

Drainage Report



Prepared For

Metrorod Kent & Sussex
Hall Road
Aylesford
Kent
ME20 7QZ

Site

Kimberly Clark
Northfleet Mill
Gravesend
Kent
DA11 9AD



WILLOW PUMPS

Surveyor: Grant Martin

Jason.Carre@willowpumps.co.uk

01634 201111

Total Defects for Project

Total DRB Grades for Project



A60790 Kimberly Clark Northfleet Mill DA11 9AD - CCTV Survey Report : 28/07/23

Name : WILLOW PUMPS
 Contact : Jason Carre
 Location : Hall Road
 Town : Aylesford
 Region : Kent
 Postcode : ME20 7QZ
 Email : Jason.Carre@willowpumps.co.uk
 Contact Number : 01634 201111
 Surveyor : Grant Martin
 Valid Certification No :

Client Information

Name : Metrorod Kent & Sussex
 Contact :
 Location : Hall Road
 Town : Aylesford
 Region : Kent
 Postcode : ME20 7QZ
 Tel :
 Mobile :
 Email :
 Fax :

Site Information

Name : Kimberly Clark
 Contact :
 Location : Northfleet Mill
 Town : Gravesend
 Region : Kent
 Postcode : DA11 9AD
 Tel :
 Mobile :
 Email :
 Fax :

Total Defects for Project



Total DRB Grades for Project



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/recomendations 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.

Total Defects for Project



Total DRB Grades for Project



Overview

Section: 1 From: MH65 To: MH64	• Survey abandoned @ 15.75m due to concrete in line. • Line believed to be a redundant overflow no longer in use. Capped off with concrete.	DRB Grade: B Pipe Size: 300 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		
Section: 2 From: MH65 To: MH66	• No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 300 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		
Section: 3 From: MH65 To: ACO	• Longitudinal crack at joint observed at 0.00m. • Circumferential crack observed @ 4.67m. • Pipe in extremely poor condition from 5.40m-6.70m with multiple cracks and open fractures observed. Risk of total collapse if line not repaired. • Recommend structural lining of 6.70m 225Ø pipe.	DRB Grade: C Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		
Section: 4 From: MH65 To: G50	• No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 150 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		
Section: 5 From: MH65 To: G49	• No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 150 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		
Section: 6 From: MH32 To: MH33	• No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 375 Material: Polyvinyl Chloride Use: Surface Water
MH		

Total Defects for Project



Total DRB Grades for Project



Section: 7 From: MH33 To: MH34 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 300 Material: Concrete Use: Surface Water
Section: 8 From: MH34 To: MH66 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 300 Material: Concrete Use: Surface Water
Section: 9 From: MH32 To: MH31 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 375 Material: Polyvinyl Chloride Use: Surface Water
Section: 10 From: MH31 To: MH30 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 375 Material: Polyvinyl Chloride Use: Surface Water
Section: 11 From: MH64 To: MH62 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
Section: 12 From: MH62 To: MH61 MH	No structural or operational defects found. Line clear & free flowing.	DRB Grade: A Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
Section: 13 From: MH64 To: MH51 MH	Possible redundant line.	DRB Grade: A Pipe Size: 300 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water

Total Defects for Project

Total DRB Grades for Project



Section: 14 From: MH64 To: MH65	• Survey abandoned @ 10.22m due to rubble/debris. • Line believed to be a redundant overflow no longer in use. Capped off further D/S.	DRB Grade: B Pipe Size: 300 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
MH		

Total Defects for Project



Total DRB Grades for Project



Site: Northfleet Mill, Gravesend

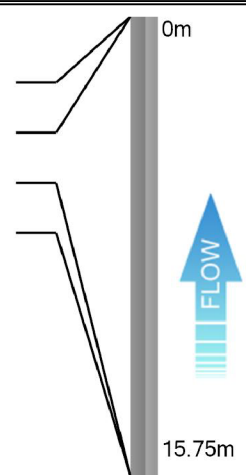
Section 1

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:		
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023		
Start Node Ref:	MH65	Finish Node Ref:	MH64	Direction:	U	Height/Dia:	300
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S	Shape:	C
Start Node Coordinate:		Finish Node Coordinate:		Material:	VC	Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	15.75	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 5%			0:00:00
15.75m	OB	Other obstacles 100%		0_2	0:01:07
15.75m	SA	Survey abandoned		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 MH65	
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	
15.75m	0:01:07	OB	Other obstacles: 100% Cross sectional area loss - Severity 3 Concrete.	Image Provided - Ref: 0_2 
15.75m		SA	Survey abandoned Survey abandoned due to concrete in line.	Image Provided - Ref: 0_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

