

Attachment H.2 Waste Prevention

The installation is designed and operated to maximise the recovery of the materials accepted. As all of these materials are currently classified as waste, the only opportunities for waste prevention relate to the small amounts of office and canteen waste generated in the office and welfare facilities.

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Attachment H.3 Recovery and Disposal of Waste Generated at the Installation

Installation operations generate small quantities of office and canteen type wastes. RILTA implements a source segregation policy to maximise the recovery of potential recyclable materials from these wastes.

The oil interceptor on the surface water drainage system is routinely cleaned and emptied and the contents removed off-site for disposal/treatment at an appropriately licensed facility. Sanitary wastewater is discharged to the Irish Water mains sewer.

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Rilta Environmental Ltd.

**Bund Integrity Testing
at Site 14A1,
Greenogue Business Park,
Rathcoole, Co. Dublin**

November 2016

Revision: B

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TOBIN CONSULTING ENGINEERS



REPORT

PROJECT:

Bund Integrity Testing

**Site 14A1, Greenogue Business Park
Rathcoole, Co. Dublin**

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DOCUMENT AMENDMENT RECORD

Client:	Rilta Environmental Ltd.
Project:	10063 – Bund Testing
Title:	Bund Integrity Testing

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PROJECT NUMBER: 10063				DOCUMENT REF:10063/Rev A			
A	Bund Integrity Testing	FH	090217	ST	190213	DG	190213
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TOBIN Consulting Engineers							

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Figure 1 – Bund / Tank Locations for testing (Site 14A1, Greenogue Business Park)

Appendix B

Site 14A1 (Ref. Cedar Yard) - CCTV Drainage Inspection Report

1 INTRODUCTION

Tobin Consulting Engineers (hereafter referred to as TOBIN) have been commissioned by Rilta Environmental Ltd. to carry out Bund Integrity Testing at their facility at 14A1, Greenogue Business Park, Rathcoole, Co. Dublin under the requirements of the site's EPA Waste Licence (No. W0185-01).

TOBIN proposed that over a period amenable to facility operations hydrostatic testing, CCTV survey and structural survey would be carried out on the specified bunds and areas.

A CCTV survey of the site drainage was carried out by Rilta staff on 15/11/16. A structural survey of the Buildings outlined for assessment was carried out by a TOBIN Engineer on Friday, 25th November 2016.

Hydrostatic testing of a number of bunded areas and underground settlement tanks commenced on Saturday, July 23rd 2016 and concluded Monday, July 25th 2016. A second visit for testing of the underground bund at Site 14A1, Greenogue Business Park commenced Tuesday, 14th November 2016 and concluded on Thursday 16th November 2016 in order to carry out Testing of four indoor portable bunds.

Areas / Bunds for testing identified within Site 14A1, Greenogue Business Park include:

- Area / Bund No. 12: Large Warehouse
- Area / Bund No. 13: Storage Bay Portable Bunds (2No)
- Area / Bund No. 14: Processing Bay Portable Bunds (2No)
- Area / Bund No. 15: Outdoor Concrete Bund
- Area / Bund No. 16: Underground Concrete Bund

TOBIN carried out preliminary inspections of the bunds and areas listed above and made assessments as to the necessity/suitability of each for hydrostatic testing or structural assessment. A detailed bund location map (Figure 1) is contained in Appendix A.

2 METHODOLOGY

It was proposed that over a period when the facility was non-operational, liquid levels within the over ground bunds and underground tanks would be monitored, following preparatory works, for a three day period (preferably over a weekend). Any subsequent fluctuation in levels over this period would indicate if the integrity of each bund is intact.

2.1 METHODOLOGY FOR TESTING AT SITE 14A1, GREENOGUE BUSINESS PARK

A methodology for the testing of individual bunds and tanks at Site 14A1 is detailed below. The locations of the areas tested at Site 14A1 is shown in Figure 1 in Appendix A.

2.1.1 Large Warehouse Building (Area / Bund No. 12)

A structural survey was carried out by a TOBIN Engineer on the Internal Warehouse Building on Friday, 25th November, located as shown in Figure 1 of Appendix A. This building is designated as an area for the storage, inspection and processing of incoming electrical transformers. This survey consisted of a visual assessment of all walls, floors and ramps within the building.

2.1.2 Storage Bay – Portable Bunds (2 No.) (Area / Bund No. 13)

There are Indoor Portable Bunds/Tanks (2 No.) in the Storage Bay Building at Site 14A1, located as shown in Figure 1 of Appendix A.

It was proposed that over a period when the facility was non-operational, liquid levels within the internal storage bunds would be monitored for a three day period.

The locations of the storage bunds during the testing period and location of the main outdoor storage area are shown in Figure 1 attached.

Please Note: During this 3 day test period the total drop in water level, after allowing for rainfall and evaporation, should not exceed 1/500th of the average depth of water or 10mm.

2.1.3 Processing Area – Portable Bunds (2No.) (Area / Bund No. 14)

It was proposed to test the Indoor Portable Steel Bunds (2No.) in the Processing Bay Building at Site 14A1, located as shown in Figure 1 of Appendix A. The bunds were thoroughly cleaned out, with any debris and sludge removed from the bunds prior to testing.

Each bund was then incrementally filled with water to a level that is equal to 25% of the overall capacity of each bund. This was to represent the maximum capacity the bund will be required to hold.

When the bund was full to the required limit it was be allowed to sit for one day to allow the container/bund to absorb any initial water and reach an equilibrium state. After this 24hr period had lapsed, the level of water was measured at 24hr intervals over 3 days.

Further to this testing the bund was inspected by a structural engineer to ensure that any remedial work that is required has been carried out such as welding or repairing any cracks or faults to a satisfactory standard.

Please Note: *During this 3 day test period the total drop in water level, after allowing for rainfall and evaporation, should not exceed 1/500th of the average depth of water or 10mm.*

2.1.4 Outdoor Concrete Bund / Loading Bay (Area / Bund No. 15)

It was proposed to test the Outdoor Concrete Bund / Loading Bay at Site14A1, located as shown in Figure 1 of Appendix A. The bund was thoroughly cleaned out, with any debris and sludge removed from the bund prior to testing.

The bund was then incrementally filled with water to a level that is equal to 25% of the overall capacity of the bund. This was to represent the maximum capacity the bund will be required to hold.

When the bund was full to the required limit it was allowed to sit for one day to allow the container/bund to absorb any initial water and reach an equilibrium state. After this 24hr period had lapsed, the level of water was measured at 24hr intervals over 3 days.

Further to this testing the bund was inspected by a structural engineer to ensure that any remedial work that is required has been carried out such as protective coating applied or any cracks or faults repaired and sealed to a satisfactory standard.

Please Note: *During this 3 day test period the total drop in water level, after allowing for rainfall and evaporation, should not exceed 1/500th of the average depth of water or 10mm.*

2.1.5 Underground Concrete Bund (Area / Bund No. 16)

Testing was carried out on the Underground Concrete Bund over a 3 day period in July 2016. It was proposed to test the Underground Concrete Bund at Site14A1, located as shown in Figure 1 of Appendix A. The bund was thoroughly cleaned out, with any debris and sludge removed from the bund prior to testing.

The bund was then incrementally filled with water to a level that is equal to 25% of the overall capacity of the bund. This was to represent the maximum capacity the bund will be required to hold.

When the bund was full to the required limit it was allowed to sit for one day to allow the container/bund to absorb any initial water and reach an equilibrium state. After this 24hr period had lapsed, the level of water was measured using a data logger to record any changes in water level.

Further to this testing the bund was inspected by a structural engineer to ensure that any remedial work that is required has been carried out such as protective coating applied or any cracks or faults repaired and sealed to a satisfactory standard.

Please Note: *During this 3 day test period the total drop in water level, after allowing for rainfall and evaporation, should not exceed 1/500th of the average depth of water or 10mm.*

3.0 CONTROL

Due to the potential for evaporation in the settlement tanks/bunded areas, a control was put in place (note: where tanks are internal there is no risk of precipitation influencing levels). A container was filled to a specific level with liquid from the Underground Tanks. This control was left beside the internal tanks throughout the testing period. This control provides an indication of the evaporation rate active on the tanks and the influence of any rainfall during the testing period.

Due to the potential for evaporation and precipitation in the Outdoor Concrete Bund, a control was put in place. A container was filled to a specific level with water. This control was left beside the Outdoor Concrete Bund.

These controls provide an indication of the evaporation and precipitation rate active on the bunds both indoors and outdoors.

3.1 FAILURE

Should the structure not satisfy the test, remedial works will be recommended and carried out and the same procedure will be repeated.

3.2 WATER DISPOSAL

Any water used in this procedure will be disposed of through the surface water drainage system on site.

3.3 PROGRAMME FOR TESTING (SITE 14A1)

With the exception of the tests carried out in November for the internal bunds, it was proposed that all testing would be carried out over the same 4-day period¹ in July 2016.

- Day 1: TOBIN staff attended Site 14A1 on Friday, July 22nd 2016, before the testing commenced in order to assess the Underground Concrete Bund and Outdoor Concrete Bund for testing and to review the location of the Bunds to be tested (with Rilta staff) and the preparation of test areas including the addition of water to the bund as required for hydrostatic testing (with Rilta staff). Levels were taken by TOBIN staff.
- Day 2-4: TOBIN staff attended Site 14A1 on Saturday, 23rd July, Sunday, 24th July and Monday, 25th July to take levels at the Underground and Outdoor Concrete Bunds. Levels were taken at the same time each day, weather conditions noted and controls checked

A second visit was required to carry out hydrostatic testing on the Over indoor portable bunds at Site 14A1 in November 2016.

- Day 1: TOBIN staff attended Site 14A1 on Monday, 14th of November 2016 before the testing commenced in order to assess all Areas / Bunds for testing and to review the locations of the Areas / Bunds to be tested (with Rilta staff). Preparation of test areas including the addition of water to containers/bunds where required for hydrostatic testing (with Rilta staff). Levels were taken by TOBIN staff.
- Days 2-4: TOBIN staff attended site on Tuesday, November 15th, Wednesday, 16th November and Thursday, 17th November to take levels at each test location. Levels were taken at the same time each day, weather conditions noted and controls checked.
- A TOBIN Structural Engineer visited site to carry out a structural assessment of the bunds and buildings on Friday, 25th November.

¹ Where this was not practical for Rilta, an alternative programme for testing was agreed (all results are included herein).

4 RESULTS

4.1 HYDROSTATIC SURVEY RESULTS

Hydrostatic testing was carried out on the Bunded areas & Underground Storage Tanks from Friday, July 22nd to Monday, July 25th 2016, and for additional Indoor Portable Storage Bunds from Tuesday, 15th November to Thursday, 17th November 2016.

No fluctuation in liquid levels was noted in the bunds or tanks during the first monitoring period Day 1 to Day 2 (November 15th to 16th November 2016) and levels remained constant for the second monitoring period Day 2 to Day 3 (16th November to 16th November 2016). Results from the controls showed no variation and were consistent with readings from all storage tanks.

As no fluctuation was noted in liquid levels during the measurement period and the control remained constant, it is determined that all tested bunds and tanks are in good structural condition. No ancillary works are required for these bunds.

