG=Combined Water Gully

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SURVEY NOTES

Run 1: I/C 1 upstream to the W/C:
No defects identified.

Run 2: I/C 1 downstream to buried I/C:
Defects identified. Root infiltration also identified.

Run 3: I/C 1 upstream to FWG 1:
No defects identified.

Run 4: Is a vent pipe only

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RECOMMENDATIONS

NOTE: The following recommendations have been made, based on the information provided by the CCTV survey. Geocore are unable to confirm if the defects identified from the investigation are the cause of the potential subsidence. Any decision made is the responsibility of the client.

Item 1: Run 2: I/C 1 downstream:
Clean and reline the defective section Run 2.

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QUOTATION

Client: Davies
PO Box 2958
Stoke on Trent
ST4 9EY

Client Ref: 72229022

Date: 27/03/2023

Geocore Ref: HH/23/70036

Policy Holder: Ridler

Site Address: 6 Windrush Close, Ickenham, Uxbridge, UB10 8EJ

Item	Description	No	Unit	Rate	Total
Item 1	Run 2: I/C 1 downstream to buried I/C				
DR69	Van pack HPWJ & CCTV in preparation of lining	1	Sum	£165.00	£165.00
DR70	Drain Lining - Initial Set-Up Fee (0-5m)To be used ONLY ONCE per claim	1	Sum	£600.00	£600.00
DR71	Drain Lining - 100mm. Install Structural liner into existing 100mm underground drain. 3mm Wall thickness.	1	m	£120.00	£120.00
				Sub Contract Value	£885.00
				VAT at 20%	£177.00
				Total	£1,062.00

Terms: Valid for 30 days from date of quotation
Quote remeasurable on completion
Works to be carried out under Geocores standard terms and conditions

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DRAINAGE KEY CODES

Condition Grades for Clayware, Concrete and Plastic Sewer Pipes	
5	Already collapsed Deformation >10% and broken Extensive areas of fabric missing Fracture with deformation >10%
4	Broken Deformation >10% and broken Fracture with deformation 6-10% Multiple fracture Serious loss of level Serious joint defects with voids or soil visible (open joint with >50mm soil of void visible or joint displacement >25% diameter) Surface damage- spalling large (entire surface of brick missing) Surface damage- wear large (entire surface of brick missing)
3	Fracture with no deformation or deformation <5% Longitudinal cracking with or multiple cracking Minor loss of level Severe joint defects, i.e. open joint (large) or displaced joint (large) Surface damage- spalling medium (large areas of chipped brick) Surface damage- wear medium (entire surface of brick missing)
2	Circumferential crack Moderate joint defects, i.e. open joint (medium) or displace joint (medium) Surface damage- spalling slight (small fragments breaking away from the surface) Surface damage- wear slight (increased roughness)
1	No or slight structural defects
Note: Deformed sewers that have subsequently been relined with structural lining can normally be considered to have no deformation.	

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DRAINAGE CODES

Code	Description
B	Broken pipe at/from __ to __ o'clock
CC	Crack circumferential from__ to __ o'clock
CL	Crack longitudinal at __ o'clock
CM	Cracks multiple from__ to __ o'clock
CN	Connection at __ o'clock, diameter is __mm
CNI	Connection as __ o'clock, diameter is __mm, intrusion at __mm
CU	Camera underwater
CX	Connection defective at __ o'clock
D	Deformed sewer __%
DC	Dimension of sewer changes at this point
DE	Debris (non-silt/grease) __% cross-sectional loss
DEG	Debris grease __% cross sectional area loss
DES	Debris silt __% cross-sectional area loss
FC	Fracture circumferential from __ to __ o'clock
FL	Fracture longitudinal at ___ o'clock
FM	Fractures longitudinal at ___ o'clock
GO	General observations at this point
H	Hole in sewer at __ o'clock
JDM	Joint displaced medium
JDL	Joint displaced large
JN	Junction at __ o'clock, diameter __mm
JX	Junction defective as __o'clock, diameter __mm
LC	Lining of sewer changes/starts/finishes at this point
LD	Line of sewer deviates down
LL	Line of sewer deviates left
LR	Line of sewer deviates right
LU	Line of sewers deviates up
MC	Material of sewer changes at this point
MH	Manhole/node
OB	Obstruction __% height/diameter loss
OJL	Open joint large
OJM	Open joint medium
RFJ	Roots fine (at joint)
RMJ	Roots mass __% cross-sectional area loss (at joint)
RTJ	Roots tap (at joint)
SA	Survey abandoned
WL	Water level % height/diameter
X	Sewer collapsed __% cross sectional area loss
FH	End of survey