

Drainage Report



Prepared For

Matt Bartlett
5-6 Deryn Court
Cardiff

CF23 7HA

Site

Matt Bartlett
Football Ground Land
Upper Solva

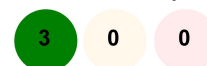


P&H UTILITIES LTD
Surveyor: Jonathan Thomas
pandhutilities@gmail.com
07398 721798

Total Defects for Project



Total DRB Grades for Project



Land at Solva Pembrokeshire - CCTV Survey Report : 07/07/22

Name :	P&H UTILITIES LTD
Contact :	Jonathan Thomas
Location :	
Town :	
Region :	
Postcode :	
Email :	pandhutilities@gmail.com
Contact Number :	07398 721798
Surveyor :	Jonathan Thomas
Valid Certification No :	

Client Information

Name :	Matt Bartlett
Contact :	Grays
Location :	5-6 Deryn Court
Town :	Cardiff
Region :	
Postcode :	CF23 7HA
Tel :	02920 733 181
Mobile :	
Email :	matt.bartlett@graysconsulting.co.uk
Fax :	

Site Information

Name :	Matt Bartlett
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Report interpretation.

Overview:

Each section of the drainage system is allocated a score indicating areas that require attention. These areas are detailed in the Overview section on the following page and also at the bottom right of the first few pages. We use colour coding as an indicator of severity. Additional information concerning rehabilitation options/recommendations is included in the Overview page, which can also be used as an, "at a glance" indication of system condition. More in depth information for each section, including images can be found later in the report. Grade indicators are as follows:

Grade A: Drain is serviceable no recommendations required

Grade B: There is an issue that might require remedial works

Grade C: There is a defect that requires remedial works, the drain is not serviceable.

Observations:

Each section of drainage reported on (manhole to manhole for example), contains detailed information about that drain and any observations made concerning condition are detailed below the header section. The observations are colour coded and given a severity score, with more significant defects being given a higher score, using a scale from 1 to 5 as detailed below:

Severity 1 to 2: These defects may require remedial monitoring

Severity 3: These defects probably require some form of remedial works

Severity 4 to 5: Defects that will require remedial repair or replacement

General:

The information provided is relevant at the time of survey. The coding system in this report is based on the Manual of Sewer Condition Classification, 5th edition (MSCC5) domestic codes (BS EN 13508-1:2003). This is the official standard for the water industry.

The severity system is based on significant experience in general practice and the 1 -5 grades represent the severity of individual defects: 5 representing a more serious defect.

Please feel free to contact us for further explanation or pricing for remedial works required.

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Overview

<p>Section: 1 From: MH1 To: MH2</p>	<p>Grade A</p>	<p>DRB Grade: A Pipe Size: 150 Material: Vitrified Clay (i.e. all clayware) Use: Combined</p>
<p>Section: 2 From: MH3 To: MH4</p>	<p>Grade A</p>	<p>DRB Grade: A Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Combined</p>
<p>Section: 3 From: MH4 To: MH5</p>	<p>Grade A</p>	<p>DRB Grade: A Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Combined</p>

Total Defects for Project



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Site: Football Ground Land, Upper Solva

Section 1

Client: Matt Bartlett	Location (Street Name): Football Ground Land	City/Town/Village Upper Solva	Cust Job Ref.	Surveyors Name: Jonathan Thomas	Date: 07/07/2022
Start Node Ref: MH1	Finish Node Ref: MH2	Direction: U	Height/Dia: 150	Start Node Depth: 1.90	Finish Node Depth: 0.00
Start Node Coordinate:	Finish Node Coordinate:	Use: C	Shape: C	Material: VC	Cleaned N

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH				

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A				D	N	29.08	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 30%			0:00:00
29.08m	MHF	Finish node type, manhole		0_99	

Total Defects for section

DRB Grade for Section





Descriptive Report with Remarks and Observation Images

Section 1

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH1	
00.00m	0:00:00	WL	Water level: 30% Height/Diameter	
29.08m		MHF	Finish node type, manhole MH2	<p>Image Provided - Ref: 0_9999</p>