4.2 TESTING AT SITE 14A1, GREENOGUE BUSINESS PARK

Testing commenced 'as per methodology' on Saturday 23rd July 2016 and concluded on Monday, 25th of July 2016. A second visit was required to test the Indoor Portable Bunds bund. This test commenced on Tuesday, 15th November 2016 and concluded on Thursday, 17th November 2016. Measurements were recorded over three consecutive days and the results were analysed by TOBIN staff. No fluctuation in liquid level was noted at any of the monitoring locations, during any of the daily monitoring events (see results below). The controls for these assessments showed no change, remaining consistent with the results from the daily monitoring. See section 4.2.2 below for test results.

4.2.1 Large Warehouse Building (Area / Bund No. 12)

As per methodology a structural survey was carried out by a TOBIN Engineer on the Warehouse on Friday, 25th November 2016, located as shown on Figure 1 of Appendix A.

This area is generally used to store relatively dry materials. The construction is typical industrial ground floor construction with 6m x 6m concrete bays. There is a concrete upstand approx 100mm high around the perimeter of the area with block walls above. There is ramped access to the entrances and exits to the bund.

The floor slab and up-stand was generally found to be in good structural condition with no obvious defects. The ramps approaching the external dock – leveller have been damaged by the impact of

the vehicular movements. These require repair with a suitable repair mortar. The make-up of the joint filler material between the 6m x 6m concrete bays is unknown and maybe unsuitable to store the material required. It is recommended that these joints be re-sealed with a suitable sealant that capable of performing with aggressive materials.

4.2.2 Storage Bay - Portable Bunds (2No.) (Area / Bund No.13)

Testing commenced ‘as per methodology’ on Monday, 14th November 2016. Measurements were recorded over three consecutive days and the results were analysed by TOBIN staff. No fluctuation in liquid level was noted at any of the indoor bund monitoring locations, during any of the daily monitoring events (see results below).

As no fluctuation was noted in tank liquid levels during the measurement period, the internal bunds are in good structural condition as detailed below.

Storage Bay Portable Bund No. 1:

As per methodology Bund No. 1 was filled with water to an appropriate level (110% tank volume) on Monday the 14th November 2016. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Tuesday 15th November 2016. Table 4-7 below represents recorded water levels within the bund over the test period. Two levels were taken for each bund as there was a slight slant in some of the storage tanks.

Table 4-7 Storage Bay Portable Bund No. 1 Test Result

Measurement Location	Mon 14 th Nov	Tues 15 th Nov	Wed 16 th Nov	Thur 17 th Nov	Fluctuation	Pass / Fail
Storage Bay Portable Bund No. 1						
A, Front Left	23.1	23.2	23.2	23.1	-0.1cm	Pass
B, Front Right	23.6	23.6	23.6	23.6	0.0cm	Pass
C, Rear Left	23.7	23.7	23.7	23.7	0.0cm	Pass
D, Rear Right	23.4	23.4	23.4	23.3	-0.1cm	Pass

Testing at this location was not impacted by facility operations

Storage Bay Portable Bund No. 2:

As per methodology Bund No. 2 was filled with water to an appropriate level (110% tank volume) on Monday the 14th November 2016. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Tuesday 15th November 2016. Table 4-8 below represents recorded water levels within the bund over the test

period. Two levels were taken for each bund as there was a slight slant in some of the storage tanks.

Table 4-8 **Storage Bay Portable Bund No. 2 Test Result:**

Measurement Location	Mon 14 th Nov	Tues 15 th Nov	Wed 16 th Nov	Thur 17 th Nov	Fluctuation	Pass / Fail
Storage Bay Portable Bund No. 2						
A, Front Left	24.2	24.2	24.2	24.2	0.0cm	Pass
B, Front Right	24.3	24.3	24.3	24.3	0.0cm	Pass
C, Rear Left	24.2	24.3	24.3	24.3	-0.1cm	Pass
D, Rear Right	24.1	24	24	24	-0.1cm	Pass

Testing at this location was not impacted by facility operations.

4.2.3 Processing Area - Portable Bunds (2No.) (Area / Bund No.14)

As per methodology Area / Bund No. 14 was filled with water to an appropriate level (110% tank volume) on Monday the 14th November 2016. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Tuesday 15th November 2016. Table 4-13 below represents recorded water levels within the bund and control over the test period. Various levels were taken for each bund as there was a variation in floor level in some of the bunds.

Table 4-9 **Bund / Area No. 14 Test Result**

Measurement Location	Tues 15 th Nov	Wed 16 th Nov	Thur 17 th Nov	Fluctuation	Pass / Fail
Main Bund					
A, Front Left	29.4cm	29.4cm	29.3cm	-0.1cm	Pass
B, Front Right	29.6cm	29.6cm	29.6cm	0.0cm	Pass
C, Rear Right	28.6cm	28.6cm	28.5cm	-0.1cm	Pass
D, Rear Left	28.5cm	28.4cm	28.4cm	-0.1cm	Pass
Processing Bund					
E, Front Left	11.7cm	11.7cm	11.7cm	0.0cm	Pass
F, Front Right	9.9cm	9.9cm	9.9cm	0.0cm	Pass

Testing at this location was not impacted by facility operations.

4.2.4 Outdoor Concrete Bund (Area / Bund No.15)

As per methodology Area / Bund No. 15 was filled with water to an appropriate level (110% tank volume) on Friday 22nd July. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Saturday 23rd July. Table 4-14 below represents recorded water levels within the bund and control over the test period. Various levels were taken for each bund as there was a variation in floor level in some of the bunds.

Table 4-14 Bund / Area No. 15 Test Result

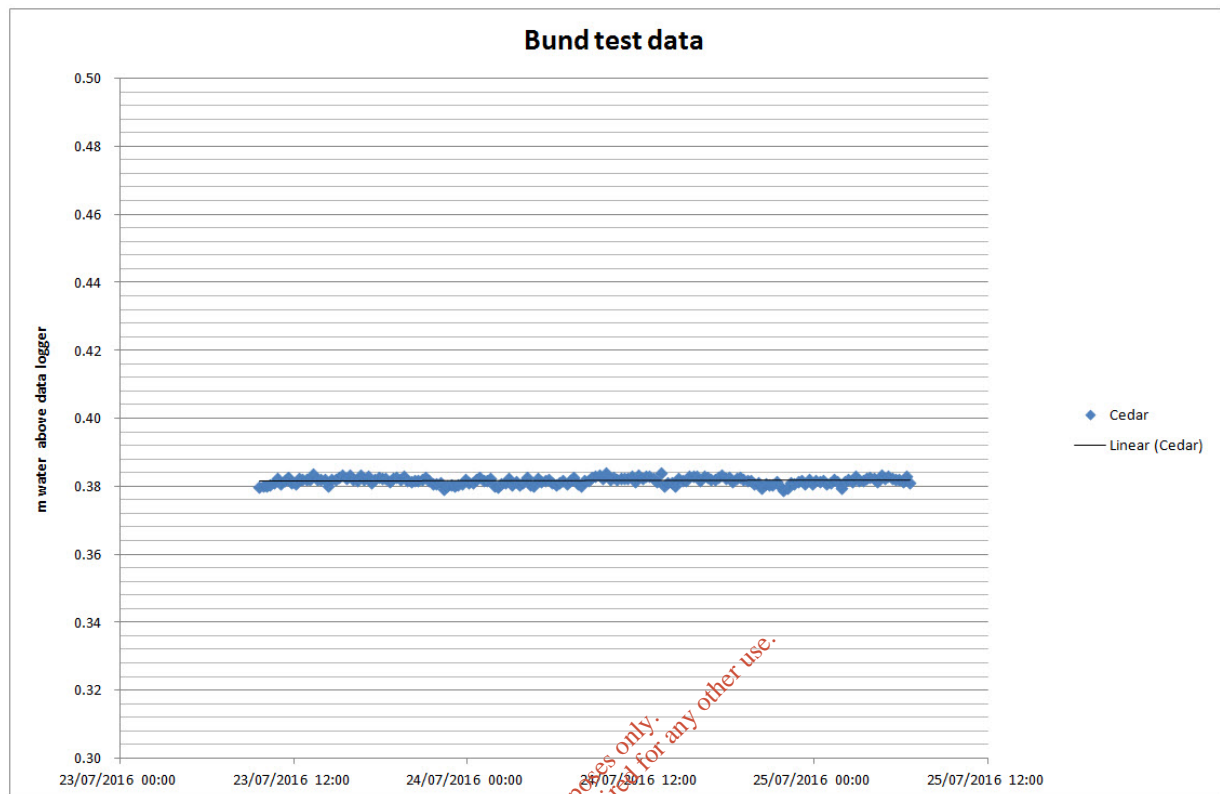
Measurement Location	Sat 23 rd Jul (Top of bund to water level)	Sun 24 th Jul (Top of bund to water level)	Mon 25 nd Jul (Top of bund to water level)	Fluctuation	Pass / Fail
A, Front Right	90cm	90cm	90cm	0.0cm	Pass
B, Rear Right	93cm	93cm	93cm	0.0cm	Pass
C, Rear Centre	113cm	113cm	113cm	0.0cm	Pass
D, Rear Left	94cm	94cm	94cm	0.0cm	Pass
E, Front Left	95cm	95cm	95cm	0.0cm	Pass

Testing at this location was not impacted by facility operations.

4.2.5 Underground Concrete Bund (Area / Bund No.16)

As per methodology Area / Bund No. 16 was filled with water to an appropriate level (110% tank volume) on Friday 22nd July 2016. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated, a data logger was then placed in the underground concrete bund. The test commenced on Saturday 23rd July. Table 4-15 below represents recorded change in water levels within the bund and control over the test period.

Table 4-15 Bund / Area No. 16 Test Result



Testing at this location was not impacted by facility operations.

No fluctuation in liquid levels was noted in the bunds or tanks during the first monitoring period Day 1 to Day 2 (November 15th to 16th November 2016) and levels remained constant for the second monitoring period Day 2 to Day 3 (16th November to 16th November 2016). Results from the controls showed no variation and were consistent with readings from all storage tanks.

As no fluctuation was noted in liquid levels during the measurement period and the control remained constant, it is determined that all tested bunds and tanks are in good structural condition. No ancillary works are required for these bunds

5 CCTV

5.1 CCTV SURVEY

A CCTV drainage inspection was carried out on 5th of December 2016 on behalf of Rilta Environmental Ltd. The Inspection Report is included in Appendix B attached.

It was apparent from the CCTV camera inspection that the drainage system is generally in good condition, with some area requiring attention. A summary of defects and recommended remedial works can be found on the final page of Appendix B.