Section 2

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH65	Finish Node Ref:	MH66	Direction:	D
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	VC
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	7.57	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 0%			0:00:00
07.57m	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 MH65	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
07.57m		MHF	Finish node type, manhole MH66	Image Provided - Ref: 1_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

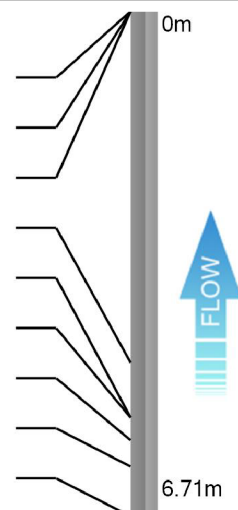
Section 3

Client: Metrorod Kent & Sussex	Location (Street Name): Northfleet Mill	City/Town/Village Gravesend	Cust Job Ref. A60790	Surveyors Name: Grant Martin	Date: 28/07/2023
Start Node Ref: MH65	Finish Node Ref: ACO	Direction: U	Height/Dia: 225		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned Y		

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

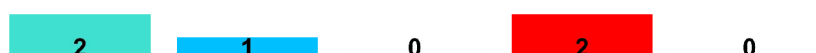
Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	6.71	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
00.00m	CLJ	Crack, longitudinal 05 at joint		2_2	0:00:07	
04.67m	CC	Crack, circumferential 12-12		2_3	0:00:37	
05.40m	CMJ	Cracks, multiple 12-12 at joint		2_4	0:00:43	
05.40m	B	Broken pipe 12-12		2_5	0:00:49	
05.70m	REM	General remark		2_6	0:00:51	
06.05m	B	Broken pipe 12-12		2_7	0:00:57	
06.71m	GYF	Finish node type Gully		2_99		



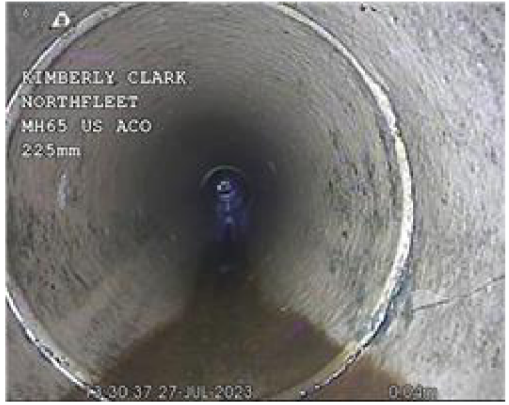
Total Defects for section

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 MH65	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.00m	0:00:07	CLJ	Crack, longitudinal at 05 o'clock at joint - Severity 1	Image Provided - Ref: 2_2 
04.67m	0:00:37	CC	Crack, circumferential from 12 o'clock to 12 o'clock - Severity 1	Image Provided - Ref: 2_3 
05.40m	0:00:43	CMJ	Cracks, multiple from 12 o'clock to 12 o'clock at joint - Severity 2	Image Provided - Ref: 2_4 

Total Defects for section

DRB Grade for Section



Pos	Video Ref	Code	Description	Image
05.40m	0:00:49	B	Broken pipe from 12 o'clock to 12 o'clock - Severity 4	Image Provided - Ref: 2_5
05.70m	0:00:51	REM	General remark Open fracture in crown of pipe.	Image Provided - Ref: 2_6
06.05m	0:00:57	B	Broken pipe from 12 o'clock to 12 o'clock - Severity 4	Image Provided - Ref: 2_7

Total Defects for section

DRB Grade for Section



Pos	Video Ref	Code	Description	Image
06.71m		GYF	Finish node type Gully ACO	Image Provided - Ref: 2_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

