

Attachment H.1 Raw Materials, Intermediates and Product Handling

Diesel for the back-up generator is stored in an above ground bunded 2,500 litre tank at the eastern side of the Materials Recovery building. The bund is subject to routine integrity testing, as required by the Licence conditions and is structurally sound. The most recent testing was carried out in 2016.

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GRADE 3,4 & 5 Summary

STRUCTURAL DEFECTS

Structural defects			
Section	PLR	Grade	Fault description
19	S16A X	5	Open joint, 5mm of diameter
20	S14 X	3	Fracture, circumferential, from 2 to 10 o'clock

Grade 3: Best practice suggests consideration be given to repair in the medium term

Grade 4: Best practice suggests consideration be given to a repair to avoid potential collapse

Grade 5: Best practice suggests this pipe is at risk of collapse at any time; urgent consideration should be given to a repair to avoid collapse

SERVICE / OPERATIONAL DEFECTS

Service defects			
Section	PLR	Grade	Fault description
1	S19 X	5	Multiple defects at 22.9m
2	S19 X	5	Multiple defects at 23.0m
10	S7 X	3	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15
11	S8 X	4	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40
12	S8 X	4	Multiple defects at 43.4m
13	S9 X	4	Connection intruding, at 11 o'clock, diameter 150mm, intrusion 30
14	S10 X	4	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30
15	S14 X	4	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30
19	S16A X	3	Multiple defects at 12.3m
20	S14 X	4	Multiple defects at 36.3m
21	FA1.00 X	3	Settled deposits, fine, 10% cross-sectional area loss

Grade 3: Best practice suggests consideration be given to maintenance activities in the medium term

Grade 4: Best practice suggests consideration be given to maintenance activity to avoid potential blockage

Grade 5: Best practice suggests this pipe is at immediate risk of backing up / causing flooding

Abandoned Surveys

Camera no access		
Section	PLR	Fault description
1	S19 X	Settled deposits, hard or compacted, 95% cross-sectional area loss
2	S19 X	Settled deposits, hard or compacted, 90% cross-sectional area loss
9	S3 X	Water level, 40% of the vertical dimension
10	S7 X	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20
11	S8 X	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40
12	S8 X	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40
15	S14 X	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30
20	S14 X	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40
21	FA1.00 X	Water level, 40% of the vertical dimension

Information

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Service / Operational Defects (SRM 4)

Project name : 126-22855 Greenstar, Ballycoolin 27-	Project Number :	Contact :	Date : 06/05/2016
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No.	PLR	Dir.	Use	Shape / Size	Date	Mat.	Total Length	Insp. Length	Peak HWG	Peak Score	Grade	Mean Score	Total Score
1	S19X	U	S	C 225	27/04/2016	CO	22.93	21.73	2	10	5	0.44	10
2	S19X	U	S	C 225	27/04/2016	CO	44.00	21.86	3	10	5	0.56	13
3	S20X	D	S	C 225	27/04/2016	CO	19.85	18.65	-	0	1	0	0
4	S21X	D	S	C 300	27/04/2016	CO	34.42	33.22	-	0	1	0	0
5	S1AX	U	S	C 225	27/04/2016	PVC	19.17	17.97	-	0	1	0	0
6	S1X	D	S	C 225	27/04/2016	PVC	53.25	52.05	-	0	1	0	0
7	S2X	U	S	C 300	27/04/2016	CO	49.13	47.93	-	0	1	0	0
8	S3AX	U	S	C 225	27/04/2016	CO	16.22	15.02	-	0	1	0	0
9	S3X	D	S	C 300	27/04/2016	CO	8.00	4.49	-	0	1	0	0
10	S7X	U	S	C 225	27/04/2016	CO	47.00	44.24	-	2	3	0.22	10
11	S8X	D	S	C 225	27/04/2016	CO	47.00	10.49	-	5	4	0.63	7
12	S8X	U	S	C 225	27/04/2016	CO	55.00	42.29	-	5	4	0.3	13
13	S9X	D	S	C 300	27/04/2016	CO	34.02	32.82	-	5	4	0.15	5
14	S10X	D	S	C 300	27/04/2016	CO	34.45	33.25	-	5	4	0.26	9
15	S14X	U	S	C 225	27/04/2016	CO	35.00	5.99	-	5	4	0.75	5
16	S15X	D	S	C 225	27/04/2016	CO	35.58	34.38	-	0	1	0	0
17	S17X	D	S	C 225	28/04/2016	PVC	21.77	20.57	-	0	1	0	0
18	S16X	U	S	C 225	28/04/2016	PVC	24.57	23.37	-	0	1	0	0
19	S16AX	D	S	C 225	28/04/2016	CO	16.19	14.99	-	2	3	0.25	4
20	S14X	D	S	C 225	28/04/2016	CO	50.00	35.17	-	5	4	0.3	11
21	FA1.00X	D	C	C 225	28/04/2016	CO	35.00	17.95	3	2	3	0.11	2
22	X		C	C 225	06/05/2016	CO	0.00	0.00	-				

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Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 1	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Verge S20 (U/S) S19	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S19 S20
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 22.93 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Concrete	

Comment :

1:195	Position	Code	Observation	Photo	Grade
	S20				
	1.20	MH	Start node type, manhole, reference number S20		0
	1.20	WL	Water level, 10% of the vertical dimension		0
	5.77	WL	Water level, 5% of the vertical dimension		0
	22.93	DEC	Settled deposits, hard or compacted, 95% cross-sectional area loss Remarks: Concrete	2_4A	5
	22.93	SA	Survey abandoned Remarks: due to concrete in line		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	10	0.44	10	5