6 CONCLUSION

The assessment of the bunds / areas after CCTV survey, structural and hydrostatic testing is as follows:

Areas / Bunds for testing identified within Site 14A1, Greenogue Business Park include:

- Area / Bund No. 12: Large Warehouse = **PASS**
- Area / Bund No. 13: Storage Bay Portable Bunds (2No) = **PASS**
- Area / Bund No. 14: Processing Bay Portable Bunds (2No) = **PASS**
- Area / Bund No. 15: Outdoor Concrete Bund = **PASS**
- Area / Bund No. 16: Underground Concrete Bund = **PASS**
-

CCTV Survey = **Pass** (Remedial works recommended)

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APPENDIX A

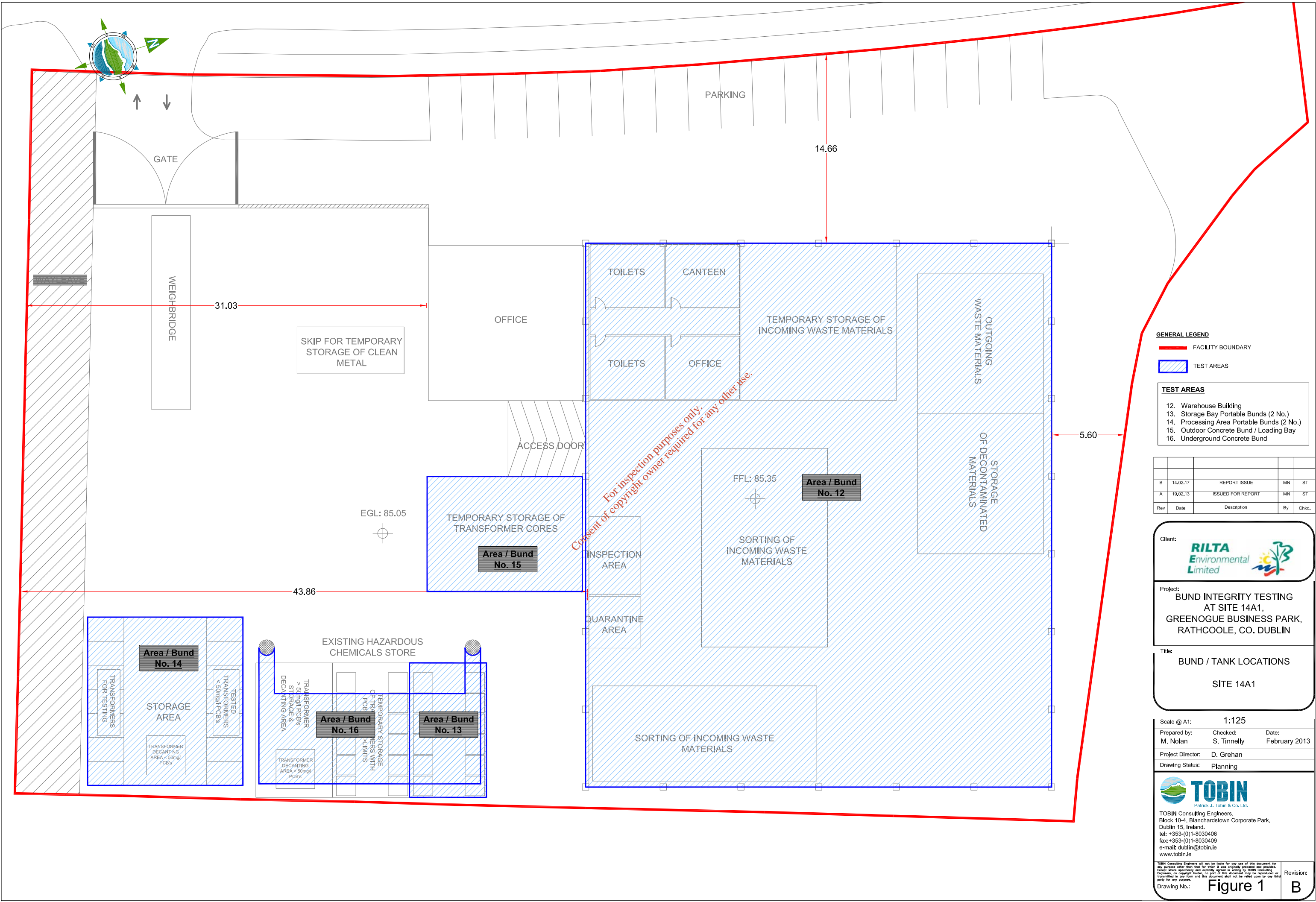
Figure 1: Bund / Tank Locations for Testing (Site 14A1, Greenogue Business Park)

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APPENDIX B

Site 14A1 (Ref. Cedar Yard) - CCTV Drainage Inspection Report

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GENERAL LEGEND
 FACILITY BOUNDARY
 TEST AREAS

- TEST AREAS**
- 12. Warehouse Building
 - 13. Storage Bay Portable Bunds (2 No.)
 - 14. Processing Area Portable Bunds (2 No.)
 - 15. Outdoor Concrete Bund / Loading Bay
 - 16. Underground Concrete Bund

Rev	Date	Description	By	Chkd.
B	14.02.17	REPORT ISSUE	MN	ST
A	19.02.13	ISSUED FOR REPORT	MN	ST



Project:
**BUND INTEGRITY TESTING
 AT SITE 14A1,
 GREENOGUE BUSINESS PARK,
 RATHCOOLE, CO. DUBLIN**

Title:
**BUND / TANK LOCATIONS
 SITE 14A1**

Scale @ A1: **1:125**

Prepared by: **M. Nolan** Checked: **S. Tinnelly** Date: **February 2013**

Project Director: **D. Grehan**

Drawing Status: **Planning**



Drawing No.: **Figure 1** Revision: **B**



INTEGRATED HAZARDOUS WASTE MANAGEMENT SOLUTIONS

CCTV DRAINAGE INSPECTION REPORT

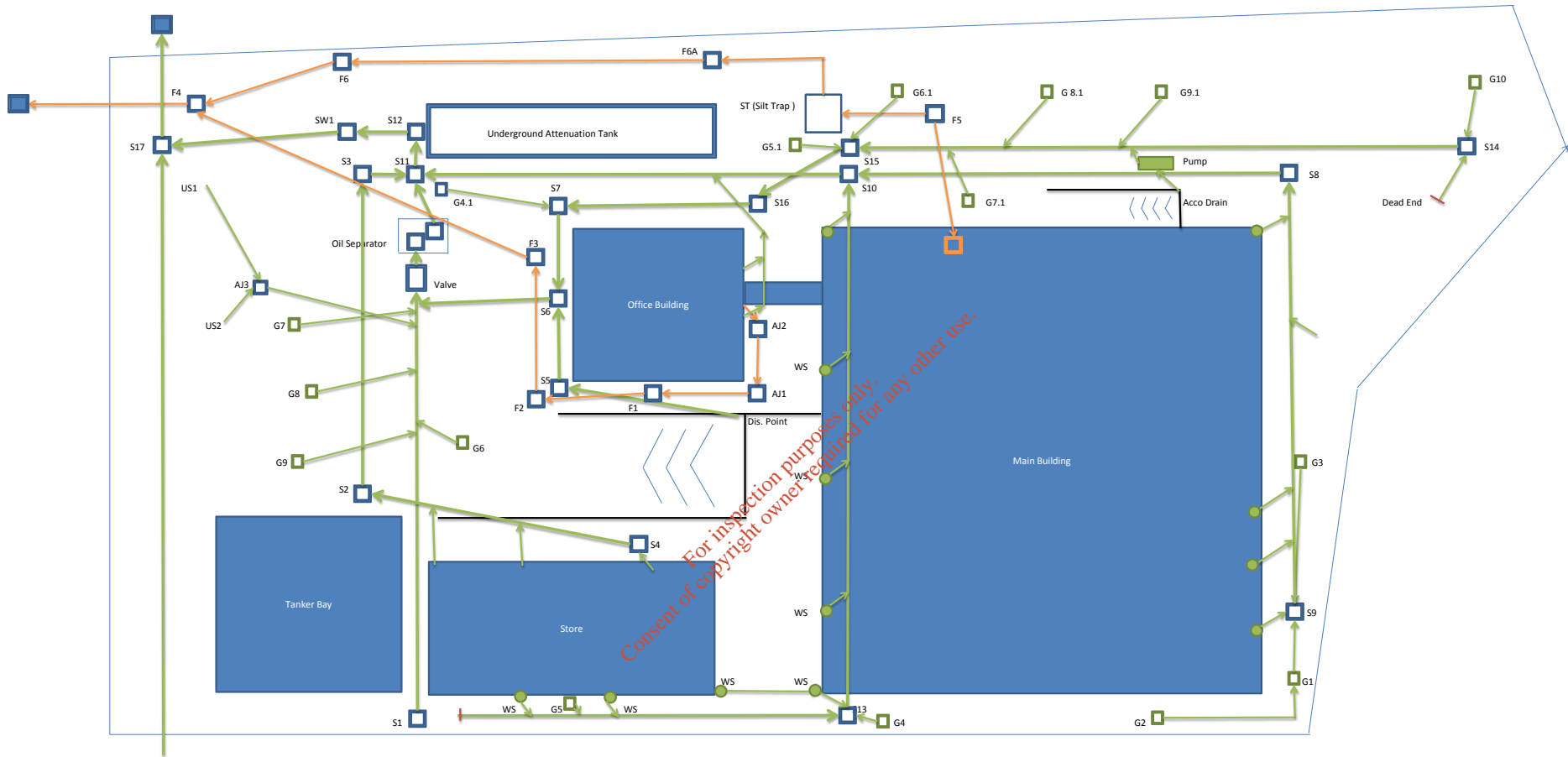
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EPA WASTE LICENCE NO. W0192-03



Project-information / Inspection: 1

Project name : CEDAR	Project Number :	Contact :	Date : 05/12/2016
--------------------------------	------------------	-----------	-----------------------------

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Fax:	
Mobile:	0877988574
e-mail:	info@rilta.ie

Inspection report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 1	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings AJ1 (D/S) F1	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	AJ1 F1
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 7.71 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	AJ1					
	0.00	IC	Start node type, inspection chamber, reference number : AJ1	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	1.80	SR	Sealing ring intruding, from 5 to 7 o'clock	00:00:18		(Constr) 1
	2.20	LR	Line deviates right Remarks: 90deg.	00:00:23		(Serv) 0
	7.70	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	7.71	MHF	Finish node type, manhole reference number: F1	00:00:00	1_6A	(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.65	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 05/12/2016	Section number : 1	PLR Suffix : X
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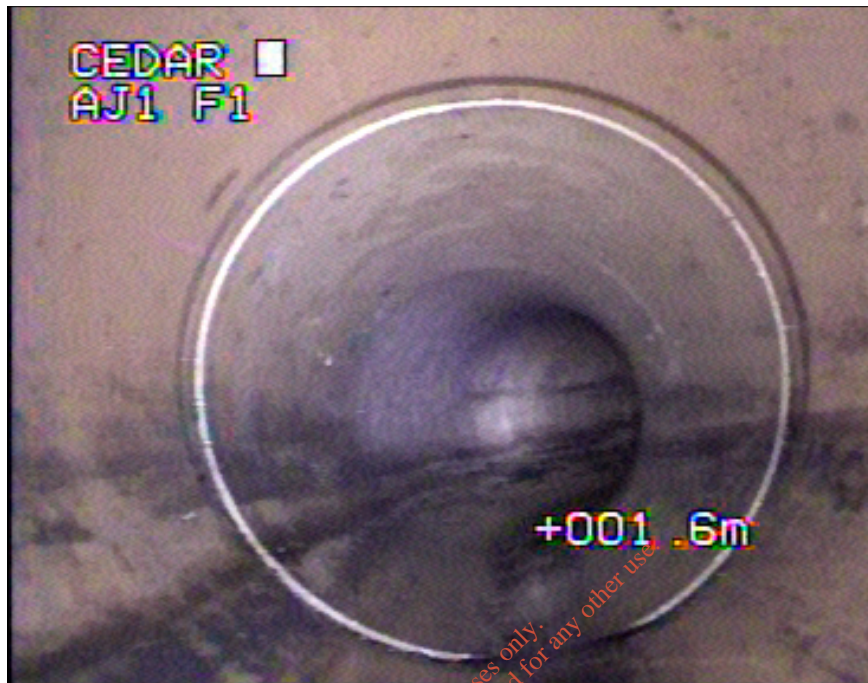


