## **Drainage Report**

Prepared For

Kennedy Redford Limited 20 Market Street Altrincham UK WA14 1PF



Site

Lon Cae Darbi Caernarfon Wales



SUBSITE SURVEYS Surveyor: Peter Smith

07427401344



Total DRB Grades for Project



## 3220 Gwyneed Skip & plant Hire Drainage AREA 2 - CCTV Survey Report : 02/05/22

Name :	SUBSITE SURVEYS
Contact :	Peter Smith
Location :	Willow House, Low Lane
Town :	Braithwaite
Region :	UK
Postcode :	DN7 5SS
Email :	
Contact Number :	07427401344
Surveyor :	Peter Smith
Valid Certification No :	

### **Client Information**

Name :	Kennedy Redford Limited
Contact :	
Location :	20 Market Street
Town :	Altrincham
Region :	UK
Postcode :	WA14 1PF
Tel :	
Mobile :	
Email :	
Fax :	

## Site Information

Name :	
Contact :	
Location :	Lon Cae Darbi
Town :	Caernarfon
Region :	Wales
Postcode :	
Tel :	
Mobile :	
Email :	
Fax :	

0

**Total Defects for Project** 

2

6

0

## Total DRB Grades for Project 15





## 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.

n

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

Λ

**Total Defects for Project** 

### Total DRB Grades for Project



## **Overview**

Section: 1 From: MH01 To: MH04?	Grade B	DRB Grade: B Pipe Size: 225 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
Section: 2 From: MH01 To:	Grade B	DRB Grade: B Pipe Size: 150 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
Section: 3 From: MH01 To:	Grade A	DRB Grade: A Pipe Size: 150 Material: Vitrified Clay (i.e. all clayware) Use: Surface Water
Section: 4 From: MH02 To: MH03	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 5 From: MH02 To: OSA	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 6 From: MH02 To: RWP	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 7 From: MH03 To: Main	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 8 From: MH03 To:	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water

Total Defects for Project

2

6

0

0

Total DRB Grades for Project 15

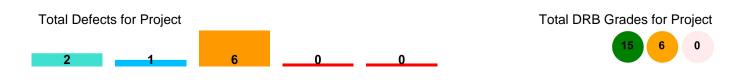
6



Section: 9 From: MH03 To: MH02	Grade B	DRB Grade: B Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 10 From: MH04 To: Broken	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 11 From: MH05 To:	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Surface Water
Section: 12 From: MH05 To:	Grade A	DRB Grade: A Pipe Size: 150 Material: Polyvinyl Chloride Use: Surface Water
Section: 13 From: MH05 To:	Grade B	DRB Grade: B Pipe Size: 150 Material: Polyvinyl Chloride Use: Surface Water
Section: 14 From: MH06 To: MH07	Grade A	DRB Grade: A Pipe Size: 150 Material: Polyvinyl Chloride Use: Foul
Section: 15 From: MH06 To: BD	Grade B	DRB Grade: B Pipe Size: 150 Material: Polyvinyl Chloride Use: Foul
Section: 16 From: MH06 To: BD	Grade A	DRB Grade: A Pipe Size: 150 Material: Polyvinyl Chloride Use: Foul
Section: 17 From: MH07 To: MH08	Grade A	DRB Grade: A Pipe Size: 150 Material: Polyvinyl Chloride Use: Foul
Total Defects for Pr	oject 600	Total DRB Grades for Projec



Section: 18 From: MH07 To: MH06	Grade A	DRB Grade: A Pipe Size: 150 Material: Polyvinyl Chloride Use: Foul
Section: 19 From: MH08 To: OSA	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Foul
	l	
Section: 20 From: MH08 To: MH07	Grade A	DRB Grade: A Pipe Size: 100 Material: Polyvinyl Chloride Use: Foul
Section: 21 From: MH08 To: BD	Grade B	DRB Grade: B Pipe Size: 100 Material: Polyvinyl Chloride Use: Foul



## **Inspection Report**

Page 7

#### Section 1 Site: Lon Cae Darbi, Caernarfon Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Client: 02/05/2022 Kennedy Redford Limited Lon Cae Darbi Caernarfon Peter Smith MH04? Direction: Start Node Ref: MH01 Finish Node Ref: D Height/Dia: 225 Shape: Start Node Depth: 1.55 Finish Node Depth: 0.00 Use: S С Start Node Coordinate: Finish Node Coordinate: Material: VC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good MH Good Good Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D 38.81 А Ν 0m Position Code Description CD Pic Video Ref 00.00m MH 0\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 07.87m CX Defective connection 02 : 100mm Diameter 0 2 0:01:08 08.06m JN Junction 03: 100mm Diameter 0\_3 0:01:12 34.12m WL Water level 5% 0 4 0:03:12 34.33m JN Junction 03: 150mm Diameter 0 5 0:03:13 38.81m MHF Finish node type, manhole 0 99 38.81m

Λ

n

Total Defects for section

n

0

DRB Grade for Section

В





Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH01	Image Provided - Ref: 0_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
07.87m	0:01:08	СХ	Defective connection at 02 o'clock: 100mm Diameter - Severity 3	Image Provided - Ref: 0_2
08.06m	0:01:12	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 0_3
34.12m	0:03:12	WL	Water level: 5% Height/Diameter	Image Provided - Ref: 0_4

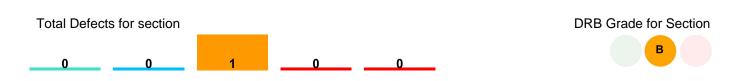
 Total Defects for section
 DRB Grade for Section