Total Defects for section



DRB Grade for Section





Site: Football Ground Land, Upper Solva

Section 2

Client: Matt Bartlett	Location (Street Name): Football Ground Land	City/Town/Village Upper Solva	Cust Job Ref.	Surveyors Name: Jonathan Thomas	Date: 07/07/2022
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Start Node Ref: MH3	Finish Node Ref: MH4	Direction: D	Height/Dia: 225
Start Node Depth: 3.90	Finish Node Depth: 0.00	Use: C	Shape: C
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned: N

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH				

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A				D	N	77.1	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 0%			0:00:00
20.20m	CN	Connection other than junction : 100mm		1_2	0:00:58
77.10m	MHF	Finish node type, manhole		1_99	



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 2

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH3	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
20.20m	0:00:58	CN	Connection other than junction: 100mm Diameter	<p>Image Provided - Ref: 1_2</p> 
77.10m		MHF	Finish node type, manhole MH4	<p>Image Provided - Ref: 1_9999</p> 

Total Defects for section

DRB Grade for Section





Site: Football Ground Land, Upper Solva

Section 3

Client: Matt Bartlett	Location (Street Name): Football Ground Land	City/Town/Village Upper Solva	Cust Job Ref.	Surveyors Name: Jonathan Thomas	Date: 07/07/2022
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Start Node Ref: MH4	Finish Node Ref: MH5	Direction: D	Height/Dia: 225
Start Node Depth: 3.50	Finish Node Depth: 0.00	Use: C	Shape: C
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned: N

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH				

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A				D	N	40.97	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 20%		2_1	0:00:00
40.97m	SA	Survey abandoned		2_99	

Total Defects for section

DRB Grade for Section





Descriptive Report with Remarks and Observation Images

Section 3

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH4	
00.00m	0:00:00	WL	Water level: 20% Height/Diameter	Image Provided - Ref: 2_1
40.97m		SA	Survey abandoned Unable to push the camera any further	Image Provided - Ref: 2_9999

Total Defects for section



DRB Grade for Section



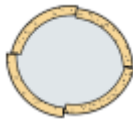


A guide to defects and other observations in drainage systems

More detailed information can be found in the National Standard (BS EN 13508-1:2003) and in the Manual of Sewer Condition Classification (MSCC) 5th Edition, written by the Water Research Centre (WRc).

Use	
Code	Description
C	Combined
F	Foul
S	Surface Water
T	Trade Effluent
W	Culverted Watercourse
Z	Other

Common Materials	
Code	Description
VC	Vitrified Clay
PVC	Polyvinyl Chloride
CO	Concrete
CI	Cast Iron
PF	Pitch Fibre
PE	Polyethylene
DI	Ductile Iron

Start Node	Description	Finish Node
MH	Manhole	MHF
IC	Inspection Chamber	ICF
GY	Gulley	GYF
RE	Rodding Eye	REF
SK	Soakaway	SKF
BN	Buchan Trap	BNF
BR	Major Connection without Ref	BRF
CP	Catch Pit	CPF
OC	Other Special Chamber	OCF
OF	Outfall	OFF
OS	Oil Separator	OSF
WR	Major Connection without mh	WRF
LH	Lamphole	LHF



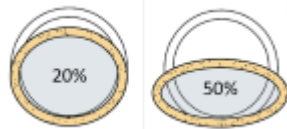







Code	Observation	Description	Attributes	
B	Broken	Pieces pipe have visibly moved	Defined by clock references. Associated with deformity in rigid pipe	
CC CL CM CR	Cracks	Cracks are break lines that are not visibly open	Defined by clock reference position/s. Longitudinal and radiating cracks attract only one clock reference	
CN	Connection	Lateral pipe has been connected after original construction	Described by clock reference position and diameter	