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 1	PLR Suffix : X
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Photo: 3_3_6_A.JPG
 22.93m, Settled deposits, hard or compacted, 95%
 cross-sectional area loss Remarks: Concrete

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Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 2	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Verge S20 (U/S) S19	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S19 S20
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 44.00 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Concrete	

Comment :

1:195	Position	Code	Observation	Photo	Grade
	S20				
	1.20	MH	Start node type, manhole, reference number S20		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	2.95	DES	Settled deposits, fine, 5% cross-sectional area loss		2
	10.13	DES	Settled deposits, fine, 10% cross-sectional area loss		3
	23.06	DEC	Settled deposits, hard or compacted, 90% cross-sectional area loss Remarks: Concrete	2_5A	5
	23.06	SA	Survey abandoned Remarks: Due to concrete		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	3	10	0.56	13	5

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 2	PLR Suffix : X
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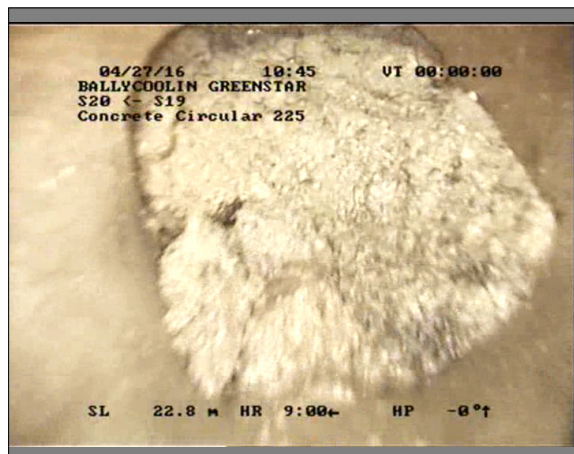


Photo: 4_4_12_A.jpg
 23.06m, Settled deposits, hard or compacted, 90% cross-sectional area loss
 Remarks: Concrete

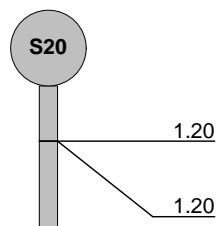
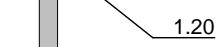
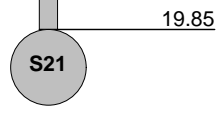
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Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 3	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Verge S20 (D/S) S21	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S20 S21
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 19.85 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Concrete	

Comment :

1:165	Position	Code	Observation	Photo	Grade
		MH	Start node type, manhole, reference number: S20		0
		WL	Water level, 5% of the vertical dimension		0
		MHF	Finish node type, manhole reference number: S21		0

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STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 4	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Verge S21 (D/S) S22	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S21 S22
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 34.42 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 300 mm Concrete	

Comment :

1:285	Position	Code	Observation	Photo	Grade
	S21				
	1.20	MH	Start node type, manhole, reference number : S21		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	13.87	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	14.60	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	34.42	MHF	Finish node type, manhole reference number: S22		0
	S22				

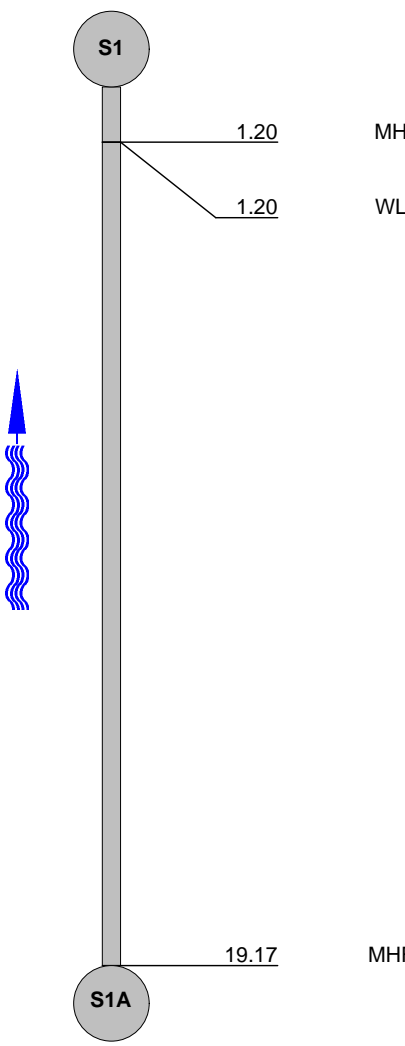
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 5	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S1 (U/S) S1A	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S1A S1
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 19.17 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Polyvinyl chloride	

Comment :

1:165	Position	Code	Observation	Photo	Grade
					
	1.20	MH	Start node type, manhole, reference number: S1		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	19.17	MHF	Finish node type, manhole reference number: S1A		0

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

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 6	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S1 (D/S) S2	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S1 S2
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 53.25 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Polyvinyl chloride	

Comment :

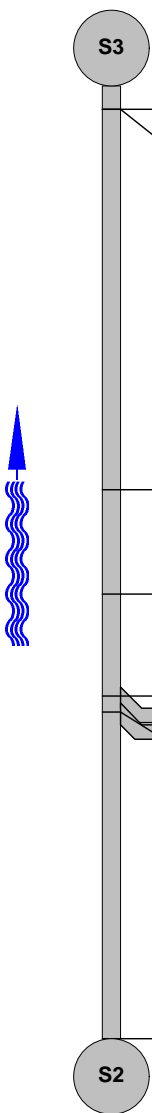
1:420	Position	Code	Observation	Photo	Grade				
									