 0
 0

 1
 0



Pos	Video Ref	Code	Description	Image
34.33m	0:03:13	JN	Junction at 03 o'clock: 150mm Diameter	Image Provided - Ref: 0_5
38.81m		MHF	Finish node type, manhole MH04? unable to push camera any further due to distance and size of pipe	Image Provided - Ref: 0_9999



## **Inspection Report**

Page 10

**Section 2** 

# Site: Lon Cae Darbi, Caernarfon

	i Ouc	Dui	DI, Cael	man	on									
Clie	ent:		Location (	Street I	Name):	City/T	own/Village	Cust	Job Ref.	Survey	: C	Date:		
Kennedy Re	dford Lim	ited		Cae Da			aernarfon			Pete	02/0	)5/2022		
Start Node R Start Node D Start Node C	Pepth:	9:				ode Ref: ode Depth ode Coord			0.0	Direction: Use: Material:	U S VC	Height/Dia Shape: Cleaned	: 15	
Node Type	Cover	Condi	ition	Benchi	ng Condi	tion	1/2 Channe	l Conditic	n	Node	e Conditio	n Remarks		
MH	G	ood	1		Good	1	Go	od	$\checkmark$					
Drain Type	Lining Ty	ype	Lining Mat.	Yea	r Const.	Weather	Flow Cont.	Length		Gene	eral Rema	rks		
А						D	N	27.88						
Position (	Code D	escr	iption					CD	Pic	Video Ref		0m		
00.00m I	MH S	Start	node type	, mar	hole				1_0					
00.00m	WL V	Vate	r level 0%	6						0:00:00				
24.33m 、	JDM J	oint	displaced	medi	um				1_2	0:02:47	$\neg$			
26.42m 、	JN J	uncti	ion 09:1	00mn	n Diame	eter			1_3	0:03:00	_//		3	
27.15m (	CM C	rack	ks, multiple	ə 12-	12				1_4	0:03:08	_//		FLOW	
27.88m (	GYF F	inish	n node typ	e Gul	ly				1_99		-//			
											Ň			
												27.	88m	
												N N		

Total Defects for section

1

0

1

0

0

DRB Grade for Section

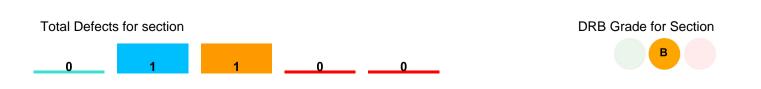
В



## **Descriptive Report with Remarks and Observation Images**

Section 2

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH01	Image Provided - Ref: 1_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
24.33m	0:02:47	JDM	Joint displaced medium - Severity 3	Image Provided - Ref: 1_2
26.42m	0:03:00	Л	Junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 1_3
27.15m	0:03:08	СМ	Cracks, multiple from 12 o'clock to 12 o'clock - Severity 2	Image Provided - Ref: 1_4





Pos	Video Ref	Code	Description	Image
27.88m		GYF	Finish node type Gully	Image Provided - Ref: 1_9999



## **Inspection Report**

Page 13

#### **Section 3** Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Caernarfon Peter Smith 02/05/2022 Direction: Start Node Ref: MH01 Finish Node Ref: U Height/Dia: 150 Use: Start Node Depth: 1.50 Finish Node Depth: 0.42 S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: VC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks MH Good Good Good 1 Drain Type Year Const. Flow Cont. Lining Type Lining Mat. Weather Length General Remarks D 17.78 А Ν 0m **Position Code Description** CD Pic Video Ref 00.00m MH 2\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 17.78m GYF Finish node type Gully 2 99 17.78m

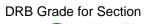
Total Defects for section





## **Descriptive Report with Remarks and Observation Images Section 3** Pos Video Ref Code Description Image Image Provided - Ref: 2\_0 00.00m MH Start node type, manhole **MH01** RH01 USB 1152 150 00.00m 0:00:00 WL Water level: 0% Height/Diameter Image Provided - Ref: 2\_9999 GYF Finish node type Gully 17.78m MH01 USB 1.52 150



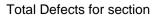


## **Inspection Report**

Page 15

## Site: Lon Cae Darbi, Caernarfon

Cli	ent:		Location	(Street	Name):	City/T	own/Village	Cust	Job Ref.	Surveyo	ors Name	:	Dat	e:
ennedy Re	edford L	imited	Lon	Lon Cae Darbi Caernarfon					Pete	Peter Smith			202	
tart Node F tart Node E				MH02 0.51	Finish No Finish No	ode Ref: ode Depth			MH	03 Direction: 55 Use:	D	-	nt/Dia:	1
tart Node C		ate:		0.01		ode Doptin ode Coord			0.	Material:	PVC			
lode Type	_	er Condi			ing Condit	ion	1/2 Channe		on	Node	e Conditio	n Rem	narks	
MH	In	adequat	e 🗙		Good	<b>√</b>	Go	od I	<b>√</b>					_
ain Type	Lining	Туре	Lining Ma	t. Yea	ar Const.	Weather	Flow Cont.	Length		Gene	ral Rema	rks		
A						D	N	19.95				/	0m	
osition			-					CD	Pic	Video Ref	/		om	
0.00m			node typ		hole				3_0		_/	1		
0.00m			rlevel C		D	1				0:00:00		- 1		
8.26m			ion 03 :							0:01:40	$\neg$			
3.96m			ion 09 : n node ty			eter			3_3 3_99	0:01:43			FLOW	
											<u></u>	19.95	m	