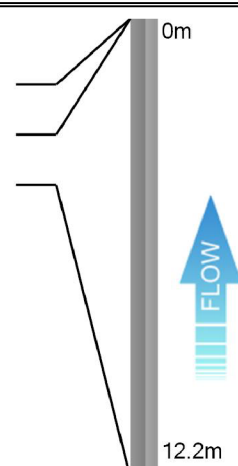
Section 4

Client: Metrorod Kent & Sussex	Location (Street Name): Northfleet Mill	City/Town/Village Gravesend	Cust Job Ref. A60790	Surveyors Name: Grant Martin	Date: 28/07/2023
Start Node Ref: MH65	Finish Node Ref: G50	Direction: U	Height/Dia: 150		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned Y		

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	12.2	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
12.20m	GYF	Finish node type Gully		3_99		



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 4

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH65	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
12.20m		GYF	Finish node type Gully G50	Image Provided - Ref: 3_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

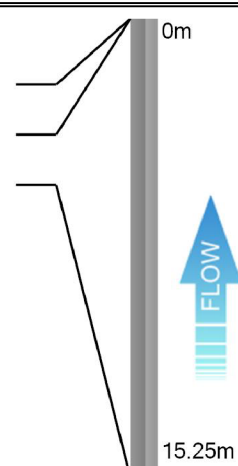
Section 5

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH65	Finish Node Ref:	G49	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	VC
				Cleaned	Y

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			Z	D	N	15.25	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 0%			0:00:00
15.25m	GYF	Finish node type Gully		4_99	



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 5

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH65	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
15.25m		GYF	Finish node type Gully G49	Image Provided - Ref: 4_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

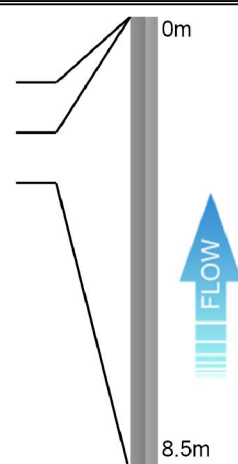
Section 6

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH32	Finish Node Ref:	MH33	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	PVC
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	8.5	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 0%			0:00:00
08.50m	MHF	Finish node type, manhole		5_99	



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 6

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH32	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
08.50m		MHF	Finish node type, manhole MH33	Image Provided - Ref: 5_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

Section 7

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH33	Finish Node Ref:	MH34	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	CO
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	3.55	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole			
00.00m	WL	Water level 0%			0:00:00
03.55m	MHF	Finish node type, manhole		6_99	

Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 7

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH33	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
03.55m		MHF	Finish node type, manhole MH34	Image Provided - Ref: 6_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

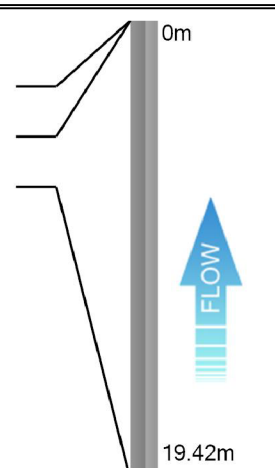
Section 8

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH34	Finish Node Ref:	MH66	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	CO
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	19.42	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
19.42m	MHF	Finish node type, manhole		7_99		



Total Defects for section

DRB Grade for Section

0 0 0 0 0



Descriptive Report with Remarks and Observation Images

Section 8

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH34	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
19.42m		MHF	Finish node type, manhole MH66	Image Provided - Ref: 7_9999 

Total Defects for section

DRB Grade for Section



Site: Northfleet Mill, Gravesend

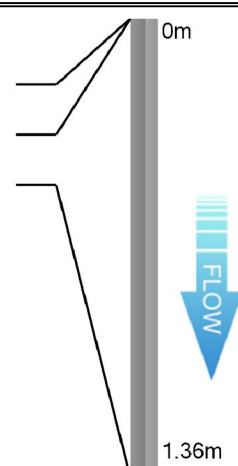
Section 9

Client: Metrorod Kent & Sussex	Location (Street Name): Northfleet Mill	City/Town/Village Gravesend	Cust Job Ref. A60790	Surveyors Name: Grant Martin	Date: 28/07/2023
Start Node Ref: MH32	Finish Node Ref: MH31	Direction: D	Height/Dia: 375		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: PVC	Cleaned Y		

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	1.36	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
01.36m	MHF	Finish node type, manhole		8_99		



Total Defects for section

DRB Grade for Section

0 0 0 0 0



Descriptive Report with Remarks and Observation Images

Section 9

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH32	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
01.36m		MHF	Finish node type, manhole MH31	Image Provided - Ref: 8_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

