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ANNUAL ENVIRONMENTAL REPORT

RILTA ENVIRONMENTAL LTD.

BLOCK 402 GREENOGUE BUSINESS PARK

LICENCE NO. W0192-03

JANUARY 2018 – DECEMBER 2018

Prepared For: -

Rilta Environmental Ltd,
Greenogue Business Park,
Rathcoole,
County Dublin.

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Project	Annual Environmental Report 2018			
Client	Rilta Environmental Ltd W0192-03			
Report No	Date	Status	Prepared By	Reviewed By
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1. INTRODUCTION

This is the 2018 Annual Environmental Report (AER) for Rilta Environmental Limited's (Rilta) Materials Recovery Facility (MRF) located at Block 402, Greenogue Business Park, Rathcoole, County Dublin. The report covers the period from the 1st January 2018 to the 31st December 2018.

The content of the AER is based on Condition 10.1 and Schedule E of the Industrial Emissions Licence (W0192-03) and the report format follows guidelines set in the "Guidance Note for Annual Environmental Report" issued by the Environmental Protection Agency (Agency)¹. Account is also taken of the AER Draft Guidance Document and AER Information Templates issued by the Agency in December 2019².

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¹ EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency

² EPA (Environmental Protection Agency) 2019 AER Draft Guidance Document

2. SITE DESCRIPTION

2.1 Site Location and Layout

The facility is located within an industrial estate approximately 2km east of Newcastle village and approximately 2.5km west of Rathcoole village. A site layout plan is in Appendix 1.

2.2 Waste Management Activities

The current licence allows Rilta to accept and process up to 111,000 tonnes of non-hazardous and hazardous waste per annum, as set out in Appendix A and Table 2.1 on the next page:

Waste activities at are restricted to those listed in *Part 1 – Schedule of Activities Licensed*.

Licensed Waste Disposal Activities, in accordance with the 3rd Schedule of the Waste Management Act, 1996 to 2010:

Class 7: Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination), which results in final compounds or mixtures, which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule (including evaporation, drying and calcination);

Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule;

Class 12: Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule; and

Class 13: Storage prior to submission to any activity referred to in a preceding paragraph of this schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Licensed Waste Disposal Activities, 4th Schedule of the Waste Management Acts 1996 to 2010:

Class 2: Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processes);

Class 3: Recycling or reclamation of metals and metal compounds;

Class 4: Recycling or reclamation of other inorganic materials;

Class 6: Recovery of components used for pollution abatement;

Class 8: Oil re-refining or other re-uses of oil; and

Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Table 2.1 Waste Types and Quantities (W0192-03)

Waste Type		Maximum Allowable Annual Tonnage	Note	
Non-Hazardous Waste	Notes 1,2		3	
		Commercial Waste	500	
		C & D Waste	500	
		Industrial Sludges	1,000	
		Other Industrial Waste	3,000	
Non-Hazardous Waste Total		5,000		
Hazardous Waste	EWC Code	Description	Maximum Allowable Annual Tonnage	Note
				3
	13 05 03*	Interceptor Sludges	10,000	
	16 07 08*	Waste containing Oil	2,000	
	16 10 01*	Aqueous Liquid waste containing Dangerous Substances	1,500	
	17 05 03*	Soil and Stones containing Dangerous Substances	60,000	
	17 06 01*	Insulation Materials and Construction Materials containing Asbestos	8,000	
	17 06 05*	Other	24,500	Note 4
Hazardous Waste Total		106,000		
Total Tonnage per Annum		111,000		

Note 1: Any proposals to accept other compatible non-hazardous waste types must be agreed in advance with the Agency.

Note 2: Excluding putrescible waste.

Note 3: The limitations on individual hazardous and non-hazardous waste types may be varied with the agreement of the Agency subject to the **total annual waste quantity remaining the same**.

Note 4: Hazardous waste types as detailed in Attachment H.1 of the review application for this licence Reg No: 192-03 or may be otherwise agreed in advance with the Agency.

3. EMISSION MONITORING

Rilta implements the environmental monitoring programme specified in the licence to assess the significance of emissions from site activities. The programme includes surface water, wastewater, groundwater, noise, air and dust monitoring.

The monitoring locations are shown on the site layout plan in Appendix 1. The results are submitted in reports to the Agency at quarterly intervals. An overview of the results is presented in this Section, which includes tabulated data.

3.1 Surface Water Monitoring

The rainwater run-off from the hard standing and building roofs discharges to a tributary of the River Griffeen, which flow along the northern site boundary. The tributary flows from east to west towards the River Griffeen. Surface water samples were collected at the discharge point (SW-3) and in the stream at SW-1, which is upstream and SW-2, which is downstream of SW-3. Tables 3.1 to 3.3 present the results for 2018. Table 3.3 includes the Emission Limit Values (ELV) specified in the licence. The emission complied with the ELVs.