0

DRB Grade for Section





Descrip	otive Repo	ort with R	emarks and Observation I	Images Section 4			
Pos	Video Ref	Code	Description	Image			
00.00m		MH	Start node type, manhole MH02	Image Provided - Ref: 3_0			
00.00m	0:00:00	WL	Water level: 0% Height/Diameter				
18.26m	0:01:40	JN	Junction at 03 o'clock: 100mm	Image Provided - Ref: 3_2			
			Diameter	RHO2 DSX 0.53 100 00:40:24 10.20M 20:04			
18.96m	0:01:43	JN	Junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 3_3			
19.95m		MHF	Finish node type, manhole MH03	Image Provided - Ref: 3_9999			

Total Defects for section

0 0 0 0 0 DRB Grade for Section

1 Cana 10



## **Inspection Report**

Page 17

#### Section 5 Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Peter Smith 02/05/2022 Caernarfon OSA Direction: 100 Start Node Ref: MH02 Finish Node Ref: U Height/Dia: Start Node Depth: 0.44 Finish Node Depth: 0.00 Use: S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Inadequate Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D А Ν 7.49 0m Position Code Description CD Pic Video Ref 00.00m MH 4\_0 Start node type, manhole 00.00m WL 0:00:00 Water level 0% 06.91m LDQ Line of drain/sewer deviates down [quarter] 4 2 0:00:14 4\_99 07.49m MHF Finish node type, manhole 7.49m

Total Defects for section

0

0

0

0

0







## **Descriptive Report with Remarks and Observation Images**

**Section 5** 

Pos	Video Ref	Code	Description	Image
00.00m		МН	Start node type, manhole MH02	Image Provided - Ref: 4_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
06.91m	0:00:14	LDQ	Line of drain/sewer deviates down [quarter]	Image Provided - Ref: 4_2
07.49m		MHF	Finish node type, manhole OSA	Image Provided - Ref: 4_9999



## **Inspection Report**

Page 19

#### **Section 6** Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Caernarfon Peter Smith 02/05/2022 RWP Direction: 100 Start Node Ref: MH02 Finish Node Ref: U Height/Dia: Use: Start Node Depth: 0.50 Finish Node Depth: 0.00 S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Inadequate Drain Type Year Const. Flow Cont. Lining Type Lining Mat. Weather Length General Remarks D А Ν 0 0m **Position Code Description** CD Pic Video Ref 00.00m MH 5\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 5 99 00.00m GYF Finish node type Gully 0m

Total Defects for section

0





Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH02	Image Provided - Ref: 5_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.00m		GYF	Finish node type Gully RWP	Image Provided - Ref: 5_9999

#### • .• . \_ .

Total Defects for section

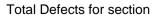
DRB Grade for Section

## **Inspection Report**

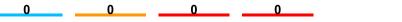
Page 21

## Site: Lon Cae Darbi. Caernarfon

Cli	ent:		Location	(Street	Name).	Citv/T	own/Village	Cust	Job Ref.	Survey	ors Name	; 1	Date:
Kennedy Re		imited		Lon Cae Darbi Caernarfon			Peter Smith			05/2022			
Start Node F			2011		Finish No			1	Ма	in Direction:			
Start Node [						ode Depth				00 Use:	S		
Start Node (	Coordin	ate:		100	Finish No	ode Coord	inate:			Material:	PVC	Cleaned	
Node Type	Cove	er Cond	ition		ng Condit	ion	1/2 Channe		n	Node	e Conditio	n Remarks	
MH		Good	~		Good	$\checkmark$	Goo	bd	<u> </u>				
rain Type	Lining	Туре	Lining Ma	t. Yea	r Const.	Weather	Flow Cont.	Length		Gene	eral Rema	rks	
А						D	N	2.59					
osition	Code	Desci	ription					CD	Pic	Video Ref		0m	n
0.00m			node typ	e mar	hole				6_0		_/	/	
										0.00.00	_/	<b>^</b>	
0.00m			r level 0							0:00:00			
2.59m	MHF	Finisł	n node ty	pe, ma	nhole				6_99		$\neg$		
											\		FLOW
											١		끈
													8
													V
												2.5	59m



0





Descrip	otive Repo	Images Section 7		
Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH03	Image Provided - Ref: 6_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
02.59m		MHF	Finish node type, manhole Main	Image Provided - Ref: 6_9999

#### ..... . -41 \_ . .

## Total Defects for section



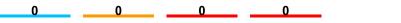
## **Inspection Report**

Page 23

#### **Section 8** Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Caernarfon Peter Smith 02/05/2022 Direction: 100 Start Node Ref: MH03 Finish Node Ref: U Height/Dia: Start Node Depth: 0.30 Finish Node Depth: 0.00 Use: S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Good 1 Drain Type Year Const. Flow Cont. Lining Type Lining Mat. Weather Length General Remarks D А Ν 0.5 0m Position Code Description CD Pic Video Ref 00.00m MH Start node type, manhole 7\_0 00.00m WL 0:00:00 Water level 0% 00.48m CU Loss of vision 0:00:06 00.50m GYF Finish node type Gully 0.5m