Photo: 1_6A, MPEG #: 051216_1, 00:00:00
7.71m, Finish node type, manhole reference number: F1

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Inspection report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 2	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings AJ2 (D/S) AJ1	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ2 AJ1
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 4.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	AJ2					
	0.00	IC	Start node type, inspection chamber, reference number : AJ2	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	1.60	CN	Connection other than junction, at 3 o'clock, diameter 150mm	00:00:23		(Constr) 0
	4.50	WL	Water level, 0% of the vertical dimension	00:01:02		(Serv) 0
	4.51	ICF	Finish node type, inspection chamber reference number: AJ1	00:01:02		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 3	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenoque Busniss Park Property with buildings F1 (D/S) F2	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	F1 F2
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 11.11 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:105	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F1	00:00:04		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:04		(Serv) 0
	1.30	WL	Water level, 5% of the vertical dimension	00:00:16		(Serv) 0
	4.20	WL	Water level, 0% of the vertical dimension	00:00:48		(Serv) 0
	11.10	WL	Water level, 0% of the vertical dimension	00:01:55		(Serv) 0
	11.11	MHF	Finish node type, manhole reference number: F2	00:01:55		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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

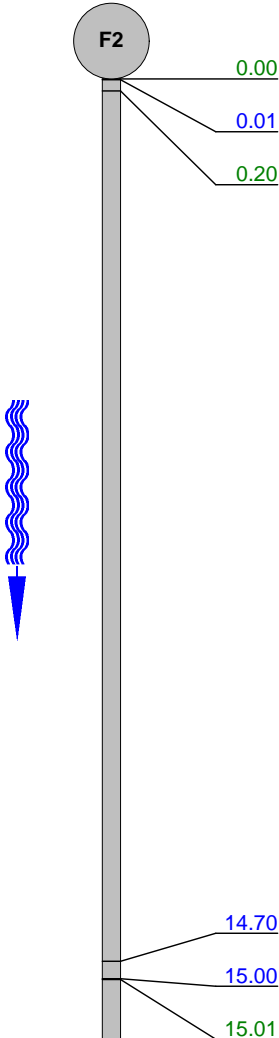
Inspection report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F2 (D/S) F3	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	F2 F3
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 147.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		


Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F2	00:00:05		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:05		(Serv) 0
	0.20	SR	Sealing ring intruding, from 6 to 12 o'clock	00:00:07	4_3A	(Constr) 1
	14.70	LL	Line deviates left	00:03:32		(Serv) 0
	15.00	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	15.01	MHF	Finish node type, manhole reference number: F3	00:00:00		(Constr) 0



Inspection Report / Inspection: 1


Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:126	Position	Code	Observation	MPEG	Photo	Grade
						

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Inspection Report / Inspection: 1


Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:126	Position	Code	Observation	MPEG	Photo	Grade
						

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Inspection Report / Inspection: 1


Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:126	Position	Code	Observation	MPEG	Photo	Grade
						

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Inspection Report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

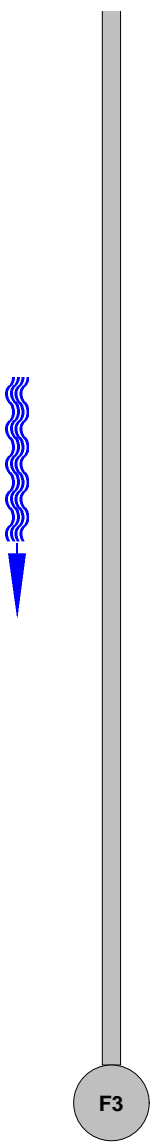
1:126	Position	Code	Observation	MPEG	Photo	Grade
						



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Inspection Report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 4	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:126	Position	Code	Observation	MPEG	Photo	Grade
						

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.03	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 05/12/2016	Section number : 4	PLR Suffix : X
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Photo: 4_3A, MPEG #: 051216_1, 00:00:07
0.2m, Sealing ring intruding, from 6 to 12 o'clock

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Inspection report / Inspection: 1

Date : 05/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 5	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F4 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	F4 DS
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 6.71 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Concrete

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F4	00:00:02		(Constr) 0
	0.01	WLC	Clear water level, 10% of the vertical dimension	00:00:02		(Serv) 0
	3.50	WL	Water level, 15% of the vertical dimension	00:01:05		(Serv) 0
	6.70	WL	Water level, 15% of the vertical dimension	00:01:58		(Serv) 0
	6.71	MHF	Finish node type, manhole reference number: DS Remarks: Manhole on site next to Cedar.	00:01:58		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 05/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 6	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F4 (U/S) F3	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	F3 F4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 22.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Concrete

Comment :

1:189	Position	Code	Observation	MPEG	Photo	Grade
	F4					
	0.00	MH	Start node type, manhole, reference number : F4	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.20	CN	Connection other than junction, at 6 o'clock, diameter 150mm Remarks: Rodding Eye	00:00:11		(Constr) 0
	0.70	WLC	Clear water level, 5% of the vertical dimension	00:00:24		(Serv) 0
	3.10	WL	Water level, 0% of the vertical dimension	00:00:46		(Serv) 0
	6.30	WL	Water level, 5% of the vertical dimension	00:01:19		(Serv) 0
	6.80	WL	Water level, 10% of the vertical dimension	00:01:24		(Serv) 0
	7.40	WL	Water level, 15% of the vertical dimension	00:01:32		(Serv) 0
	8.50	WL	Water level, 0% of the vertical dimension	00:01:45		(Serv) 0
	17.60	WL	Water level, 5% of the vertical dimension	00:03:36		(Serv) 0
	22.50	WL	Water level, 0% of the vertical dimension	00:04:09		(Serv) 0
	22.51	MHF	Finish node type, manhole reference number: F3	00:04:09		(Constr) 0
	F3					

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 7	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F4 (U/S) F6	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	F6 F4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 14.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Concrete

Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F4	00:00:00		(Constr) 0
	0.01	WL	Water level, 15% of the vertical dimension	00:00:00		(Serv) 0
	5.00	WLC	Clear water level, 15% of the vertical dimension	00:00:49		(Serv) 0
	6.80	WL	Water level, 0% of the vertical dimension	00:01:14		(Serv) 0
	8.30	CM	Cracks, multiple, from 4 to 8 o'clock	00:01:22	7_5A	(Struct) 3
	14.30	DEC	Settled deposits, hard or compacted, 10% cross-sectional area loss Remarks: A lump of the concrete after building.	00:02:24	7_6A	(Serv) 3
	14.60	WL	Water level, 0% of the vertical dimension	00:02:33		(Serv) 0
	14.80	WL	Water level, 10% of the vertical dimension	00:02:33		(Serv) 0
	14.81	MH	Start node type, manhole, reference number : F4	00:02:33		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 06/12/2016	Section number : 7	PLR Suffix : X
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Photo: 7_5A, MPEG #: 051216_1, 00:01:22
8.3m, Cracks, multiple, from 4 to 8 o'clock



Photo: 7_6A, MPEG #: 051216_1, 00:02:24
14.3m, Settled deposits, hard or compacted, 10% cross-sectional area loss

Inspection report / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 8	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F5 (D/S) ST	Location details: Catchment: Tape number : Pipe Length	051216_1 	U/S MH : U/S Depth : D/S MH : D/S Depth :	F5 ST
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 8.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F5	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	7.40	REM	General remark Remarks: Dents	00:01:02	8_3A	(Misc) 0
	8.00	WL	Water level, 0% of the vertical dimension	00:01:25		(Serv) 0
	8.01	MHF	Finish node type, manhole reference number: ST Remarks: Silt Trap	00:01:25		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 06/12/2016	Section number : 8	PLR Suffix : X
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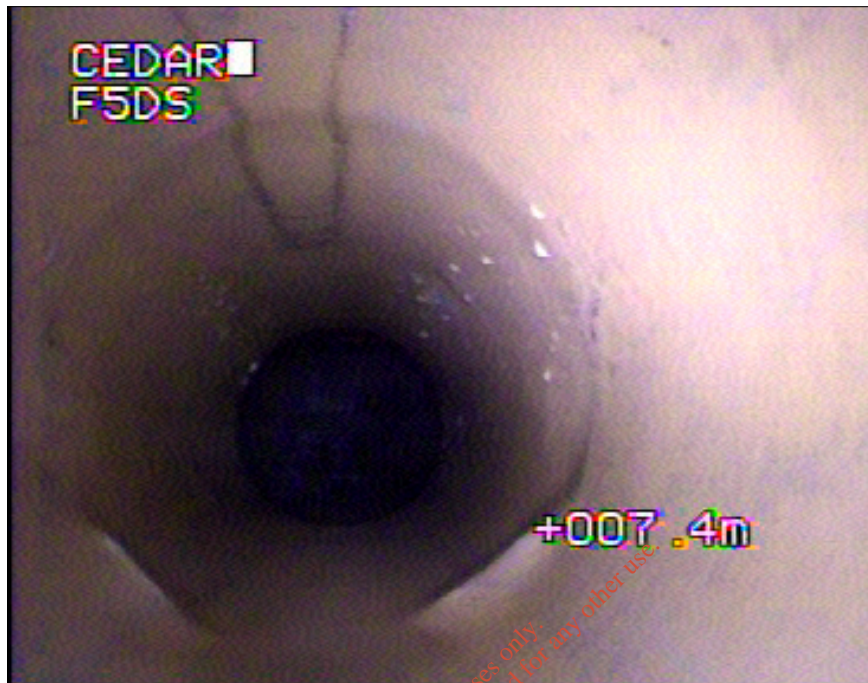