	1.20	MH	Start node type, manhole, reference number : S1		0				
	1.20	WL	Water level, 5% of the vertical dimension		0				
	25.69	JN	Junction, at 3 o'clock, diameter 225mm		0				
	26.41	JN	Junction, at 3 o'clock, diameter 225mm		0				
	40.05	JN	Junction, at 3 o'clock, diameter 225mm		0				
	40.89	JN	Junction, at 3 o'clock, diameter 225mm		0				
	53.25	MHF	Finish node type, manhole reference number: S2		0				
									
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 7	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S3 (U/S) S2	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	S2 S3
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 49.13 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 300 mm Concrete	

Comment :

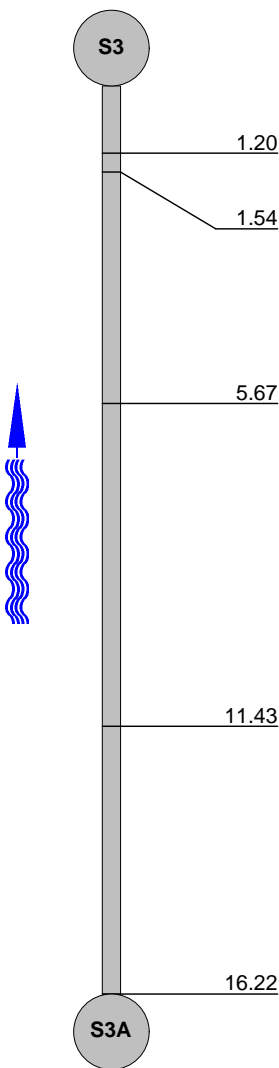
1:390	Position	Code	Observation	Photo	Grade				
									
	1.20	MH	Start node type, manhole, reference number : S3		0				
	1.20	WL	Water level, 5% of the vertical dimension		0				
	20.82	WL	Water level, 10% of the vertical dimension		0				
	26.19	WL	Water level, 5% of the vertical dimension		0				
	31.46	CN	Connection other than junction, at 9 o'clock, diameter 225mm		0				
	32.30	CN	Connection other than junction, at 9 o'clock, diameter 225mm		0				
	49.13	MHF	Finish node type, manhole reference number: S2		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 8	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S3 (U/S) S3A	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S3A S3
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 16.22 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Concrete	

Comment :

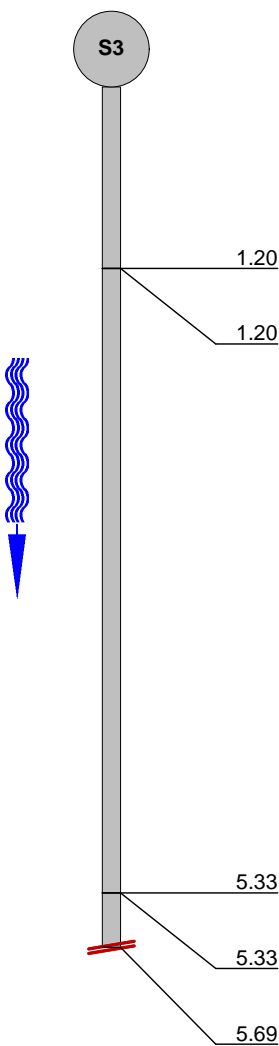
1:135	Position	Code	Observation	Photo	Grade
					
	1.20	MH	Start node type, manhole, reference number : S3		0
	1.54	WL	Water level, 5% of the vertical dimension		0
	5.67	WL	Water level, 10% of the vertical dimension		0
	11.43	WL	Water level, 5% of the vertical dimension		0
	16.22	MHF	Finish node type, manhole reference number: S3A		0

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 9	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S3 (D/S) INT	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S3 INT
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 8.00 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 300 mm Concrete	

Comment :

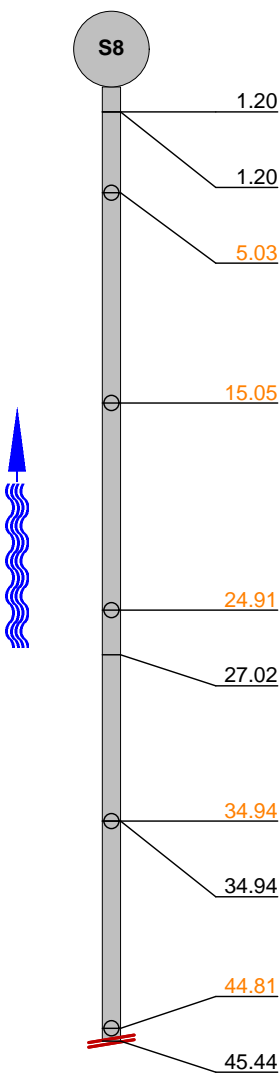
1:50	Position	Code	Observation	Photo	Grade				
									
	1.20	MH	Start node type, manhole, reference number : S3		0				
	1.20	WL	Water level, 20% of the vertical dimension		0				
	5.33	MC	Material changes, polyvinyl chloride		0				
	5.33	WL	Water level, 40% of the vertical dimension		0				
	5.69	SA	Survey abandoned Remarks: EXCESS WATER LEVEL		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 27/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 10	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S8 (U/S) S7	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	S7 S8
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 47.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete	

Comment :

1:360	Position	Code	Observation	Photo	Grade				
		MH	Start node type, manhole, reference number : S8		0				
	1.20	WL	Water level, 10% of the vertical dimension		0				
	5.03	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	12_3A	3				
	15.05	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%	12_4A	3				
	24.91	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	12_5A	3				
	27.02	WL	Water level, 5% of the vertical dimension		0				
	34.94	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%	12_7A	3				
	34.94	WL	Water level, 10% of the vertical dimension		0				
	44.81	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%	12_9A	3				
	45.44	SA	Survey abandoned Remarks: UNABLE TO PASS INTRUDING CONNECTION		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	5	2	0.22	10	3