Total Defects for section

0

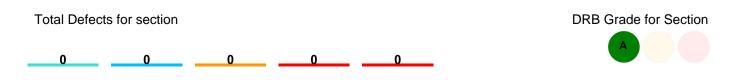




## **Descriptive Report with Remarks and Observation Images**

## **Section 8**

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH03	Image Provided - Ref: 7_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.48m	0:00:06	CU	Loss of vision	
00.50m		GYF	Finish node type Gully	



## **Inspection Report**

Page 25

#### **Section 9** Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Lon Cae Darbi Peter Smith 02/05/2022 Kennedy Redford Limited Caernarfon MH02 Direction: 100 Start Node Ref: MH03 Finish Node Ref: U Height/Dia: Start Node Depth: 0.55 Finish Node Depth: 0.51 Use: S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Good 1 Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D А Ν 9.1 0m Position Code Description CD Pic Video Ref 00.00m MH 8\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 00.57m JN Junction 09: 100mm Diameter 8 2 0:00:06 09.06m OB Other obstacles 100% 8\_3 0:00:34 09.10m MHF Finish node type, manhole 9.1m

n

n

Total Defects for section

0

DRB Grade for Section

В

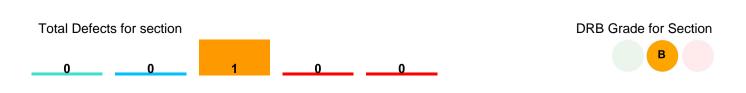




## **Descriptive Report with Remarks and Observation Images**

**Section 9** 

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH03	Image Provided - Ref: 8_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.57m	0:00:06	JN	Junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 8_2
09.06m	0:00:34	OB	Other obstacles: 100% Cross sectional area loss - Severity 3	Image Provided - Ref: 8_3
09.10m		MHF	Finish node type, manhole MH02	



## **Inspection Report**

Page 27

## Site: Lon Cae Darbi, Caernarfon

	ent:		bi, Cae			City/T	own/Village	Cust	Job Ref.	Survey	ors Name:		ate:
Cinical Cinica				Cae Da			Caernarfon				er Smith		ate. 5/2022
			LON						Deal				
Start Node F Start Node D					Finish N Finish N	ode Ref: ode Depth			Broke	en Direction: 00 Use:		Height/Dia: Shape:	10
Start Node C		ate:				ode Coord				Material:		Cleaned	
lode Type	Cove	er Condi	ition	Benchi	ng Condit	ion	1/2 Channe	Conditio	n	Nod	e Condition	Remarks	
MH	Ina	adequat	ie 🗙								Manhole B	roken	
rain Type	Lining	Туре	Lining Ma	t. Yea	r Const.	Weather	Flow Cont.	Length		Gene	eral Remarl	(S	
А						D	N	0					
osition	Code	Descr	ription					CD	Pic	Video Ref		0m	
0.00m	ΜН	Start	node typ	e, mar	hole				9_0				
0.00m			r level C							0:00:00			
					mhala					0.00.00			
J.00m	INITE	FINIS	n node ty	pe, ma	innole								
													≥
													FLOW
												0m	

Total Defects for section

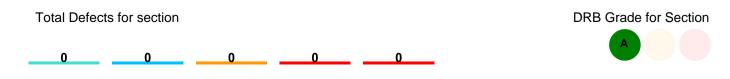




## **Descriptive Report with Remarks and Observation Images**

## Section 10

Pos	Video Ref	Code	Description	Image
00.00m		МН	Start node type, manhole MH04	Image Provided - Ref: 9_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.00m		MHF	Finish node type, manhole Broken	



## Site: Lon Cae Darbi, Caernarfon

						r				-					
CI	ient:		Location (	Street	Name):	City/T	own/Village	Cu	st Job Ref.	S	Surveyo	ors Name: Date:			e:
Kennedy Re	edford L	imited	Lon (	Cae Da	rbi	Ca	ernarfon				Peter	Smith		02/05/2	2022
Start Node I	Ref:	f: MH05 Finish Node Ref:			Dire	ection:	D	Heig	ht/Dia:	100					
Start Node I	Depth:			0.75	Finish N	ode Depth	:		0.0	00 Use	:	s	Shap		С
Start Node	Coordina	ate:			Finish N	ode Coord	inate:			Mat	erial:	PVC	Clea	ned	N
Node Type	Cove	er Cond	lition	Benchi	ng Condit	ion	n 1/2 Channel Condition				Node	Conditio	n Rer	narks	
MH		Good	$\checkmark$		Good	$\checkmark$	Goo	od	$\checkmark$						
Drain Type	Lining	Туре	Lining Mat	. Yea	ır Const.	Weather	Flow Cont. Length				Gener	al Remar	rks		
А						D	N	33							
Position	Code	Desc	ription					CI	D Pic	Video	Ref		Λ	0m	
00.00m	MH	Start	node type	, mar	hole				10_0				/		
00.00m	WL	Wate	er level 09	%						0:00:0	00				
14.39m	JN	Junc	tion 12 : 1	ion 12 : 100mm Diameter 10_2 0:00:29											
30.55m		Line of drain/sewer deviates left [half] 10_3 0:01:19													
30.96m	JN	Junc	ion 02 : 100mm Diameter 10_4 0:01:20												
32.95m	REM	Gene	eral remark 10_5 0:01:33												
33.00m	GYF	Finis	Finish node type Gully												
													A	33m	