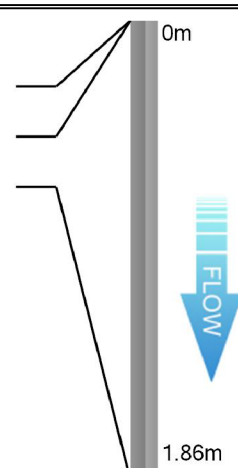
Section 10

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH31	Finish Node Ref:	MH30	Direction:	D
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	PVC
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	1.86	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
01.86m	MHF	Finish node type, manhole		9_99		



Total Defects for section

DRB Grade for Section

0 0 0 0 0



Descriptive Report with Remarks and Observation Images

Section 10

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH31	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
01.86m		MHF	Finish node type, manhole MH30	Image Provided - Ref: 9_9999 

Total Defects for section

DRB Grade for Section



Site: Northfleet Mill, Gravesend

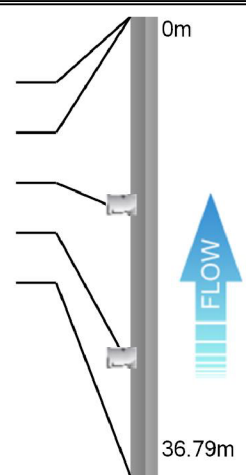
Section 11

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH64	Finish Node Ref:	MH62	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	VC
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	36.79	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 5%			0:00:00	
15.86m	JN	Junction 03 : 150mm Diameter		10_2	0:01:25	
28.11m	JN	Junction 03 : 150mm Diameter		10_3	0:02:22	
36.79m	MHF	Finish node type, manhole		10_9		



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 11

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH64	
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	
15.86m	0:01:25	JN	Junction at 03 o'clock: 150mm Diameter	Image Provided - Ref: 10_2 
28.11m	0:02:22	JN	Junction at 03 o'clock: 150mm Diameter	Image Provided - Ref: 10_3 
36.79m		MHF	Finish node type, manhole MH62	Image Provided - Ref: 10_9999 

Total Defects for section

DRB Grade for Section

0 0 0 0 0



Site: Northfleet Mill, Gravesend

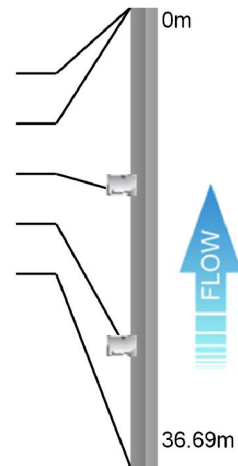
Section 12

Client: Metrorod Kent & Sussex	Location (Street Name): Northfleet Mill	City/Town/Village Gravesend	Cust Job Ref. A60790	Surveyors Name: Grant Martin	Date: 28/07/2023
Start Node Ref: MH62	Finish Node Ref: MH61	Direction: U	Height/Dia: 225		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned Y		

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	36.69	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 5%			0:00:00	
14.97m	JN	Junction 03 : 150mm Diameter		11_2	0:01:17	
27.84m	JN	Junction 03 : 150mm Diameter		11_3	0:02:15	
36.69m	MHF	Finish node type, manhole		11_9		



Total Defects for section

DRB Grade for Section

0 0 0 0 0



Descriptive Report with Remarks and Observation Images

Section 12

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH62	
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	
14.97m	0:01:17	JN	Junction at 03 o'clock: 150mm Diameter	Image Provided - Ref: 11_2 
27.84m	0:02:15	JN	Junction at 03 o'clock: 150mm Diameter	Image Provided - Ref: 11_3 
36.69m		MHF	Finish node type, manhole MH61	Image Provided - Ref: 11_9999 

Total Defects for section

DRB Grade for Section



Site: Northfleet Mill, Gravesend

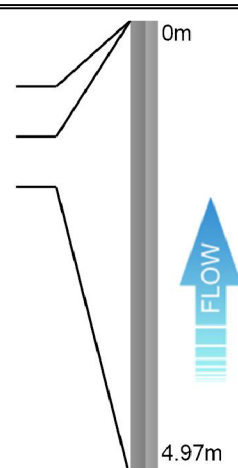
Section 13

Client:	Location (Street Name):	City/Town/Village	Cust Job Ref.	Surveyors Name:	Date:
Metrorod Kent & Sussex	Northfleet Mill	Gravesend	A60790	Grant Martin	28/07/2023
Start Node Ref:	MH64	Finish Node Ref:	MH51	Direction:	U
Start Node Depth:	0.00	Finish Node Depth:	0.00	Use:	S
Start Node Coordinate:		Finish Node Coordinate:		Material:	VC
				Cleaned	Y