Table 3.1 Surface water Monitoring Results 2018: SW-1

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.48	7.76	8.14	7.97
Conductivity	µS/cm	609	651	758	696
COD	mg/l	11	<7	<7	32
Total Suspended Solids	mg/l	<10	<10	<10	<10
Mineral Oil	mg/l	<0.01	<0.01	<0.01	<0.01

Table 3.2 Surface water Monitoring Results 2018: SW-2

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.67	8.08	8.27	7.79
Conductivity	µS/cm	612	656	718	622
COD	mg/l	18	10	<7	29
Total Suspended Solids	mg/l	<10	<10	<10	10
Mineral Oil	mg/l	<0.01	<0.01	<0.01	<0.01

Table 3.3 Surface water Monitoring Results 2018: SW-3

Parameter	Units	Q1	Q2	Q3	Q4	ELV
pH	pH units	7.65	7.09	7.98	8.40	-
Conductivity	µS/cm	285	277	370	107	-
COD	mg/l	19	31	29	29	-
Total Suspended Solids	mg/l	<10	<10	<10	<10	35
Mineral Oil	mg/l	<0.01	<0.01	<0.01	<0.01	5

3.2 Groundwater Monitoring

There are three on-site groundwater monitoring wells (BH-1, BH-2 and BH-3) at the locations shown on the plan in Appendix 1. BH-1 is in the southern (upgradient) section of the site. BH-2 and BH-3 are located in the northern (downgradient) section of the site. In April 2017 during a site visit by the EPA, agency personal removed the sampling equipment from BH-3, located within the tank farm. This has rendered BH-3 inaccessible for monitoring purposes. An alternative borehole (GW-3) located immediately south (upgradient) of the tank farm has been used for monitoring purposes.

The monitoring includes monthly measurement of groundwater levels and the collection and analysis of samples for pH, electrical conductivity and temperature, quarterly monitoring for pH, electrical conductivity, volatile organic compounds (VOCs), semi volatile organics (sVOC), pesticides, DRO, mineral oil, benzene, toluene, ethylbenzene, xylene, arsenic and mercury and annually for dissolved oxygen, alkalinity, sulphate, total cyanide, chloride, boron, cadmium, calcium, total chromium, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc. At the request of the agency, DRO was added to the list of parameters analysed quarterly from Q3 2016 onwards.

There are no trigger levels set in the Licence, but for comparative purposes the Table includes the EPA Interim Guideline Values (IGVs) on groundwater quality and the Groundwater Regulations Threshold Value (TV) which were introduced in 2010 (S.I. 9 of 2010)

Table 3.4 includes the monthly field reading results for the three wells. There were no exceedances of the IGV / TVs.

Tables 3.5 to 3.8 include the quarterly groundwater results, with the annual results included in Table 3.5.

Table 3.4 Monthly Monitoring Results

BH-1	Unit	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	IGV	TV
Water Level	mBTOC	2.16	2.26	2.13	2.24	2.62	2.68	2.88	2.70	2.63	2.68	2.27	2.27		
pH	pH Units	7.67	7.59	7.25	7.46	7.14	8.8	8.0	7.5	7.54	7.48	7.42	7.49	6.5-9.5	
Electrical Conductivity	µS/cm	685	718	892	927	740	719	591	822	660	688	801	818	1,000	800 – 1,875
Temperature	°C	11.4	11.2	10.9	9.9	10.4	12.4	12.7	14.8	13.9	13.8	11.5	12.6	25	
BH-2	Unit														
Water Level	mBTOC	2.24	2.42	2.24	2.26	2.65	2.68	2.87	2.87	2.77	2.72	2.42	2.51		
pH	pH Units	7.66	7.59	7.68	7.65	7.69	8.65	8.30	6.77	7.83	7.72	7.84	7.91	6.5-9.5	
Electrical Conductivity	µS/cm	754	771	1,04	995	994	884	862	635	556	677	611	644	1,000	800 – 1,875
Temperature	°C	11.1	10.8	10.3	95	11.8	11.9	15.1	14.4	12.9	12.9	11.6	11.1	25	
GW-3	Unit														
Water Level	mBTOC	1.39	1.48	1.39	1.43	1.92	1.89	2.19	2.17	1.94	1.86	1.59	1.56		
pH	pH Units	7.58	7.74	7.87	7.47	7.55	8.79	8.35	7.16	7.90	7.66	7.78	7.88	6.5-9.5	
Electrical Conductivity	µS/cm	625	665	756	822	708	742	557	692	470	616	649	714	1,000	800 – 1,875
Temperature	°C	10.1	11.3	9.0	9.8	11.2	12.0	12.7	1.9	13.5	13.8	12.6	12.3	25	