Page 29

**Inspection Report** 

Total Defects for section

0

0

DRB Grade for Section



0

\_\_\_\_

0





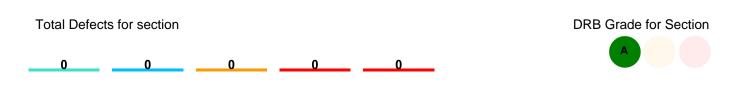
Descriptive Report with Remarks and Observation Images	<b>Descriptive Re</b>	port with Remarks	and Observation	Images
--	-----------------------	-------------------	-----------------	--------

Section 11

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH05	Image Provided - Ref: 10_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
14.39m	0:00:29	JN	Junction at 12 o'clock: 100mm Diameter	Image Provided - Ref: 10_2
30.55m	0:01:19	LLH	Line of drain/sewer deviates left [half]	Image Provided - Ref: 10_3
30.96m	0:01:20	JN	Junction at 02 o'clock: 100mm Diameter	Image Provided - Ref: 10_4



Pos	Video Ref	Code	Description	Image
32.95m	0:01:33	REM	General remark Manhole in side Building	Image Provided - Ref: 10_5
33.00m		GYF	Finish node type Gully	



## **Inspection Report**

Page 32

#### Section 12 Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Caernarfon Peter Smith 02/05/2022 Direction: Start Node Ref: MH05 Finish Node Ref: U Height/Dia: 150 Start Node Depth: 0.75 Finish Node Depth: 0.00 Use: S Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks MH Good Good Good 1 Drain Type Year Const. Weather Flow Cont. Lining Type Lining Mat. Length General Remarks D А Ν 1.14 0m Position Code Description CD Pic Video Ref 00.00m MH 11\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 00.19m JN Junction 03: 100mm Diameter 11 2 0:00:02 01.14m GYF Finish node type Gully 11\_9 1.14m

Total Defects for section







Section 12

Pos	Video Ref	Code	Description	Image			
00.00m		MH	Start node type, manhole MH05	Image Provided - Ref: 11_0			
00.00m	0:00:00	WL	Water level: 0% Height/Diameter				
00.19m	0:00:02	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 11_2			
01.14m		GYF	Finish node type Gully	Image Provided - Ref: 11_9999			



Location (Street Name):

Lon Cae Darbi

Crack, radiates from 12

30.00m GYF Finish node type Gully

## Site: Lon Cae Darbi, Caernarfon

Client:

Kennedy Redford Limited

29.97m CR

Start Node F	Ref:			MH05	Finish N	ode Ref:				Direction:	U	Height/Dia:
Start Node [	Depth:			0.75 Finish Node Depth:					0.0	00 Use:	S	Shape:
Start Node (	Start Node Coordinate:					ode Coord	inate:			Material:	PVC	Cleaned
Node Type	Node Type Cover Condition Benchi				ing Condition 1/2 Channel Condition			on	Node	e Conditio	n Remarks	
MH		Good	1		Good	1	Good		~			
Drain Type	Lining	g Type Lining Mat. Yea			ar Const.	Weather	Flow Cont.	Length		Gene	eral Rema	rks
А						D	N	30				
Position	Code	Desci	ription					CD	Pic	Video Ref		Om Om
00.00m MH Start node type, manhole 12_0								//				
00.00m	.00m WL Water level 0%									0:00:00		
01.92m	01.92m JN Junction 03 : 100mm Diameter									0:00:09	_/	
12.88m JN Junction 03 : 100mm Diameter									12_3	0:00:39		
23.60m	23.60m DES Settled deposits fine 15%									0:01:37	$\neg$	
24.23m	3m LRQ Line of drain/sewer deviates right [quarter]								12_5	0:01:49		

City/Town/Village

Caernarfon

Cust Job Ref.

12 6 0:02:42

12\_9

Total Defects for section

0

0

0

DRB Grade for Section

В

Section 13

30m

Surveyors Name:

Peter Smith

Date:

02/05/2022

Page 34

150

С

Ν

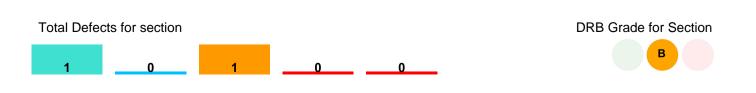




## **Descriptive Report with Remarks and Observation Images**

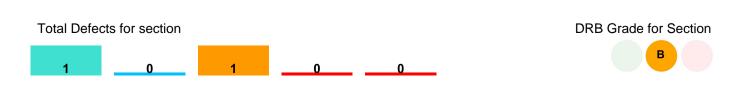
Section 13

Pos	Video Ref	Code	Description	Image		
00.00m		МН	Start node type, manhole MH05	Image Provided - Ref: 12_0		
00.00m	0:00:00	WL	Water level: 0% Height/Diameter			
01.92m	0:00:09	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 12_2		
12.88m	0:00:39	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 12_3		
23.60m	0:01:37	DES	Settled deposits fine: 15% Cross sectional area loss - Severity 3	Image Provided - Ref: 12_4		





Pos	Video Ref	Code	Description	Image
24.23m	0:01:49	LRQ	Line of drain/sewer deviates right [quarter]	Image Provided - Ref: 12_5
29.97m	0:02:42	CR	Crack, radiates from 12 o'clock - Severity 1	Image Provided - Ref: 12_6
30.00m		GYF	Finish node type Gully	Image Provided - Ref: 12_9999