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 10	PLR Suffix : X
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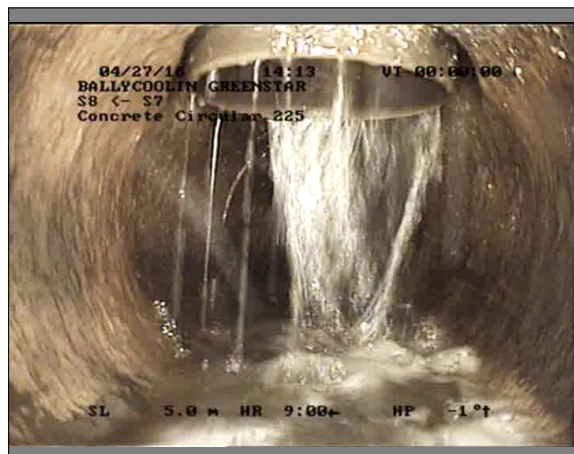


Photo: 13_13_55_A.JPG
 5.03m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%

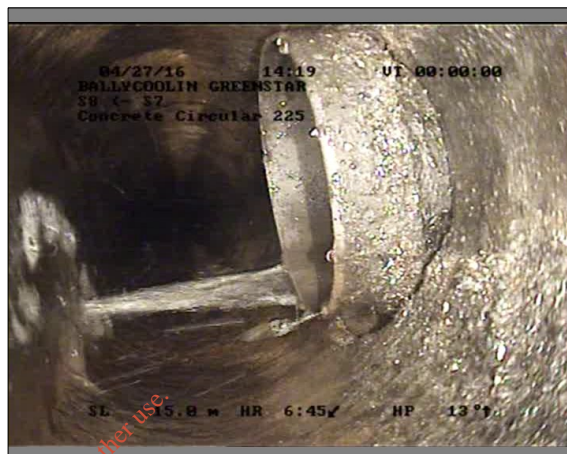


Photo: 13_13_56_A.JPG
 15.05m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%

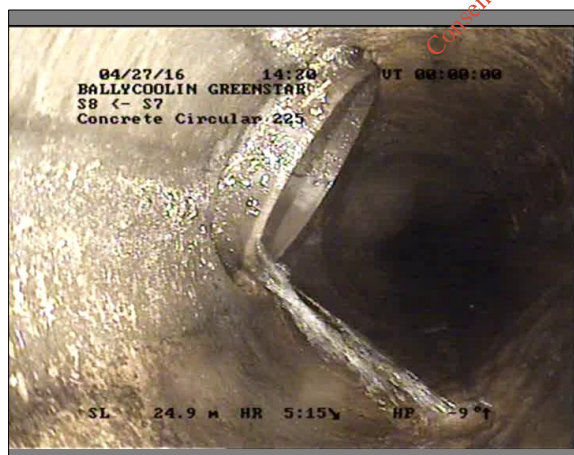


Photo: 13_13_57_A.JPG
 24.91m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%



Photo: 13_13_59_A.JPG
 34.94m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 10	PLR Suffix : X
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Photo: 13_13_61_A.JPG
 44.81m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%

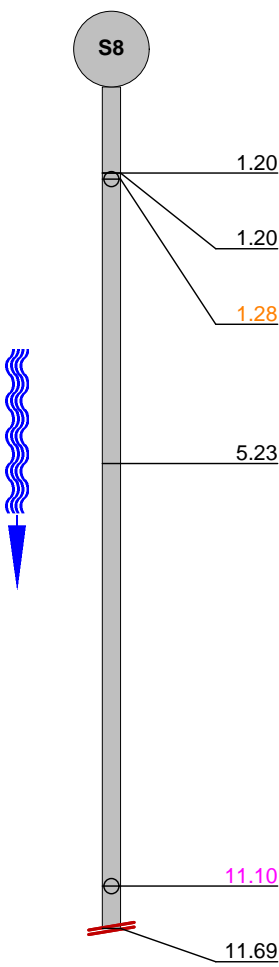
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Inspection report

Date : 27/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 11	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S8 (D/S) S9	Location details: Catchment: Tape number : Pipe Length	U/S MH : S8 U/S Depth : D/S MH : S9 D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 47.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:105	Position	Code	Observation	Photo	Grade				
									
	1.20	MH	Start node type, manhole, reference number : S8		0				
	1.20	WL	Water level, 5% of the vertical dimension		0				
	1.28	CXI	Connection intruding at 2 o'clock, diameter 150mm, intrusion 20%	13_3A	3				
	5.23	WL	Water level, 10% of the vertical dimension		0				
	11.10	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40%	13_5A	4				
	11.69	SA	Survey abandoned Remarks: UNABLE TO PASS INTRUDING CONNECTION		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	2	5	0.63	7	4

Inspection pictures

Place :
BALLYCOOLINRoad :
GREENSTARDate :
27/04/2016Section number :
11PLR Suffix :
X

Photo: 14_14_65_A.JPG
1.28m, Connection intruding, at 12 o'clock, diameter 150mm,
intrusion 20%

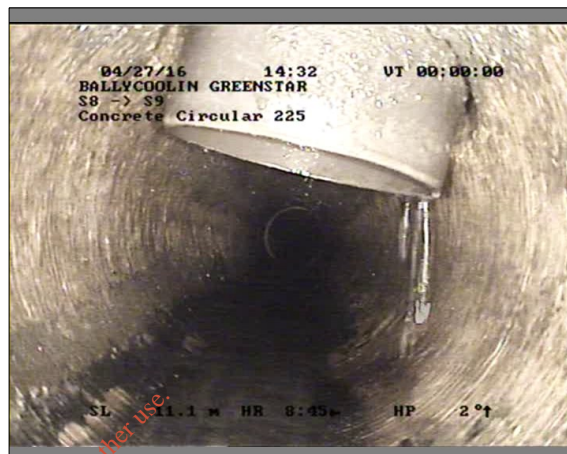


Photo: 14_14_67_A.JPG
1.1m, Connection intruding, at 12 o'clock, diameter 150mm,
intrusion 40%