Total Defects for section



DRB Grade for Section





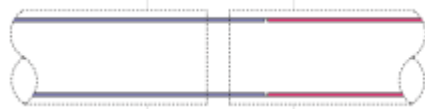

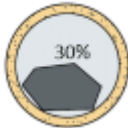





CX(I)	Defective Connection (Intruding)	Defective by intrusion or damage due to factors including: cracks, fractures, obstruction, position etc	Described by clock reference position and diameter (+ % intrusion)	
CU	Loss of Vision	Lens of camera is obscured by debris, water etc. Operator is unable to see drain clearly	'W' can be added if loss of vision is due to water	
D	Deformed	Pipe has lost its structure	Described by percentage loss of height or width. Recorded in 5% increments	
DEE	Deposits Encrustation	Eg. Attached scale deposits evident	Described by clock referenced position and percentage loss of cross-sectional area (5% increments)	
DEG	Deposits Grease	Attached grease deposits evident	Described by clock referenced position and percentage loss of cross-sectional area (5% increments)	
DER DES	Deposits Coarse/Fine	Settled deposits on the invert of the pipe.	Described by percentage loss of height or diameter. Recorded in 5% increments.	
FC FL FM FR	Fractures	Fractures are visibly open. Pieces of pipe have not moved	Defined by clock reference position/s. Longitudinal and radiating fractures attract only one clock reference	
H	Holes	Section of pipe fabric is missing	Defined by clock reference location. Normally two clock references	
I	Infiltration	Water is infiltrating the pipe, normally via a joint but could be via another defect	Can be described in Remarks using terms such as Seeper, Dripper and Runner	
JDL	Joint Displaced Large	Pipe has moved at joint, perpendicular to axis of pipe	More than 1.5 times the pipe wall thickness must be visible	

Total Defects for section

DRB Grade for Section



JDM	Joint Displaced Medium	Pipe has moved at joint, perpendicular to axis of pipe	Between 1 and 1.5 times the pipe wall thickness must be visible	
JN	Junction	Lateral pipe was installed at construction	Described by clock reference position and diameter	
JX	Defective Junction	Lateral pipe was installed at construction but is defective in some way	Joint can be defective due to factors including: cracks, fractures, obstruction, position etc	
LD LU LL LR	Line Deviation	LD = Line Down, LU = Line Up, LL = Line Left, LR = Line Right. Not related to CIPP lining.	Additional modifiers are added: Q = Quarter (22.5), H = Half (45), F = Full (90). In degrees.	
LC	Lining Changes	If the drain is lined, the lining material has changed	Position of lining material change	
MC	Material Change	The pipe material has changed	Position of change is noted. Type of material change can be defined	
OB	Obstruction/Obstacle	An obstruction or obstacle is affecting the flow through the pipe	Described in percentage loss of cross-sectional area	
OJL	Open Joint Large	Pipe has moved at joint, along the axis of pipe	More than 1.5 times the pipe wall thickness must be visible	
OJM	Open Joint Medium	Pipe has moved at joint, along the axis of pipe	Between 1 and 1.5 times the pipe wall thickness must be visible	
PC	Pipe Length Changes	Length of individual pipe changes	New length described at this position	

Total Defects for section

DRB Grade for Section



R	Roots	Evidence of root ingress	Roots will normally infiltrate via bad joints, cracks, fractures, breaks etc	
REM	Remark	General remark	Used for additional information	
S	Surface Damage	This might include corrosion, spalling and chemical attack	Position only. Additional information can be added in Remarks	
SA	Survey Abandoned	Used when a survey cannot continue for any reason	The reason for abandoning a survey should be noted in the remarks area	
SC	Shape Changes	Dimension of drain changes	Diameter dimension change recorded. Second dimension is recorded for no circular pipe changes	
SR	Sealing Ring	Sealing ring intrudes into pipe at joint	Described by clock reference position	
V	Vermin	Evidence of Vermin in pipe	Can also be used for evidence within manhole etc	
WL	Water Level	Used to record changes in water level. Always shown at the beginning of every survey, if dry noted as 00.	Described by percentage of height or diameter. Recorded in 5% increments	
XP	Collapsed	Drain is suffering from complete loss of structural integrity. Always followed by SA - Survey Abandoned	Percentage loss of cross-sectional area is recorded. Other related structural defects are not recorded	