#### **Inspection Report**

Page 37

#### Section 14 Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Peter Smith 02/05/2022 Caernarfon MH07 Direction: Start Node Ref: MH06 Finish Node Ref: D Height/Dia: 150 F Start Node Depth: 0.48 Finish Node Depth: 0.81 Use: Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Good 1 Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D 30.66 А Ν 0m Position Code Description CD Pic Video Ref 00.00m MH 13\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 09.00m JN Junction 12: 100mm Diameter 13 2 0:00:04 30.66m MHF Finish node type, manhole 13\_9 30.66m

## Total Defects for section







Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH06	Image Provided - Ref: 13_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
09.00m	0:00:04	JN	Junction at 12 o'clock: 100mm Diameter	Image Provided - Ref: 13_2
30.66m		MHF	Finish node type, manhole MH07	Image Provided - Ref: 13_9999

#### • .• ... . ... \_ .



#### **Inspection Report**

Page 39

	ent:		Location		,		own/Village	Cust	Job Ref.		ors Name:		ate:
ennedy Re		imited	Lon	Cae Da			ernarfon				r Smith	02/05	
itart Node F				MH06 0.40		ode Ref: ode Depth			BI 0.00			Height/Dia: Shape:	1
itart Node C		ate:		0.40		ode Coord			0.0	Material:		Cleaned	
Node Type	Cove	er Cond	ition	Benchi	ng Condit	ion	1/2 Channe	l Conditio	n	Node	e Condition	Remarks	
MH		Good	1		Good	1	Goo	bd	$\checkmark$				
rain Type	Lining	Туре	Lining Ma	t. Yea	ar Const.	Weather	Flow Cont.	Length		Gene	ral Remark	S	
А						D	N	7.15					
Position	Code	Desci	ription					CD	Pic \	/ideo Ref		0m	
0.00m	ΜН	Start	node typ	e, mar	hole				14_0		_/	·	
0.00m	WL	Wate	r level C	%					(	0:00:00	_/		
4.99m	JN	Junct	tion 03 :	100mr	n Diame	eter			14_2(	0:00:19	$\neg$		
)7.14m	DER	Settle	ed deposi	its coa	rse 100	0%			14_3 (	0:00:33	$\neg$		
)7.15m	MHF	Finisł	n node ty	pe, ma	anhole						_\/		
											//	È	
											//		
												$\mathbb{N}$	
												7.15	m
												\	

0

0

#### Total Defects for section

0

1

0

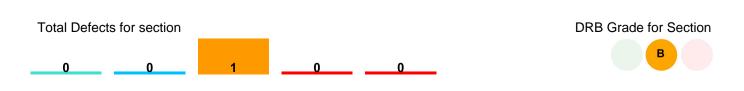
DRB Grade for Section

В



### **Descriptive Report with Remarks and Observation Images**

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH06	Image Provided - Ref: 14_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
04.99m	0:00:19	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 14_2
07.14m	0:00:33	DER	Settled deposits coarse: 100% Cross sectional area loss - Severity 3	Image Provided - Ref: 14_3
07.15m		MHF	Finish node type, manhole BD	



Location (Street Name):

Lon Cae Darbi

#### Site: Lon Cae Darbi, Caernarfon

Client:

Kennedy Redford Limited

Start Node	Ref:			MH06	Finish N	ode Ref:			E	D Direction:	U Heigh	t/Dia:
Start Node	Depth:			0.46	Finish N	ode Depth			0.0	00 Use:	F Shape	э:
Start Node	Coordin	ate:			Finish N	ode Coord	inate:			Material:	PVC Clean	ed
Node Type	Cov	er Cond	ition	Bench	ing Condit	tion	1/2 Channe	l Conditio	n	Node	e Condition Rema	arks
MH		Good	~		Good	1	Go	od	1			
Drain Type	Lining	Туре	Lining Mat	. Yea	ar Const.	Weather	Flow Cont.	Length		Gene	eral Remarks	
A						D	N	12.15				
Position	Code	Desci	ription					CD	Pic	Video Ref		0m
00.00m	MH	Start	node type	e, mar	nhole				15_0		-/19	
00.00m	WL	Wate	r level 0	%						0:00:00	_///	
00.00m	LLQ	Line	of drain/se	ewer o	deviates	left [qua	rter]			0:00:01	_/	
01.92m	JN	Junct	tion 03 : <sup>-</sup>	100mr	n Diame	eter			15_3	0:00:05		3
07.06m	JN	Junct	Junction 09 : 100mm Diameter         15_4 0:00:14									
09.05m	JN	Junct	Junction 09 : 100mm Diameter 15_5 0:00:19									
12.14m	LUF	Line	Line of drain/sewer deviates up [full] 15_6 0:00:25									
12.15m	MHF	Finisł	n node typ	be, ma	anhole							12.15

City/Town/Village

Caernarfon

Cust Job Ref.

#### Section 16

Surveyors Name:

Peter Smith

Date:

02/05/2022

12.15m

Page 41

150 С

Ν

**Inspection Report** 

Total Defects for section

DRB Grade for Section



0 0 0 0 0





### **Descriptive Report with Remarks and Observation Images**

Section 16

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH06	Image Provided - Ref: 15_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
00.00m	0:00:01	LLQ	Line of drain/sewer deviates left [quarter]	
01.92m	0:00:05	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 15_3
07.06m	0:00:14	JN	Junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 15_4
09.05m	0:00:19	JN	Junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 15_5