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Inspection report

Date : 27/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 12	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S9 (U/S) S8	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	S8 S9
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 55.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete	

Comment :

1:345	Position	Code	Observation	Photo	Grade
	1.20	MH	Start node type, manhole, reference number : S9		0
	1.20	WL	Water level, 10% of the vertical dimension		0
	1.20	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	14_3A	3
	10.07	WL	Water level, 5% of the vertical dimension		0
	11.26	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	14_5A	3
	23.58	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	14_6A	3
	31.40	WL	Water level, 10% of the vertical dimension		0
	33.55	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	14_8A	3
	34.91	WL	Water level, 5% of the vertical dimension		0
	43.49	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40%	14_10A	4
	43.49	SA	Survey abandoned Remarks: REMAINDER OF PIPE SURVEYED		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	5	5	0.3	13	4

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 12	PLR Suffix : X
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Photo: 15_15_71_A.JPG
 1.2m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%



Photo: 15_15_73_A.JPG
 11.2m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%



Photo: 15_15_74_A.JPG
 23.5m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%



Photo: 15_15_76_A.JPG
 33.5m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 12	PLR Suffix : X
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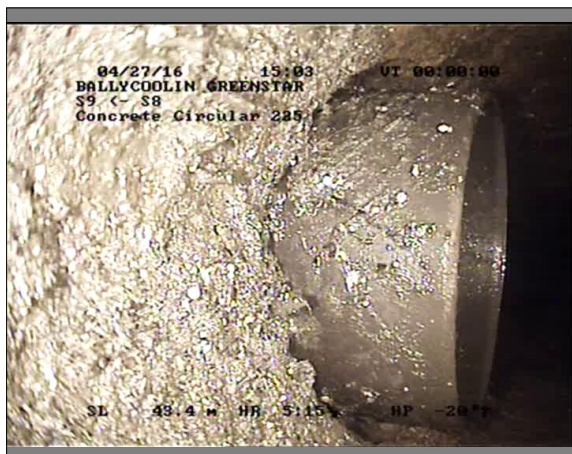


Photo: 15_15_78_A.JPG
 43.49m, Connection intruding, at 12 o'clock, diameter 150mm,
 intrusion 40%

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Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 13	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S9 (D/S) S10	Location details: Catchment: Tape number : Pipe Length	U/S MH : S9 U/S Depth : D/S MH : S10 D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 34.02 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 300 mm Concrete

Comment :

1:270	Position	Code	Observation	Photo	Grade
	S9				
	1.20	MH	Start node type, manhole, reference number :S9		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	8.76	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	23.52	CXI	Connection intruding, at 11 o'clock, diameter 150mm, intrusion 30%	15_4A	4
	34.02	MHF	Finish node type, manhole reference number: S10		0
	S10				

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	5	0.15	5	4

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 13	PLR Suffix : X
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Photo: 16_16_83_A.JPG
23.52m, Connection intruding, at 11 o'clock, diameter 150mm, intrusion 30%

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Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 14	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S10 (D/S) S11	Location details: Catchment: Tape number : Pipe Length	U/S MH : S10 U/S Depth : D/S MH : S11 D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 34.45 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 300 mm Concrete

Comment :

1:285	Position	Code	Observation	Photo	Grade
	S10				
	1.20	MH	Start node type, manhole, reference number :S10		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	9.57	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30%	16_3A	4
	19.75	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	16_4A	3
	29.75	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	16_5A	3
	34.45	MHF	Finish node type, manhole reference number: S11		0
	S11				

Inspection pictures

Place :
BALLYCOOLINRoad :
GREENSTARDate :
27/04/2016Section number :
14PLR Suffix :
X

Photo: 17_17_87_A.JPG
9.57m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30%

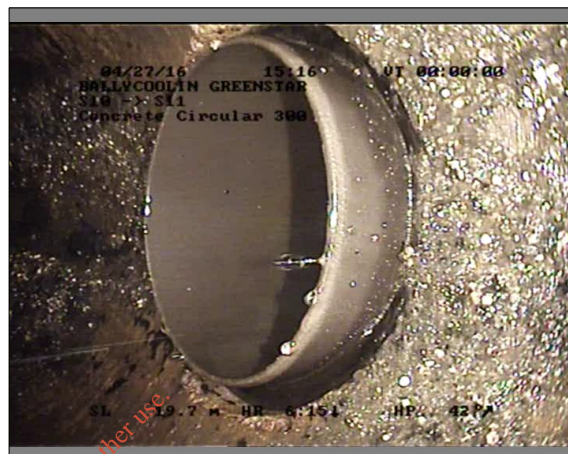


Photo: 17_17_88_A.JPG
19.75m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%



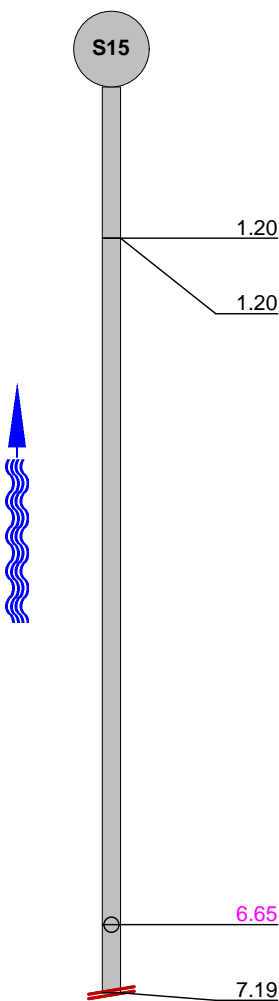
Photo: 17_17_89_A.JPG
29.75m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%

Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 15	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S15 (U/S) S14	Location details: Catchment: Tape number : Pipe Length	U/S MH : S14 U/S Depth : D/S MH : S15 D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 35.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:60	Position	Code	Observation	Photo	Grade				
									
	1.20	MH	Start node type, manhole, reference number : S15		0				
	1.20	WL	Water level, 10% of the vertical dimension		0				
	6.65	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30%	17_3A	4				
	7.19	SA	Survey abandoned Remarks: UNABLE TO PASS INTRUDING CONNECTION		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	5	0.75	5	4

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 15	PLR Suffix : X
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Photo: 18_18_93_A.JPG
 6.65m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 30%

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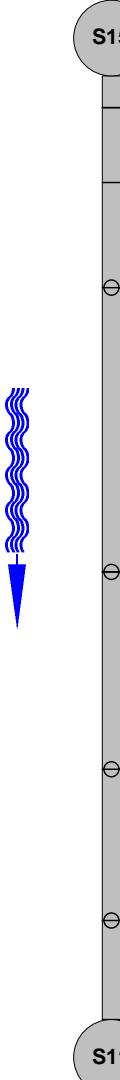
Inspection report

Date : 27/04/2016	Job number :	Weather : no rain or snow	Operator : MICK	Section number : 16	PLR SUFFIX: X
Weather no rain or snow	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S15 (D/S) S11	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S15 S11
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 35.58 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Concrete	

Comment :

1:285	Position	Code	Observation	Photo	Grade
	1.20	MH	Start node type, manhole, reference number : S15		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	4.01	WL	Water level, 10% of the vertical dimension		0
	7.97	CXB	Connection defective, connecting pipe is blocked, at 12 o'clock, diameter 150mm. Remarks: OBSTRUCTION THROUGH CONNECTION	18_4A	0
	18.71	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	18.71	WL	Water level, 5% of the vertical dimension		0
	26.13	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	31.84	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	35.58	MHF	Finish node type, manhole reference number: S11		0



STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 27/04/2016	Section number : 16	PLR Suffix : X
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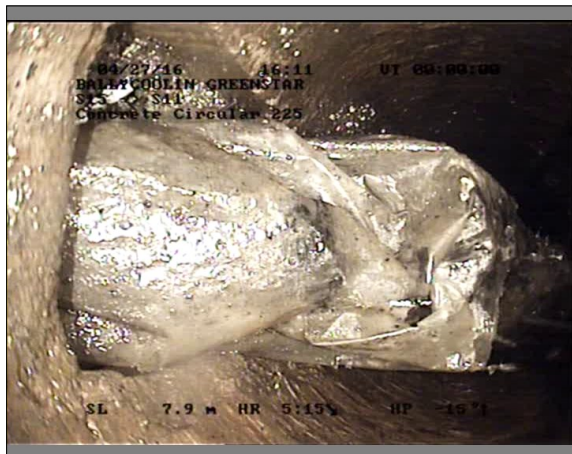


Photo: 19_19_99_A.JPG
 7.97m, Connection defective, connecting pipe is blocked, at 12 o'clock, diameter 150mm Remarks: OBSTRUCTION THROUGH CONNECTION

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Inspection report

Date : 28/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 17	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S17 (D/S) S16A	Location details: Catchment: Tape number : Pipe Length	U/S MH : S17 U/S Depth : D/S MH : S16A D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 21.77 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Polyvinyl chloride

Comment :

1:180	Position	Code	Observation	Photo	Grade
	S17				
	1.20	MH	Start node type, manhole, reference number S17		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	1.72	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	21.77	MHF	Finish node type, manhole reference number: S16A		0
	S16A				

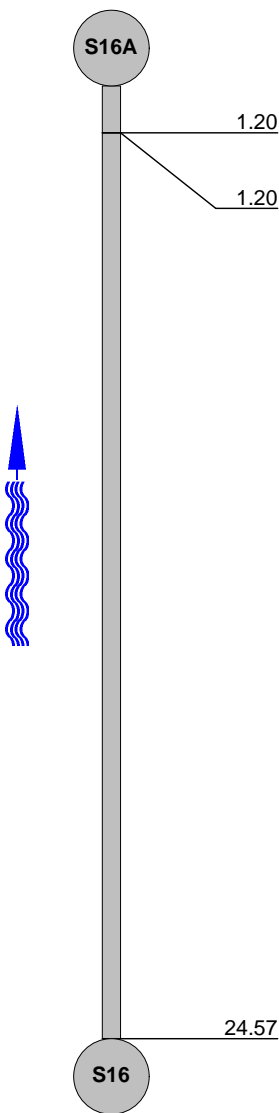

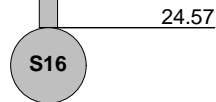
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 28/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 18	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S16A (U/S) S16	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	S16 S16A
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 24.57 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 225 mm Polyvinyl chloride	

Comment :

1:195	Position	Code	Observation	Photo	Grade
		MH	Start node type, manhole, reference number: S16A		0
		WL	Water level, 5% of the vertical dimension		0
		MHF	Finish node type, manhole reference number: S16		0

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STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report