Photo: 8_3A, MPEG #: 051216_1, 00:01:02
7.4m, General remark

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Inspection report / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 9	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings F5 (U/S) US	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	US F5
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 9.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : F5	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	3.60	WL	Water level, 5% of the vertical dimension	00:00:40		(Serv) 0
	5.00	WL	Water level, 0% of the vertical dimension	00:01:29		(Serv) 0
	8.20	REM	General remark Remarks: Dents	00:01:55	9_5A	(Misc) 0
	9.40	CN	Connection other than junction, at 12 o'clock, diameter 40mm Remarks: Connection from cabin inside of the buildi	00:02:06		(Constr) 0
	9.50	WL	Water level, 0% of the vertical dimension	00:02:07		(Serv) 0
	9.51	SA	Survey abandoned Remarks: Survey could not be completed due to a wavin pipe in the way.	00:02:07		(Misc) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 06/12/2016	Section number : 9	PLR Suffix : X
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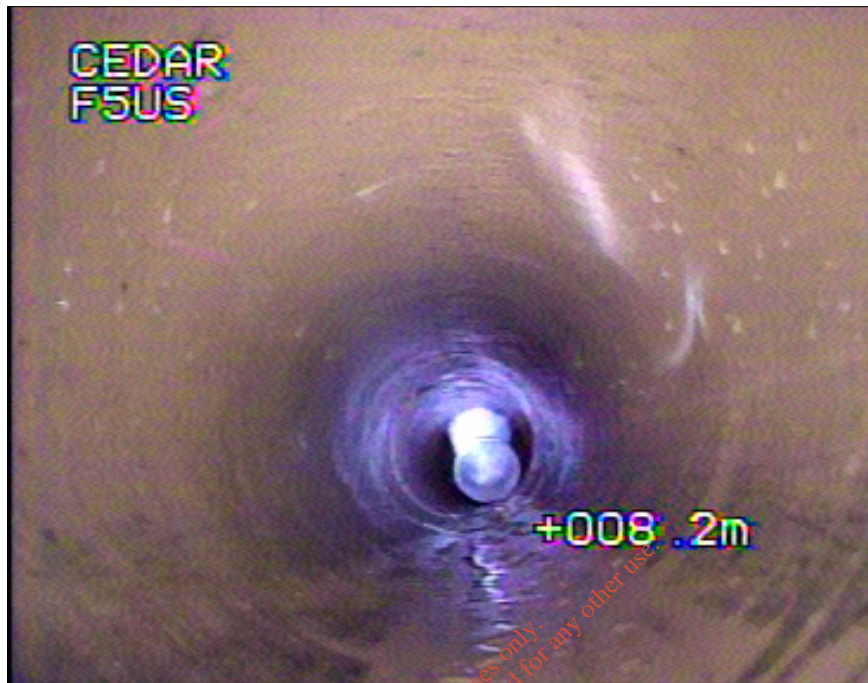


Photo: 9_5A, MPEG #: 051216_1, 00:01:55
8.2m, General remark

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Inspection report / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 10	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings ST (D/S) F6A	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	ST F6A

Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 1.41 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride
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Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	CP	Start node type, catchpit, reference number : ST	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.40	LL	Line deviates left Remarks: 90 deg.	00:00:25		(Serv) 0
	1.40	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	1.41	SA	Survey abandoned Remarks: Survey could not be completed due to a bend on the pipe and bad access to thi	00:00:00		(Misc) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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

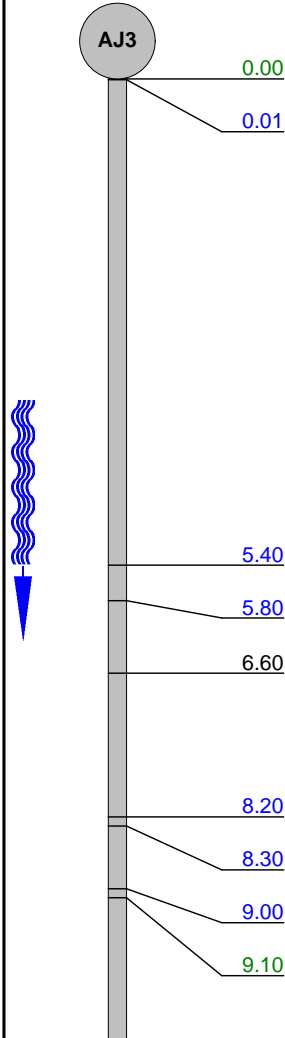
Inspection report / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 11	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenoque Busniss Park Property with buildings AJ3 (D/S) DS	Location details: Catchment: Tape number : 051216_1 Pipe Length	U/S MH : AJ3 U/S Depth : D/S MH : DS D/S Depth :
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	100.00 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	11.90 m	Lining :	

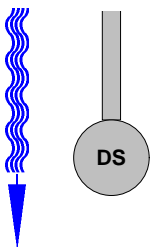
Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJ3	00:00:02		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:01		(Serv) 0
	5.40	WL	Water level, 10% of the vertical dimension	00:03:17		(Serv) 0
	5.80	WL	Water level, 30% of the vertical dimension	00:00:49		(Serv) 0
	6.60	CUW	Loss of vision, camera under water	00:00:57		(Misc) 0
	8.20	LR	Line deviates right Remarks: 45 deg.	00:01:18		(Serv) 0
	8.30	WL	Water level, 30% of the vertical dimension	00:01:20		(Serv) 0
	9.00	WL	Water level, 15% of the vertical dimension	00:01:35		(Serv) 0
	9.10	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:34		(Constr) 0



Inspection Report / Inspection: 1

Date : 06/12/2016	Job number :	Weather : rain	Operator : Frantisek	Section number : 11	PLR : X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:84	Position	Code	Observation	MPEG	Photo	Grade
						
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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 06/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 12	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G1 (U/S) G2	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G2 G1
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 11.91 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:105	Position	Code	Observation	MPEG	Photo	Grade
	G1					
	0.00	GY	Start node type, gully, reference number : G1	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	4.50	LR	Line deviates right Remarks: 90 deg.	00:01:33		(Serv) 0
	11.90	WL	Water level, 0% of the vertical dimension	00:03:46		(Serv) 0
	11.91	GYF	Finish node type, gully reference number: G2	00:03:46		(Constr) 0
	G2					

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 06/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 13	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenoque Busniss Park Property with buildings AJ3 (U/S) US1	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	US1 AJ3
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.41 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJ3	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.10	WL	Water level, 5% of the vertical dimension	00:00:46		(Serv) 0
	7.20	LL	Line deviates left	00:01:14		(Serv) 0
	7.30	WL	Water level, 0% of the vertical dimension	00:01:24		(Serv) 0
	9.30	LU	Line deviates up	00:01:39		(Serv) 0
	9.40	WL	Water level, 0% of the vertical dimension	00:01:35		(Serv) 0
	9.41	GYF	Finish node type, gully reference number: US1 Gully underneath the weightbridge.	00:01:35		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 14	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings AJ3 (U/S) US2	Location details: Catchment: Tape number : Pipe Length		051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	US2 AJ3
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 2.21 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride			

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	AJ3					
	0.00	IC	Start node type, inspection chamber, reference number : AJ3	00:00:02		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	1.90	LU	Line deviates up	00:00:18		(Serv) 0
	2.20	WL	Water level, 0% of the vertical dimension	00:00:20		(Serv) 0
	2.21	GYF	Finish node type, gully reference number: US2 Remarks: Gully under the weighbridge.	00:00:20		(Constr) 0
	US2					

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 15	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G6 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G6 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 4.90 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	G6					
	0.00	GY	Start node type, gully, reference number : G6	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
			For inspection purposes only. Consent of copyright owner required for any other use.			
	4.90	WL	Water level, 0% of the vertical dimension	00:01:35		(Serv) 0
	4.90	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:35		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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

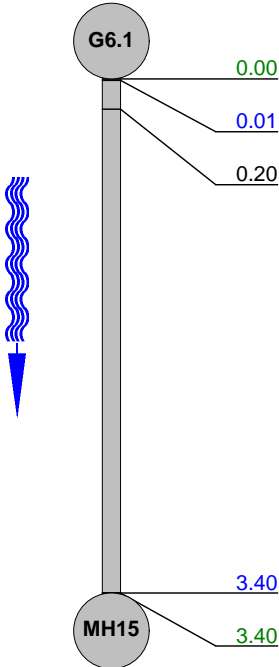
Inspection report / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 16	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenoque Busniss Park Property with buildings G6.1 (D/S) MH15	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	G6.1 MH15
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 3.40 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	GY	Start node type, gully, reference number : G6.1	00:01:21		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.20	REM	General remark Remarks: Socket are connected up side down.	00:00:05		(Misc) 0
	3.40	WL	Water level, 0% of the vertical dimension	00:00:34		(Serv) 0
	3.40	MHF	Finish node type, manhole reference number: MH15	00:00:34		(Constr) 0



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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 17	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenoque Busniss Park Property with buildings G7.1 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	G7.1 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	G7.1					
	0.00	GY	Start node type, gully, reference number : G7.1	00:01:41		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	3.60	WLC	Clear water level, 5% of the vertical dimension	00:00:42		(Serv) 0
	4.40	WLC	Clear water level, 0% of the vertical dimension	00:00:51		(Serv) 0
	9.80	WL	Water level, 0% of the vertical dimension	00:01:41		(Serv) 0
	DS					
	9.81	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:41		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 18	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G7 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G7 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 5.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	G7					
	0.00	GY	Start node type, gully, reference number : G7	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	5.00	WL	Water level, 0% of the vertical dimension	00:00:50		(Serv) 0
	5.01	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:00:50		(Constr) 0
	DS					

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 22/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 19	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G8.1 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G8.1 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 2.11 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	GY	Start node type, gully, reference number : G8.1	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	1.80	LR	Line deviates right	00:00:15		(Serv) 0
	2.10	WL	Water level, 0% of the vertical dimension	00:00:20		(Serv) 0
	2.11	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:00:20		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 20	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G8 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G8 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 6.41 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride	

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	G8					
	0.00	GY	Start node type, gully, reference number : G8	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.40	CN	Connection other than junction, at 9 o'clock, diameter 100mm	00:00:35		(Constr) 0
	6.10	LR	Line deviates right Remarks: 45 deg.	00:01:18		(Serv) 0
	6.10	WL	Water level, 0% of the vertical dimension	00:01:21		(Serv) 0
	6.40	WL	Water level, 5% of the vertical dimension	00:01:21		(Serv) 0
	6.41	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:21		(Constr) 0
	DS					

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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

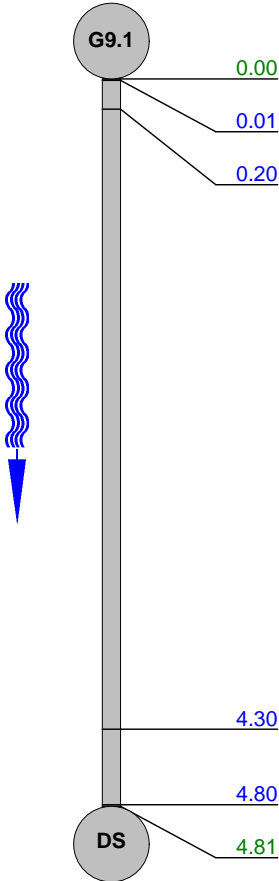
Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 21	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G9.1 (D/S) DS	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 Routine inspection of condition 4.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	GY	Start node type, gully, reference number : G9.1	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.20	LL	Line deviates left Remarks: 45 deg.	00:00:01		(Serv) 0
	4.30	LD	Line deviates down	00:00:42		(Serv) 0
	4.80	WL	Water level, 0% of the vertical dimension	00:01:03		(Serv) 0
	4.81	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:03		(Constr) 0