0

0

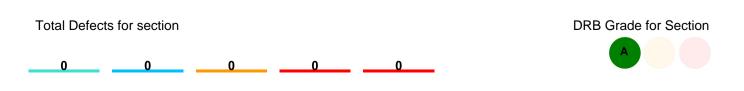
0

0

0



Pos	Video Ref	Code	Description	Image
12.14m	0:00:25	LUF	Line of drain/sewer deviates up	Image Provided - Ref: 15_6
			[full]	THOS USB 0.43 150
				market and an and an
12.15m		MHF	Finish node type, manhole BD	



#### **Inspection Report**

Page 44

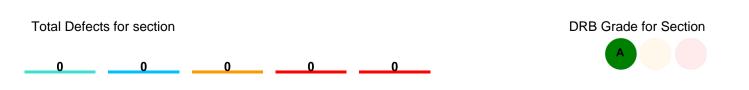
#### Section 17 Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Peter Smith 02/05/2022 Caernarfon MH08 Direction: Start Node Ref: MH07 Finish Node Ref: D Height/Dia: 150 2.26 F Start Node Depth: 0.82 Finish Node Depth: Use: Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Good Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D 45.15 А Ν 0m Position Code Description CD Pic Video Ref 00.00m MH 16\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 22.62m JN Junction 03: 100mm Diameter 16 2 0:00:52 16\_9 45.15m MHF Finish node type, manhole 45.15m

Total Defects for section





Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH07	Image Provided - Ref: 16_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
22.62m	0:00:52	JN	Junction at 03 o'clock: 100mm Diameter	Image Provided - Ref: 16_2
45.15m		MHF	Finish node type, manhole MH08	Image Provided - Ref: 16_9999



#### **Inspection Report**

Page 46

CI	ient:		Location	(Street	Name):	City/T	own/Village	Cust	Job Ref.	Survey	ors Name:		Date:
Kennedy Re		imited		Cae Da			ernarfon				r Smith		/05/202
Start Node		1		MH07					MHO		U		
Start Node				0.81		ode Depth	:		0.48		F	Shape:	
Start Node	Coordin	ate:			Finish No	ode Coord	inate:			Material:	PVC	Cleaned	
Node Type	Cove	er Cond	ition	Bench	ing Condit	ion	1/2 Channe	l Conditio	on	Node	e Conditio	n Remarks	6
MH		Good	<u> </u>		Good	✓	Go	od	$\checkmark$				
rain Type	Lining	Туре	Lining Ma	at. Yea	ar Const.	Weather	Flow Cont.	Length		Gene	ral Remar	rks	
А						D	N	30.54					
Position	Code	Desci	ription					CD	Pic V	/ideo Ref		Or	n
0.00m	MH	Start	node typ	e, mar	nhole				17_0				
0.00m	WL	Wate	r level (	)%					C	):00:00			
7.72m	JN	Junct	tion 01 :	100mr	n Diame	eter			17_2 0	):00:36	$\neg$		
0.54m	MHF	Finisł	h node ty	pe, ma	anhole				17_9		_/		2
											//	1	FLOW
											\		Ē
												\ 30	).54m
												N .	

## Total Defects for section

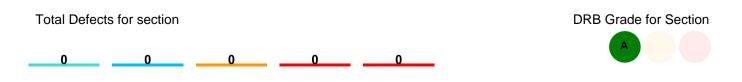






### **Descriptive Report with Remarks and Observation Images**

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH07	Image Provided - Ref: 17_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
27.72m	0:00:36	JN	Junction at 01 o'clock: 100mm Diameter	Image Provided - Ref: 17_2
30.54m		MHF	Finish node type, manhole MH06	Image Provided - Ref: 17_9999



#### **Inspection Report**

Page 48

Site: Lo	n Ca	e Dar	bi, Cae	ernarf	on						5	Section 1
Cli	ent:		Location	(Street	Name):	City/T	own/Village	Cust	Job Ref.	Survey	ors Name:	Date:
Kennedy Re	dford Li	imited	Lon	Cae Da	rbi	Ca	ernarfon			Pete	er Smith	02/05/2022
Start Node F					Finish N				OSA			ght/Dia: 10
Start Node D Start Node C		ate:		2.30		ode Depth ode Coord			0.00	Use: Material:		ape: aned
Node Type	Cove	er Cond			ng Condit	ion	1/2 Channe		'n	Node	e Condition Re	emarks
MH		Good	~		Good	<ul> <li>✓</li> </ul>	Go	od	$\checkmark$			
Drain Type	Lining	Туре	Lining Ma	it. Yea	r Const.	Weather	Flow Cont.	Ŭ		Gene	eral Remarks	
A						D	N	25.55				
Position	Code	Desci	ription					CD	Pic V	/ideo Ref	Λ	0m
00.00m	MH	Start	node typ	e, mar	hole				18_0		_/	
00.00m	WL	Wate	r level C	)%					C	):00:00	/	
3.75m	CL	Crack	k, longitu	dinal (	)9				18_2 0	):00:45	$\overline{}$	
25.55m	MHF	Finisł	n node ty	pe, ma	nhole				18_9		$\neg \setminus$	FLOW
												25.55m

Total Defects for section

0

0

0

0

\_

1

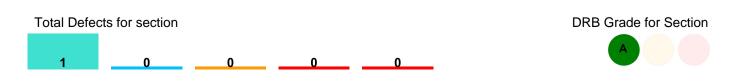






#### **Descriptive Report with Remarks and Observation Images**

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH08	Image Provided - Ref: 18_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
13.75m	0:00:45	CL	Crack, longitudinal at 09 o'clock - Severity 1	Image Provided - Ref: 18_2
25.55m		MHF	Finish node type, manhole OSA	Image Provided - Ref: 18_9999