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Table 3.5 Q1 Groundwater Monitoring Results

Parameter	Units	BH-1	BH-2	GW-3	IGV	TV
pH	pH Units	7.59	7.59	7.74	6.5-9.5	-
E.C.	µS/cm	718	771	665	1,000	875 – 1,875
Mercury	µg/l	<1	<1	<1	1	0.75
Arsenic	µg/l	<2.5	2.7	<2.5	10	7.5
Benzene	µg/l	<0.5	<0.5	<0.5	1	0.75
Toluene	µg/l	<5	<5	<5	10	-
Ethylbenzene	µg/l	<1	<1	<1	10	-
o-Xylene	µg/l	<1	<1	<1	10	-
p/m-Xylene	µg/l	<2	<2	<2	10	-
Mineral Oil	mg/l	<0.01	<0.01	<0.01	30	-
EPH	mg/l	<0.01	0.790	<0.01	0.01	-
VOCs (except)	µg/l	ND	ND	ND	*	*
MTBE	µg/l	<0.1	26	5.5	30	-
Chloroform	µg/l	2	<2	<2		
SVOC except	µg/l	ND	ND	ND	*	*
4-Methylphenol	µg/l	<1	4	<1		
Pesticides	µg/l	ND	ND	ND	*	*

* - various IGVs in place for individual VOCs.

ND – not detected

In Q1, mercury, mineral oil, BTEX, VOCs (excluding MTBE and chloroform) and SVOCs (excluding 4-Methylphenol) were not detected in any sample. The field reading for electrical conductivity in BH-2 exceeded the IGV in March, but did not exceed the TV.

Table 3.6 Q2 Groundwater Monitoring Results

Parameter	Units	BH-1	BH-2	GW-3	IGV	TV
pH	pH Units	7.44	7.69	7.55	6.5-9.5	-
E.C.	µS/cm	740	994	708	1,000	875 - 1,875
Mercury	µg/l	<1	<1	<1	1	0.75
Arsenic	µg/l	<2.5	<2.5	<2.5	10	7.5
Benzene	µg/l	<0.5	0.6	<0.5	1	0.75
Toluene	µg/l	<5	<5	<5	10	-
Ethylbenzene	µg/l	<1	<1	<1	10	-
o-Xylene	µg/l	<1	<1	<1	10	-
p/m-Xylene	µg/l	<2	<2	<2	10	-
Mineral Oil	mg/l	<0.01	<0.01	<0.01	30	-
EPH	mg/l	0.210	<0.01	<0.01	0.01	-
PAHs	µg/l	ND	ND	ND		
VOCs (except)	µg/l	ND	ND	ND	*	*
MTBE	µg/l	<0.1	879.7	73.2	30	-
SVOC except	µg/l	ND	ND	ND	*	*
2-Methylphenol	µg/l	<0.5	3.1	<0.5	-	-
4-Methylphenol	µg/l	<1	10	<1	-	-
Phenol	µg/l	<1	8	<1	0.5	-
Pesticides	µg/l	ND	ND	ND	*	*

* - various IGVs in place for individual VOCs.

ND – not detected

In Q2, mercury, arsenic, mineral oil, BTEX (excluding benzene), VOCs (excluding MTBE), SVOCs (excluding 2-Methylphenol, 4-Methylphenol and phenol) and pesticides were not detected in any sample. The MTBE levels in BH-2 (880 ug/l) and GW-3 (73ug/l) exceeded the IGV. A TV has not been established for this parameter.

Table 3.7 Q3 Groundwater Monitoring Results

Parameter	Units	BH-1	BH-2	GW-3	IGV	TV
pH	pH Units	8.30	8.30	8.35	6.5-9.5	-
E.C.	µS/cm	591	862	557	1,000	875 - 1,875
Mercury	µg/l	<1	<1	<1	1	0.75
Arsenic	µg/l	<2.5	4.8	3.5	10	7.5
Benzene	µg/l	<0.5	<0.5	<0.5	1	0.75
Toluene	µg/l	<5	<5	<5	10	-
Ethylbenzene	µg/l	<1	<1	<1	10	-
o-Xylene	µg/l	<1	<1	<1	10	-
p/m-Xylene	µg/l	<2	<2	<2	10	-
Mineral Oil	mg/l	<0.01	<0.01	<0.01	0.01	-
EPH	mg/l	0.210	0.690	<0.170	-	-
PAHs	µg/l	ND	ND	ND	0.1	-
VOCs (except)	µg/l	ND	ND	ND	*	*
MTBE	µg/l	<0.1	324.7	47.1	30	-
Chloroform	µg/l	5	<2	<2		
SVOCs	µg/l	ND	ND	ND	*	*
Pesticides except	µg/l	ND	ND	ND	*	*
Diazinon	µg/l	<0.01	0.13	<0.01		