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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 22	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G9 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	G9 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 7.41 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	0.00	GY	Start node type, gully, reference number : G9	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	0.90	SR	Sealing ring intruding, from 5 to 7 o'clock	00:00:12	22_3A	(Constr) 1
	6.30	REM	General remark Remarks: Socket on this pipe are connected against the stream.	00:01:12		(Misc) 0
	7.40	WL	Water level, 0% of the vertical dimension	00:01:25		(Serv) 0
	7.41	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:25		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.67	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 22	PLR Suffix : X
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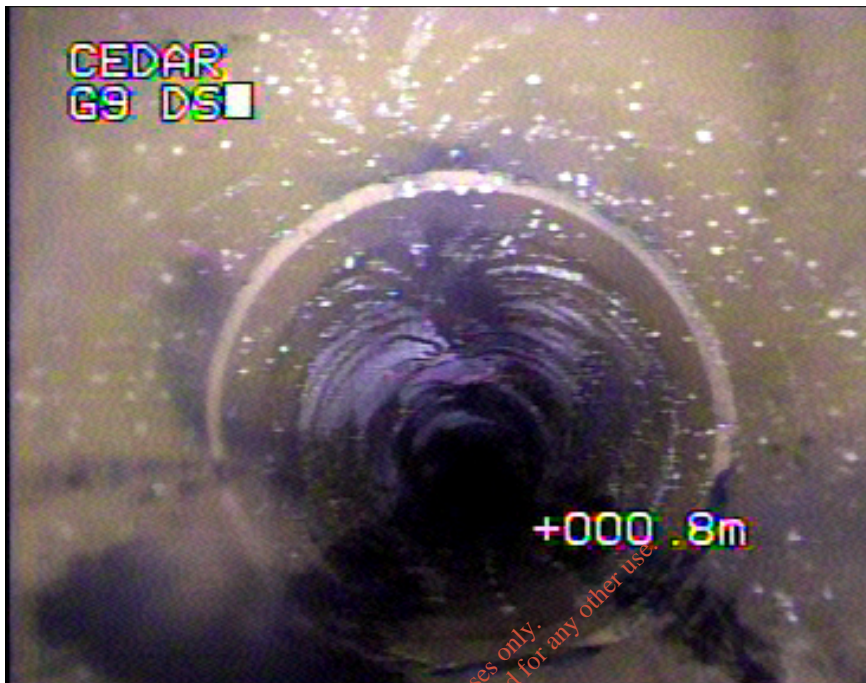


Photo: 22_3A, MPEG #: 051216_1, 00:00:12
0.9m, Sealing ring intruding, from 5 to 7 o'clock

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 23	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S2 (D/S) S3	Location details: Catchment: Tape number : Pipe Length	051216_1 	U/S MH : U/S Depth : D/S MH : D/S Depth :	S2 S3
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 31.10 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:252	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S2	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	30.00	SR	Sealing ring intruding, from 11 to 3 o'clock	00:04:31	23_3A	(Constr) 1
	30.50	LR	Line deviates right Remarks: 45 deg.	00:05:02		(Serv) 0
	31.10	WL	Water level, 0% of the vertical dimension	00:05:15		(Serv) 0
	31.10	MHF	Finish node type, manhole reference number: S3	00:05:15		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.16	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 23	PLR Suffix : X
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Photo: 23_3A, MPEG #: 051216_1, 00:04:31
30m, Sealing ring intruding, from 11 to 3 o'clock

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 24	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S2 (U/S) S4	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 Routine inspection of condition 18.11 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride

Comment :

1:147	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S2	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	3.20	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:00:27		(Constr) 0
	3.20	WL	Water level, 5% of the vertical dimension	00:00:29		(Serv) 0
	4.70	WL	Water level, 0% of the vertical dimension	00:00:43		(Serv) 0
	4.71	LL	Line deviates left Remarks: 45 deg.	00:00:43		(Serv) 0
	9.00	WL	Water level, 5% of the vertical dimension	00:01:23		(Serv) 0
	10.20	WL	Water level, 0% of the vertical dimension	00:01:34		(Serv) 0
	11.10	CN	Connection other than junction, at 3 o'clock, diameter 100mm	00:01:41		(Constr) 0
	13.00	SZ	Surface damage, other, from 8 to 9 o'clock Remarks: A piece of wire damaged surface of this pipe .	00:02:35	24_10A	(Struct) 0
	15.30	WL	Water level, 5% of the vertical dimension	00:03:03		(Serv) 0
	16.20	WL	Water level, 10% of the vertical dimension	00:03:10		(Serv) 0
	17.00	WL	Water level, 0% of the vertical dimension	00:03:43		(Serv) 0
	18.10	WL	Water level, 0% of the vertical dimension	00:03:53		(Serv) 0
	18.11	MHF	Finish node type, manhole reference number: S4	00:03:53		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 24	PLR Suffix : X
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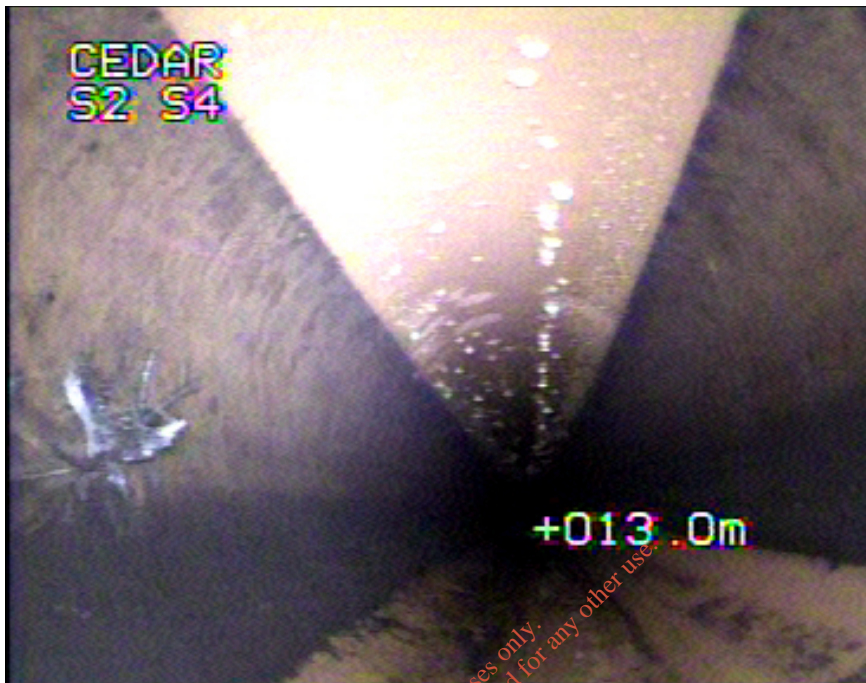


Photo: 24_10A, MPEG #: 051216_1, 00:02:35
13m, Surface damage, other, from 8 to 9 o'clock

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 25	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S3 (D/S) S11	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S3 S11
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 4.31 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S3	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.40	WLC	Clear water level, 5% of the vertical dimension	00:00:25		(Serv) 0
	3.50	LL	Line deviates left Remarks: 45 deg.	00:00:33		(Serv) 0
	4.30	WL	Water level, 0% of the vertical dimension	00:00:44		(Serv) 0
	4.31	MHF	Finish node type, manhole reference number: S11	00:00:44		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 26	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S4 (U/S) US	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	US S4
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 4.10 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S4	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.00	WL	Water level, 0% of the vertical dimension	00:00:19		(Serv) 0
	3.01	BRF	Finish node type, major connection without manhole reference number: US Remarks: Retention Tank.	00:00:19		(Constr) 0
	4.10	LD	Line deviates down Remarks: 45 deg.	00:00:20		(Serv) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 27	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S5 (U/S) DP	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	DP S5
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 15.91 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S5	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.40	LL	Line deviates left Remarks: 45 deg.	00:00:03		(Serv) 0
	1.10	LL	Line deviates left Remarks: 15-30 deg.	00:00:07		(Serv) 0
	4.40	WLC	Clear water level, 5% of the vertical dimension	00:00:32		(Serv) 0
	4.90	WL	Water level, 10% of the vertical dimension	00:00:36		(Serv) 0
	6.30	WL	Water level, 5% of the vertical dimension	00:00:45		(Serv) 0
	8.50	WL	Water level, 0% of the vertical dimension	00:01:09		(Serv) 0
	11.10	OJM	Open joint, medium Remarks: Pipes are not connected fully.	00:01:44	27_9A	(Struct) 1
	11.60	WL	Water level, 5% of the vertical dimension	00:01:47		(Serv) 0
	13.70	WL	Water level, 0% of the vertical dimension	00:02:05		(Serv) 0
	15.40	LR	Line deviates right Remarks: 90 deg.	00:02:23		(Serv) 0
	15.90	WL	Water level, 0% of the vertical dimension	00:02:29		(Serv) 0
	15.91	BRF	Finish node type, major connection without manhole reference number: DP Remarks: Discharging Point of aco	00:02:29		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	1	0.06	1	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 27	PLR Suffix : X
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Photo: 27_9A, MPEG #: 051216_1, 00:01:44
11.1m, Open joint, medium

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 28	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S6 (D/S) OS	Location details: Catchment: Tape number : Pipe Length	051216_1 	U/S MH : U/S Depth : D/S MH : D/S Depth :	S6 OS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	S6					
	0.00	MH	Start node type, manhole, reference number : S6	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	3.00	WL	Water level, 5% of the vertical dimension	00:00:31		(Serv) 0
	3.70	WL	Water level, 10% of the vertical dimension	00:00:37		(Serv) 0
	6.30	WL	Water level, 15% of the vertical dimension	00:00:59		(Serv) 0
	7.60	WL	Water level, 10% of the vertical dimension	00:01:10		(Serv) 0
	9.00	WL	Water level, 10% of the vertical dimension	00:01:22		(Serv) 0
	9.01	BRF	Finish node type, major connection without manhole reference number: OS Remarks: This pipe is connected to	00:01:22		(Constr) 0
			OS			



Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 29	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S6 (U/S) S5	Location details: Catchment: Tape number : Pipe Length	051216_1 	U/S MH : U/S Depth : D/S MH : D/S Depth :	S5 S6 S6
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 7.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node type, manhole, reference number : S6	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	7.60	WL	Water level, 0% of the vertical dimension	00:01:51		(Serv) 0
						
	7.61	MHF	Finish node type, manhole reference number: S5	00:01:51		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 30	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S6 (U/S) S7	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S7 S6
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 8.11 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	S6					
	0.00	MH	Start node type, manhole, reference number : S6	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	8.10	WLC	Clear water level, 0% of the vertical dimension	00:01:05		(Serv) 0
	S7					
	8.11	MHF	Finish node type, manhole reference number: S7	00:01:05		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 31	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings G4 (D/S) S7	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	G4 S7
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 6.11 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	G4					
	0.00	GY	Start node type, gully, reference number : G4	00:00:58		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:58		(Serv) 0
	5.90	LR	Line deviates right Remarks: 45 deg.	00:00:58		(Serv) 0
	6.10	WL	Water level, 0% of the vertical dimension	00:01:03		(Serv) 0
	6.11	MHF	Finish node type, manhole reference number: S7	00:01:03		(Constr) 0
	S7					