#### **Inspection Report**

Page 50

#### Section 20 Site: Lon Cae Darbi, Caernarfon Client: Location (Street Name): City/Town/Village Cust Job Ref. Surveyors Name: Date: Kennedy Redford Limited Lon Cae Darbi Peter Smith 02/05/2022 Caernarfon MH07 Direction: 100 Start Node Ref: MH08 Finish Node Ref: U Height/Dia: 0.82 Start Node Depth: 2.26 Finish Node Depth: Use: F Shape: С Start Node Coordinate: Finish Node Coordinate: Material: PVC Cleaned Ν Node Type **Cover Condition Benching Condition** 1/2 Channel Condition Node Condition Remarks Good Good MH Good 1 Year Const. Flow Cont. Drain Type Lining Type Lining Mat. Weather Length General Remarks D 11.9 А Ν 0m **Position Code Description** CD Pic Video Ref 00.00m MH 19\_0 Start node type, manhole 00.00m WL Water level 0% 0:00:00 19 9 11.90m MHF Finish node type, manhole 11.9m

Total Defects for section

0

0

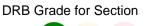
0





### **Descriptive Report with Remarks and Observation Images**

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH08	Image Provided - Ref: 19_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
11.90m		MHF	Finish node type, manhole MH07 Camera got stuck for some reason unable to push further	Image Provided - Ref: 19_9999



#### **Inspection Report**

Page 52

Client: Kennedy Redford Limited			Location (Street Name):			City/Town/Village Cust Caernarfon		Cust	Cust Job Ref. Su	-	Surveyors Name:	
			Lon Cae Darbi						Pete	r Smith	02/05/20	
Start Node I				MH08					В			ght/Dia:
Start Node I Start Node (		ate:		0.44		ode Depth ode Coord			0.0	0 Use: Material:	F Sha PVC Clea	pe: aned
Node Type	Cove	er Cond	lition	Benchi	ing Condit	ion	1/2 Channe	Conditio	n	Node	e Condition Rei	
MH		Good	1		Good	1	Goo	bd	1			
Drain Type	Lining	Туре	Lining Ma	t. Yea	ar Const.	Weather	Flow Cont.	Length		Gene	ral Remarks	
А						D	N	16.14				
Position	Code	Desc	ription					CD	Pic	Video Ref	Λ	0m
00.00m	ΜН	Start	node typ	e, mar	nhole				20_0		_//	
00.00m	WL	Wate	er level C	)%						0:00:00		
16.14m	OB	Othe	r obstacle	es 10	0%				20_2	0:00:35	$\neg$	
16.14m	MHF	Finisl	h node ty	pe, ma	anhole						_/	
												FLOW
											$\mathbb{N}$	
											N	
											N	
											N	
											\	16.14m
											1	

0

0

Total Defects for section

0

1

0

DRB Grade for Section

В



Descri	mages Section 21			
Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH08	Image Provided - Ref: 20_0
00.00m	0:00:00	WL	Water level: 0% Height/Diameter	
16.14m	0:00:35	OB	Other obstacles: 100% Cross sectional area loss - Severity 3 Bloocked	Image Provided - Ref: 20_2
16.14m		MHF	Finish node type, manhole BD	



#### Denert .:46 oowettee Imeese \_



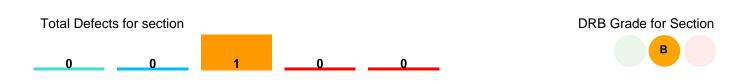
#### A guide to defects and other observations in drainage systems

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				
С	Combined				
F	Foul				
S	Surface Water				
Т	Trade Effulent				
W	Culverted Watercourse				
Z	Other				
Common Materials					
Code	Description				
VC	Vitrified Clay				
PVC	Polyvinyl Chloride				
СО	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
СР	Cacth Pit	CPF
OC	Other Special Chamber	OCF
OF	Outfall	OFF
OS	Oil Seperator	OSF
WR	Major Connection without mh	WRF
LH	Lamphole	LHF

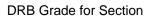
Code	Observation	Description	Attributes	
в	Broken	Pieces pipe have visibly moved	Defined by clock references. Associated with deformity in rigid pipe	$\bigcirc$
CC CL CM CR	Cracks	Cracks are break lines that are not visibly open	Defined by clock reference position/s. Longitudinal and radiating cracks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





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 wate	
D	Deformed	Pipe has lost its structure	Described by percentage loss of height or width. Recorded in 5% increments	20%
DEE	Deposits Encrustation	Eg. Attached scale deposits evident	Described by clock referenced position and percentage loss of cross- sectional area (5% increments)	10%
DEG	Deposits Grease	Attached grease deposits evident	Described by clock referenced position and percentage loss of cross- sectional area (5% increments)	20%
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.	10% 20% 35%
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	
н	Holes	Section of pipe fabric is missing	Defined by clock reference location. Normally two clock references	<b>NA</b>
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	



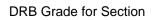


В



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	$\mathcal{C}$
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	<b>S</b>
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	
МС	Material Change	The pipe material has changed	Position of change is noted. Type of material change can be defined	8
ОВ	Obstruction/Ob stacle	An obstruction or obstacle is affecting the flow through the pipe	Described in percentage loss of cross-sectional area	30%
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	8
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	8
PC	Pipe Length Changes	Length of individual pipe changes	New length described at this position	8





В



Page 57

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	25% 50% 75%
ХР	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	80%