Date : 28/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 19	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S16A (D/S) S12	Location details: Catchment: Tape number : Pipe Length	U/S MH : S16A U/S Depth : D/S MH : S12 D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 16.19 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:135	Position	Code	Observation	Photo	Grade
	S16A				
	1.20	MH	Start node type, manhole, reference number : S16A		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	4.74	OJ	Open joint, 5mm of diameter	21_3A	5
	12.33	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%	21_4A	3
	12.33	WL	Water level, 10% of the vertical dimension		0
	14.81	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%	21_6A	3
	14.81	WL	Water level, 15% of the vertical dimension		0
	16.19	MHF	Finish node type, manhole reference number: S12		0
S12					

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STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	165	10.19	165	5	2	2	0.25	4	3

Inspection pictures

 Place :
BALLYCOOLIN

 Road :
GREENSTAR

 Date :
28/04/2016

 Section number :
19

 PLR Suffix :
X


Photo: 22_22_114_A.JPG
 4.74m, Open joint, 5mm of diameter



Photo: 22_22_115_A.JPG
 12.33m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%



Photo: 22_22_117_A.JPG
 14.81m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 15%

Inspection report

Date : 28/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 20	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road S14 (D/S) S15	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
Use: Year laid : Purpose : Total length :	Surface water Sample survey to determine asset condition 50.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:300	Position	Code	Observation	Photo	Grade
	S14				
	1.20	MH	Start node type, manhole, reference number : S14		0
	1.20	WL	Water level, 5% of the vertical dimension		0
	6.38	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%	22_3A	3
	7.70	FC	Fracture, circumferential, from 2 to 10 o'clock	22_4A	3
	10.47	FC	Fracture, circumferential, from 12 to 12 o'clock	22_5A	3
	16.47	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%	22_6A	3
	26.48	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%	22_7A	3
	26.67	FC	Fracture, circumferential, from 7 to 11 o'clock	22_8A	3
	35.62	CN	Connection other than junction, at 12 o'clock, diameter 150mm		0
	36.37	CXI	Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40%	22_10A	4
	36.37	SA	Survey abandoned Remarks: REMAINDER OF PIPE SURVEYED		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
3	40	3.3	120	3	4	5	0.3	11	4

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 28/04/2016	Section number : 20	PLR Suffix : X
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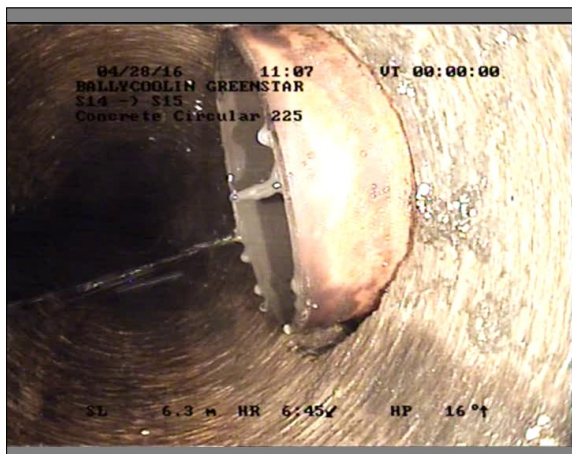


Photo: 23_23_122_A.JPG
6.38m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 20%

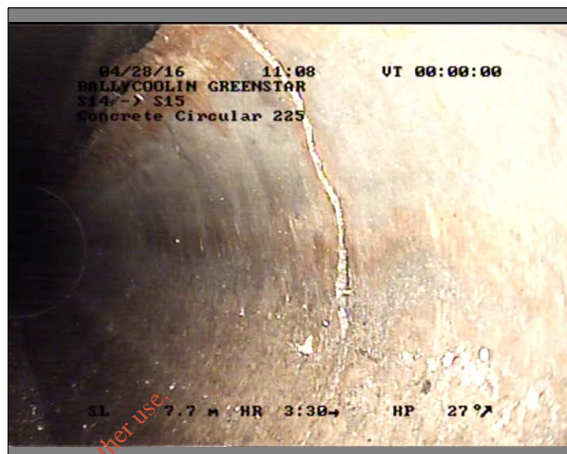


Photo: 23_23_123_A.JPG
7.7m, Fracture, circumferential, from 2 to 10 o'clock

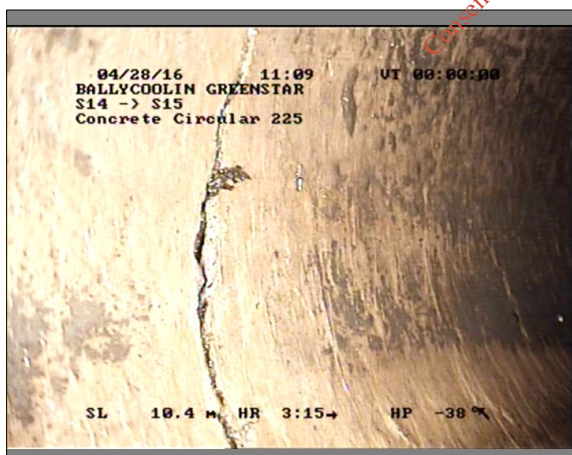


Photo: 23_23_124_A.JPG
10.47m, Fracture, circumferential, from 12 to 12 o'clock

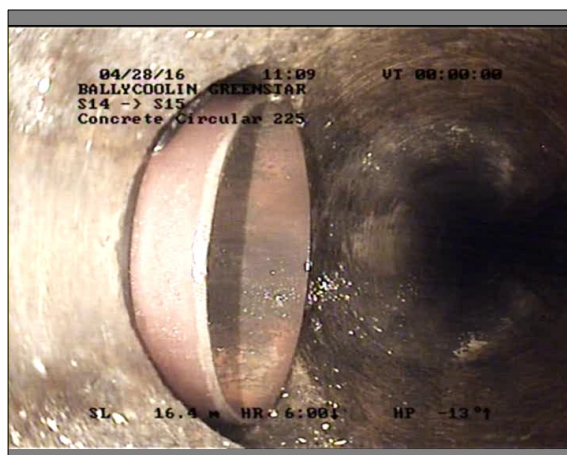


Photo: 23_23_125_A.JPG
16.47m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%