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 32	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S8 (U/S) S9	Location details: Catchment: Tape number : Pipe Length		051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S9 S8
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 37.71 m			Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:315	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S8	00:00:03		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:03		(Serv) 0
	2.90	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:00:32		(Constr) 0
	4.50	WL	Water level, 5% of the vertical dimension	00:00:49		(Serv) 0
	7.20	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:01:09		(Constr) 0
	16.30	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:02:27		(Constr) 0
	25.50	WL	Water level, 0% of the vertical dimension	00:03:57		(Serv) 0
	28.40	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:03:55		(Constr) 0
	37.70	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	37.71	MHF	Finish node type, manhole reference number: S9	00:00:00		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 33	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S8 (D/S) S10	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S8 S10
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 37.41 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:315	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S8	00:00:01		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	30.60	WL	Water level, 5% of the vertical dimension	00:04:41		(Serv) 0
	31.70	LL	Line deviates left Remarks: 15	00:04:20		(Serv) 0
	31.90	WL	Water level, 0% of the vertical dimension	00:04:26		(Serv) 0
	37.40	WL	Water level, 5% of the vertical dimension	00:04:46		(Serv) 0
	37.41	MHF	Finish node type, manhole reference number: S10	00:04:46		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 34	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S9 (U/S) G1	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G1 S9
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 5.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node type, manhole, reference number : S9	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	5.60	WLC	Clear water level, 0% of the vertical dimension	00:00:57		(Serv) 0
	5.61	GYF	Finish node type, gully reference number: G1	00:00:57		(Constr) 0
						

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 35	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S9 (U/S) G3	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	G3 S9
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 10.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:105	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S9	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	3.00	DES	Settled deposits, fine, 5% cross-sectional area loss	00:00:27		(Serv) 2
	5.20	WL	Water level, 10% of the vertical dimension	00:00:38		(Serv) 0
	8.50	WL	Water level, 0% of the vertical dimension	00:00:58		(Serv) 0
	10.80	WL	Water level, 0% of the vertical dimension	00:01:12		(Serv) 0
	10.81	GYF	Finish node type, gully reference number: G3	00:01:12		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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	1	0.09	1	2

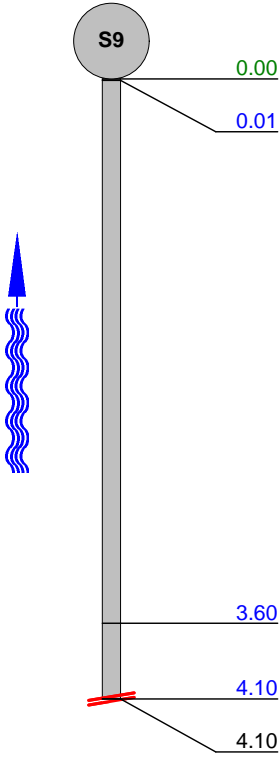
Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 36	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S9 (U/S) US2	Location details: Catchment: Tape number : Pipe Length	051216_1 US2 S9
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 4.10 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S9	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.60	LU	Line deviates up	00:00:30		(Serv) 0
	4.10	WL	Water level, 0% of the vertical dimension	00:00:41		(Serv) 0
	4.10	SA	Survey abandoned Remarks: Survey could not be completed due to Length of this pipe. This pipe is a water s	00:00:41		(Misc) 0



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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 37	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S10 (D/S) S11	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S10 S11
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 26.61 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:210	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S10	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	6.00	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:00:43		(Constr) 0
	26.60	WL	Water level, 0% of the vertical dimension	00:03:04		(Serv) 0
	26.61	MHF	Finish node type, manhole reference number: S11	00:03:04		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 38	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S10 (U/S) S13	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S13 S10
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 47.71 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:378	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S10	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.30	CN	Connection other than junction, at 1 o'clock, diameter 100mm Remarks: Possibly a water spout.	00:00:21		(Constr) 0
	14.30	CN	Connection other than junction, at 1 o'clock, diameter 100mm Remarks: A water spout.	00:01:46		(Constr) 0
	26.70	CN	Connection other than junction, at 2 o'clock, diameter 100mm Remarks: A water spout.	00:03:15		(Constr) 0
	34.70	WL	Water level, 5% of the vertical dimension	00:05:49		(Serv) 0
	37.10	WL	Water level, 0% of the vertical dimension	00:06:39		(Serv) 0
	39.00	CN	Connection other than junction, at 2 o'clock, diameter 100mm Remarks: A water spout.	00:07:27		(Constr) 0
	47.70	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	47.71	MHF	Finish node type, manhole reference number: S13	00:00:00		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 39	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S11 (U/S) OS	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	OS S11
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 6.21 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S11	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	5.30	WL	Water level, 0% of the vertical dimension	00:00:40		(Serv) 0
	6.20	WL	Water level, 0% of the vertical dimension	00:00:46		(Serv) 0
	6.21	OSF	Finish node type, oil separator reference number: OS Remarks: Oil Separator.	00:00:46		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 40	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S11 (U/S) S3	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S3 S11
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 3.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S11	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	0.10	LR	Line deviates right Remarks: 45 deg.	00:00:04		(Serv) 0
	1.00	WL	Water level, 5% of the vertical dimension	00:00:11		(Serv) 0
	3.80	WLC	Clear water level, 0% of the vertical dimension	00:00:29		(Serv) 0
	3.81	MHF	Finish node type, manhole reference number: S3	00:00:29		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 41	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S13 (U/S) G4	Location details: Catchment: Tape number : Pipe Length		051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G4 S13
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 0.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride			

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node type, manhole, reference number : S13	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	0.60	WL	Water level, 0% of the vertical dimension	00:00:11		(Serv) 0
	0.61	GYF	Finish node type, gully reference number: G4	00:00:11		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 42	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S13 (U/S) US	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	US S13
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 26.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:210	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S13	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	4.10	WL	Water level, 0% of the vertical dimension	00:00:40		(Serv) 0
	7.10	CN	Connection other than junction, at 2 o'clock, diameter 100mm Remarks: A water spout.	00:01:04		(Constr) 0
	14.20	CN	Connection other than junction, at 12 o'clock, diameter 100mm Remarks: A water spout.	00:02:08		(Constr) 0
	14.50	WLC	Clear water level, 5% of the vertical dimension	00:02:12		(Serv) 0
	15.00	WL	Water level, 0% of the vertical dimension	00:02:16		(Serv) 0
	17.50	CN	Connection other than junction, at 12 o'clock, diameter 100mm Remarks: A water spout.	00:02:37		(Constr) 0
	19.80	WL	Water level, 5% of the vertical dimension	00:02:54		(Serv) 0
	21.10	CN	Connection other than junction, at 12 o'clock, diameter 100mm Remarks: A water spout.	00:03:03		(Constr) 0
	22.70	WL	Water level, 0% of the vertical dimension	00:03:16		(Serv) 0
	26.50	WL	Water level, 0% of the vertical dimension	00:03:43		(Serv) 0
	26.51	BRF	Finish node type, major connection without manhole reference number: US Remarks: The end of the pipe.	00:03:43		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 43	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S13 (U/S) WS	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 Routine inspection of condition 6.41 m	Pipe shape : Pipe size : Pipe material : Lining :	WS S13 Circular 100.00 mm Polyvinyl chloride

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S13	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	1.70	LL	Line deviates left Remarks: 45 deg.	00:00:15		(Serv) 0
	1.71	CN	Connection other than junction, at 12 o'clock, diameter 100mm Remarks: A water spout.	00:00:15		(Constr) 0
	6.40	WL	Water level, 0% of the vertical dimension	00:00:41		(Serv) 0
	6.41	BRF	Finish node type, major connection without manhole reference number: WS Remarks: A water spout.	00:00:41		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 44	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S14 (U/S) G10	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G10 S14
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 4.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S14	00:00:01		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	4.60	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	4.61	GYF	Finish node type, gully reference number: G10	00:00:00		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 45	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S14 (U/S) US	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	US S14
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 3.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	S14	MH	Start node type, manhole, reference number : S14	00:00:00		(Constr) 0
	0.00	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:09		(Serv) 0
	1.00	WL	Water level, 0% of the vertical dimension	00:00:29		(Serv) 0
	3.60	BRF	Finish node type, major connection without manhole reference number: US Remarks: dead End.	00:00:29		(Constr) 0
	3.61					

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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

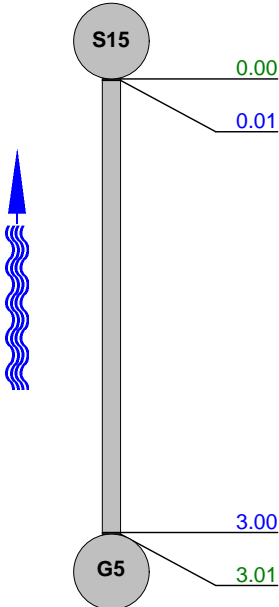
Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 46	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S15 (U/S) G5	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G5 S15
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 3.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S15	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	3.00	WL	Water level, 0% of the vertical dimension	00:00:26		(Serv) 0
	3.01	GYF	Finish node type, gully reference number: G5	00:00:26		(Constr) 0



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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 47	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S15 (U/S) S14	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S14 S15 S15
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 42.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:336	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S15	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	6.70	CN	Connection other than junction, at 3 o'clock, diameter 150mm Remarks: Connection from G7.1	00:00:43		(Constr) 0
	16.80	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Connection from G8.1	00:01:43		(Constr) 0
	19.40	CN	Connection other than junction, at 9 o'clock, diameter 100mm Remarks: Connection from G9.1	00:02:03		(Constr) 0
	24.30	SR	Sealing ring intruding, from 10 to 6 o'clock	00:02:39	47_6A	(Constr) 1
	25.20	CN	Connection other than junction, at 2 o'clock, diameter 80mm Remarks: Connection from Pump beside loading de	00:02:48		(Constr) 0
	42.50	WLC	Clear water level, 0% of the vertical dimension	00:06:44		(Serv) 0
	42.51	MHF	Finish node type, manhole reference number: S14	00:06:44		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.12	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 47	PLR Suffix : X
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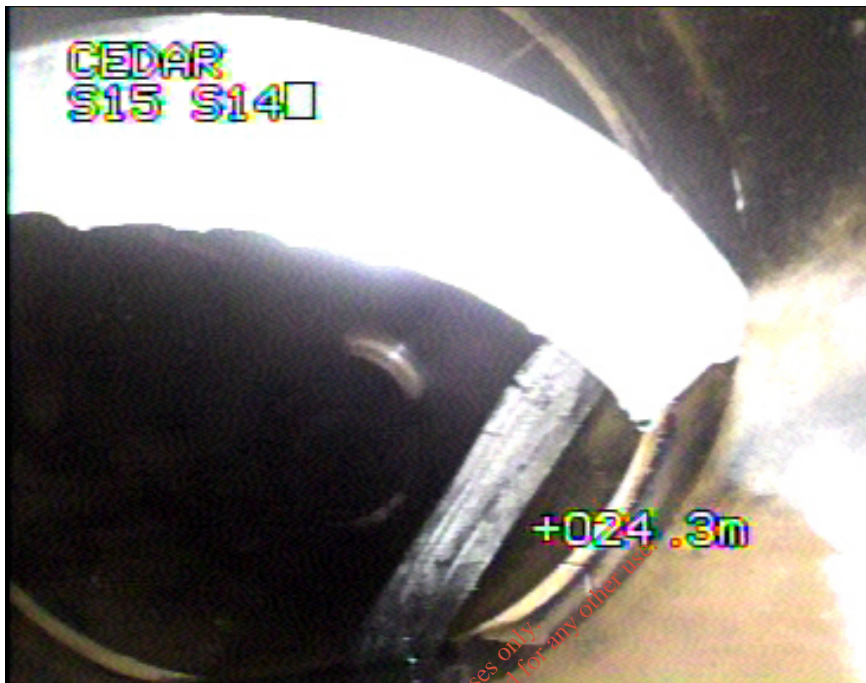