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	4.97	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 0%			0:00:00	
04.97m	SA	Survey abandoned		12_9		



Total Defects for section

DRB Grade for Section

0 0 0 0 0



Descriptive Report with Remarks and Observation Images

Section 13

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH64	
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
04.97m		SA	Survey abandoned Possible redundant line.	Image Provided - Ref: 12_9999 

Total Defects for section



DRB Grade for Section



Site: Northfleet Mill, Gravesend

Section 14

Client: Metrorod Kent & Sussex	Location (Street Name): Northfleet Mill	City/Town/Village Gravesend	Cust Job Ref. A60790	Surveyors Name: Grant Martin	Date: 28/07/2023
Start Node Ref: MH64	Finish Node Ref: MH65	Direction: U	Height/Dia: 300		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: VC	Cleaned Y		

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

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	10.22	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole				
00.00m	WL	Water level 10%			0:00:00	
10.22m	DER	Settled deposits coarse 25%		13_2	0:00:51	
10.22m	SA	Survey abandoned		13_9		

Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 14

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH64	
00.00m	0:00:00	WL	Water level: 10% Height/Diameter	
10.22m	0:00:51	DER	Settled deposits coarse: 25% Cross sectional area loss - Severity 3	Image Provided - Ref: 13_2 
10.22m		SA	Survey abandoned Unable to complete survey due to rubble/debris.	Image Provided - Ref: 13_9999 

Total Defects for section



DRB Grade for Section



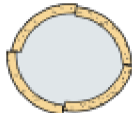
A guide to defects and other observations in drainage systems

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	Winser Trap	WRF
LH	Lamphole	LHF

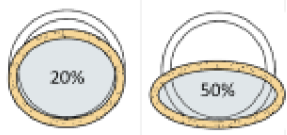
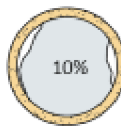
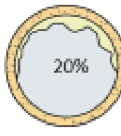
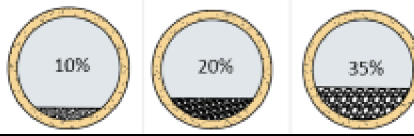
Code	Observation	Description	Attributes	
B	Broken	Pieces pipe have visibly moved	Defined by clock references. Associated with deformity in rigid pipe	
CC CL CM CR	Cracks	Cracks are break lines that are not visibly open	Defined by clock reference position/s. Longitudinal and radiating cracks attract only 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



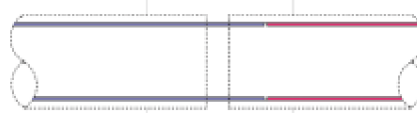
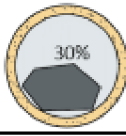
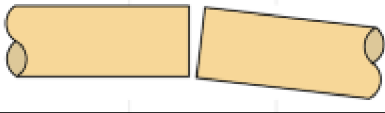
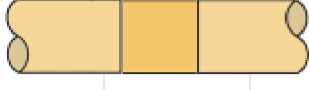
CX(I)	Defective Connection (Intruding)	Defective by intrusion or damage due to factors including: cracks, fractures, obstruction, position etc	Described by clock reference position and diameter (+ % intrusion)	
CU	Loss of Vision	Lens of camera is obscured by debris, water etc. Operator is unable to see 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

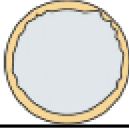
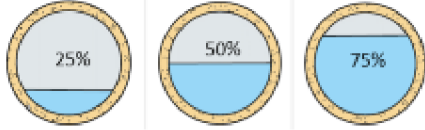


JDM	Joint Displaced Medium	Pipe has moved at joint, perpendicular to axis of pipe	Between 1 and 1.5 times the pipe wall thickness must be visible	
JN	Junction	Lateral pipe was installed at construction	Described by clock reference position and diameter	
JX	Defective Junction	Lateral pipe was installed 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	