Inspection pictures

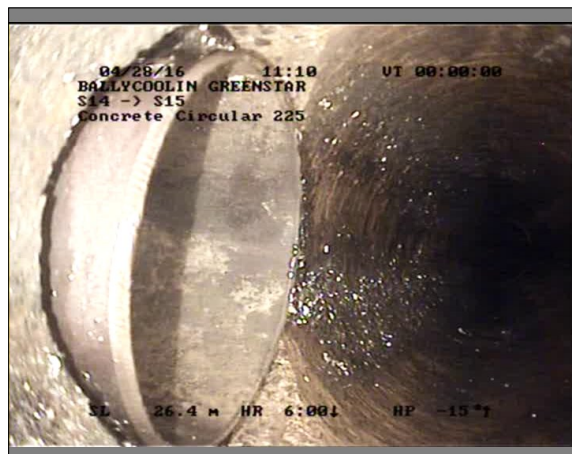
Place :
BALLYCOOLINRoad :
GREENSTARDate :
28/04/2016Section number :
20PLR Suffix :
X

Photo: 23_23_126_A.JPG
26.48m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 10%



Photo: 23_23_127_A.JPG
26.67m, Fracture, circumferential, from 7 to 11 o'clock

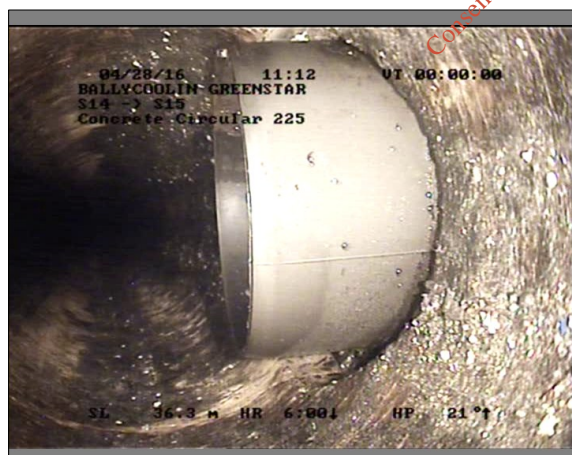


Photo: 23_23_129_A.JPG
36.37m, Connection intruding, at 12 o'clock, diameter 150mm, intrusion 40%

Inspection report

Date : 28/04/2016	Job number :	Weather : rain	Operator : MICK	Section number : 21	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road FA1.00 (D/S) F7B	Location details: Catchment: Tape number : Pipe Length	U/S MH : FA1.00 U/S Depth : D/S MH : F7B D/S Depth :
Use: Year laid : Purpose : Total length :	Combined Sample survey to determine asset condition 35.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:165	Position	Code	Observation	Photo	Grade
	1.20	MH	Start node type, manhole, reference number: FA1.00		0
	1.20	WL	Water level, 10% of the vertical dimension		0
	7.62	DES	Settled deposits, fine, 10% cross-sectional area loss		3
	18.26	WL	Water level, 30% of the vertical dimension		0
	18.93	WL	Water level, 40% of the vertical dimension		0
	19.15	SA	Survey abandoned Remarks: EXCESS WATER LEVELS	21_6A	0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	2	0.11	2	3

Inspection pictures

Place : BALLYCOOLIN	Road : GREENSTAR	Date : 28/04/2016	Section number : 21	PLR Suffix : X
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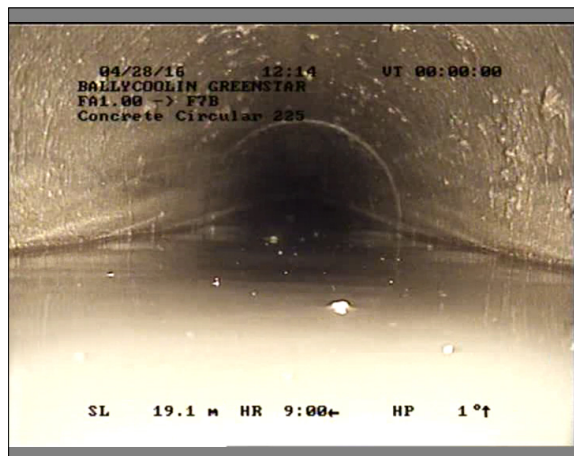


Photo: 24_24_136_A.jpg
 19.15m, Survey abandoned Remarks: EXCESS WATER LEVELS

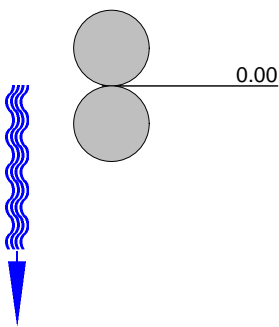
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Inspection report

Date : 06/05/2016	Job number :	Weather : rain	Operator : MICK	Section number : 22	PLR SUFFIX: X
Weather rain	Vehicle : 09CCTV	Camera : RICO	Preset :	Cleaned : yes	Operator : MICK

Place : Road : Location Inspection	BALLYCOOLIN GREENSTAR Road	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
Use: Year laid : Purpose : Total length :	Combined Sample survey to determine asset condition 0.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225 mm Concrete

Comment :

1:50	Position	Code	Observation	Photo	Grade				
		REM	General remark Remarks: The storm water pumps at the entrance to the business park are not working as they should. All storm drainage externally from the Greenstar Facility are surcharged causing the st		0				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade

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