Photo: 47_6A, MPEG #: 051216_1, 00:02:39
24.3m, Sealing ring intruding, from 10 to 6 o'clock

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 48	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S15 (D/S) S16	Location details: Catchment: Tape number : Pipe Length	051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	S15 S16
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 7.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride		

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S15	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	6.20	LR	Line deviates right	00:00:52		(Serv) 0
	6.40	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	7.00	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	7.01	MHF	Finish node type, manhole reference number: S16	00:00:00		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 49	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S16 (D/S) S7	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	S16 S7
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 15.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride

Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S16	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	13.10	WLC	Clear water level, 5% of the vertical dimension	00:01:52		(Serv) 0
	14.10	WLC	Clear water level, 10% of the vertical dimension	00:02:00		(Serv) 0
	15.00	LL	Line deviates left Remarks: 90 deg.	00:02:07		(Serv) 0
	15.40	JDL	Joint displaced, large Remarks: Poor workmanship.	00:02:41	49_6A	(Struct) 1
	15.50	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	15.51	MHF	Finish node type, manhole reference number: S7	00:00:00		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 49	PLR Suffix : X
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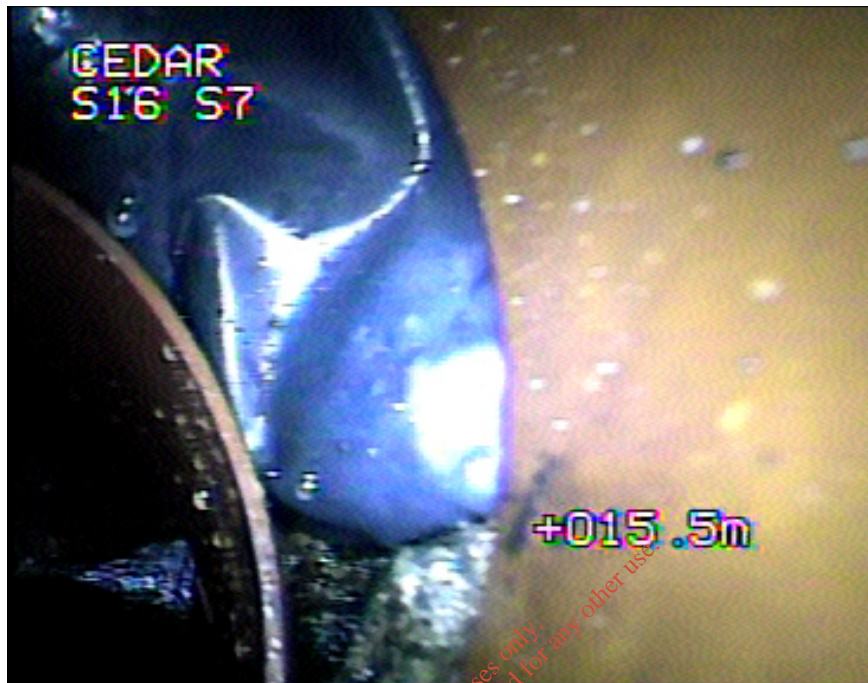


Photo: 49_6A, MPEG #: 051216_1, 00:02:41
15.4m, Joint displaced, large

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 50	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings SUMP (U/S) AD	Location details: Catchment: Tape number : Pipe Length		051216_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AD SUMP
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 0.62 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride			

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	0.00	CP	Start node type, catchpit, reference number : SUMP	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.60	RF	Roots, fine Remarks: These roots come from gap between the end of this pipe and ACCO Drain.	00:00:12	50_3A	(Serv) 2
	0.61	WL	Water level, 0% of the vertical dimension	00:01:15		(Serv) 0
	0.62	BRF	Finish node type, major connection without manhole reference number: AD Remarks: ACCO Drain.	00:01:15		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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	1	1.61	1	3

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 50	PLR Suffix : X
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Photo: 50_3A, MPEG #: 051216_1, 00:00:12
0.6m, Roots, fine

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Inspection report / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 51	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings SW1 (D/S) S17	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		051216_1	SW1 S17
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 12.31 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

1:105	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : SW1 Remarks: Surface water valve.	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	8.30	REM	General remark Remarks: Socket connection against the stream	00:01:15		(Misc) 0
	12.30	WL	Water level, 0% of the vertical dimension	00:01:49		(Serv) 0
	12.31	MHF	Finish node type, manhole reference number: S17	00:01:49		(Constr) 0

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Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
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 / Inspection: 1

Date : 23/12/2016	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 52	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Greenogue Busniss Park Property with buildings S1 (D/S) OS	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 Routine inspection of condition 37.81 m	Pipe shape : Pipe size : Pipe material : Lining :	S1 OS Circular 225.00 mm Polyvinyl chloride

Comment :

1:315	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : S1	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	14.00	OBI	Other obstacles protuding through wall, from 12 to 6 o'clock, 5% cross-sectional area loss Remarks: A steel bar	00:01:52	52_3A	(Serv) 5
	23.30	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Connection from G9	00:03:09		(Constr) 0
	27.20	CN	Connection other than junction, at 2 o'clock, diameter 100mm Remarks: Connection from G6	00:03:35		(Constr) 0
	31.70	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Connection from G8.	00:04:01		(Constr) 0
	36.10	SR	Sealing ring intruding, from 11 to 1 o'clock	00:05:24		(Constr) 1
	36.10	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Connection from G7	00:05:26	52_8A	(Constr) 0
	36.70	CN	Connection other than junction, at 9 o'clock, diameter 100mm Remarks: Connection from AJ3.	00:05:38		(Constr) 0
	37.20	CN	Connection other than junction, at 3 o'clock, diameter 150mm Remarks: Connection from S6.	00:05:58		(Constr) 0
	37.40	WL	Water level, 0% of the vertical dimension	00:06:05		(Serv) 0
	37.80	WL	Water level, 10% of the vertical dimension	00:06:05		(Serv) 0
	37.81	BRF	Finish node type, major connection without manhole reference number: OS Remarks: Survey stopped just befor	00:06:05		(Constr) 0

Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	5	0.13	5	1	1	10	0.26	10	5

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Greenoque Busniss Park	Date : 23/12/2016	Section number : 52	PLR Suffix : X
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Photo: 52_3A, MPEG #: 051216_1, 00:01:52
14m, Other obstacles protruding through wall, from 12 to 6 o'clock, 5% cross-sectional area loss



Photo: 52_8A, MPEG #: 051216_1, 00:05:26
36.1m, Connection other than junction, at 10 o'clock, diameter 100mm

ONSITE DRAINAGE – SUMMARY OF DEFECTS

**PLEASE REFER TO THE SITE PLAN OVERLEAF*

It was apparent from the CCTV camera inspection that the drainage system is generally in good condition, with some area requiring attention.

For any of the places where a seal ring was found to be intruding, a structural patch lining of all defective sections is recommended in order to reinstate the drainage lines to a watertight condition. Other drainage line defects have been itemised below.

Foul Line

Drainage line: F6 – F4

<i>Location</i>	<i>Defect</i>
8.30m	Multiple cracks in the line. Recommendation repair by installation of liner.
14.30m	Settled deposits in the line. Assumed to be a lump of concrete from the building manufacture. Recommend robotic cutter to break up concrete and the line be flushed.

Surface Water Line

Drainage Line: AD – Sump

<i>Location</i>	<i>Defect</i>
0.60m	Roots located at the end of the pipe at the ACO Drain. Recommend root cutter to dislodge roots and liner to repair line.

Drainage Line: S1 – OS

<i>Location</i>	<i>Defect</i>
14.00m	A steel bar is protruding through the drain wall. Recommend that a robotic cutter cuts the steel bar and that the line is repaired by installation of a liner.

Drainage Line: S16 – S7

<i>Location</i>	<i>Defect</i>
15.40m	Joint displacement. A structural patch liner is required on this defective section in order to bring it to a watertight condition.

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Attachment H.5 Waste Recycling and Recovery

The foundation statement on national waste management policy “Changing Our Ways” was issued by the Department of the Environment and Local Government in September 1998. The statement firmly based national policy on the EU Waste Management Hierarchy, which in descending order of preference is:

- Prevention;
- Preparing for Reuse;
- Recycling;
- Other Recovery (including energy recovery), and
- Disposal.

The statement was based on and supported by EU legislation that required the reduction in the volume of biodegradable waste disposed to landfill. EU Landfill Directive 99/31/EC set out the following reduction targets, which are based on 1995 figures:

- Minimum 25% reduction by 2010 (includes 4 year derogation);
- Minimum 50% reduction by 2013 (includes 4 year derogation)
- Minimum 65% reduction by 2016 (derogation available but not taken).

The 2002 government policy statement ‘Preventing and Recycling Waste - Delivering Change’ identified initiatives to achieve progress at the top of the Waste Hierarchy to prevent waste arising and increase recycling rates.

In 2004 ‘Waste Management – Taking Stock and Moving Forward’, the significant improvement in recycling rates achieved since 1998 was recognised, but the need for further expansion was emphasised. The Statement confirmed that Ireland’s national policy approach remained ‘grounded in the concept of integrated waste management, based on the internationally recognised waste hierarchy, designed to achieve, by 2013, the ambitious targets set out in Changing Our Ways’.

The EU Waste Framework Directive 2008/98/EC was introduced to coordinate waste management in the Member States so as to limit the generation of waste and optimise the organisation of waste treatment and disposal.

The Directive, which also established the first EU wide recycling targets, was transposed into Irish Law by the European Communities (Waste Directive) Regulations 2011 (S. I. No.126 of 2011). By 2020, Member States must reuse or recycle 50% of certain categories of household waste and reuse, recycle or recover 70% of non-hazardous C & D waste.

The most recent Policy Statement ‘A Resource Opportunity Waste Management Policy In Ireland 2012’ is also predicated on the EU Waste Management Hierarchy and encompasses a range of measures across all tiers namely, prevention, preparation for reuse, recycling, other recovery and disposal.

The Statement sets out how the higher tiers can reduce Ireland's reliance on finite resources, virtually eliminate reliance on landfill and minimise the impact of waste management on the environment. It is a policy objective that when waste is generated, the maximum value must be extracted from it by ensuring that it is reused, recycled or recovered.

The current Waste Management Plan for the Eastern Midlands Region 2015-2021 was published in May 2015 and remains in place until a new Regional Plan is made. The Plan recognises the significant advances in the development of thermal recovery capacity in Ireland, where the principal use of the waste is as a fuel to generate energy.

It is policy of the Plan to aim to improve regional and national self-sufficiency of waste management infrastructure for the reprocessing and recovery of particular waste streams in accordance with the proximity principle.

The Dublin Waste to Energy (WtE) Facility is now operational. This is a critical infrastructure project, and has been clearly outlined in Waste Management Plans for the Region for some time. There is currently no recovery/disposal outlet for the APCR in Ireland. The proposed change at the RILTA installation is to accommodate the export of the material for recovery/disposal pending the development of indigenous recovery/disposal outlets.

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