ND – not detected

NAC – no abnormal change

In Q3, mercury, mineral oil, BTEX, VOCs (excluding MTBE and chloroform), SVOCs and pesticides (except diazinon) were not detected in any sample. The MTBE levels in BH-2 (324.7 ug/l) and GW-3 (47.1ug/l) exceeded the IGV. A TV has not been established for this parameter. All other parameters were below their respective IGV and TV's.

Table 3.8 Q4 Groundwater Monitoring Results

Parameter	Units	BH-1	BH-2	BH-3	IGV	TV
pH	pH Units	7.42	7.84	7.78	6.5-9.5	-
E.C.	µS/cm	801	611	649	1,000	875 – 1,875
Mercury	µg/l	<1	<1	<1	1	0.75
Arsenic	µg/l	<2.5	8.0	3.6	10	7.5
Boron	µg/l	32	93	83	1,000	750
Cadmium	µg/l	<0.5	<0.5	<0.5	5	3.75
Calcium	mg/l	106.1	85.0	69.0	200	-
Copper	µg/l	<7	<7	<7	30	1,500
Total Iron	µg/l	<20	41	35	200	-
Lead	µg/l	<5	<5	<5	10	18.75
Magnesium	mg/l	16.6	10.5	8.6	50	-
Manganese	µg/l	<2	203	769	50	-
Nickel	µg/l	4	18	20	20	15
Potassium	mg/l	3.9	3	8.1	5	-
Sodium	mg/l	34.1	32.9	40.5	150	150
Zinc	µg/l	<3	<3	<3	100	-
Total Chromium	µg/l	<1.5	<1.5	<1.5	30	37.5
Sulphate	mg/l	62.9	58.5	82.8	200	187.5
Chloride	mg/l	54.7	41.4	53.1	30	187.5
Total Cyanide	mg/l	<0.01	0.01	<0.01	0.01	0.0375
Total Alkalinity as CaCO ₃	mg/l	278	244	178	NAC	-
Dissolved Oxygen	mg/l	9	9	9	NAC	-
Benzene	µg/l	<0.5	<0.5	<0.5	1	0.75
Toluene	µg/l	<5	<5	<5	10	-
Ethylbenzene	µg/l	<1	<1	<1	10	-
o-Xylene	µg/l	<1	<1	<1	10	-
p/m-Xylene	µg/l	<2	<2	<2	10	-
MTBE	µg/l	<0.1	140.2	29.3	30	-
Mineral Oil	mg/l	<0.010	<0.010	<0.010	0.01	-
VOC (Excluding MTBE)	µg/l	ND	ND	ND	*	*
VOC	µg/l	ND	ND	ND	*	*
SVOCs	µg/l	ND	ND	ND	*	*
Pesticides (except Diazinon)	µg/l	ND	ND	ND	*	*
Diazinon	µg/l	<0.01	0.02	<0.01	-	-

* - various IGVs in place for individual VOCs.

ND – not detected

NAC – no abnormal change

In Q4, mercury, cadmium, copper, lead, zinc, chromium, mineral oil, BTEX, VOCs (excluding MTBE), SVOCs and pesticides (excluding Diazinon) were not detected in any sample. Diazinon was detected marginally above the method detection limit in BH-2. The manganese levels exceeded the IGV in BH-2 and BH-3. A TV has not been established for this parameter. The Potassium level in BH-3 exceeded the IGV. A TV has not been established for this parameter. Chloride exceeded the IGV but not the TV in all boreholes. The MTBE levels in BH-2 (140.2 µg/l) exceeded the IGV. A TV has not been established for this parameter.

3.3 Wastewater Monitoring

The Licence requires the monitoring of the wastewater discharge from the site to the municipal sewer on a monthly basis at SE-1. A grab sample and a composite sample are collected and sent to an accredited laboratory and analysed for the parameters listed Tables 3.9 and 3.10. All of the results were below their respective ELVs with the exception of Benzene, Toluene and Ethylbenzene in the November grab sample.

Condition 6.16 of the licence requires the annual screening of wastewater against VOCs, SVOCs and some additional metals. There is no ELVs for these additional parameters. Table 3.11 below identifies the VOC/SVOC parameters detected and the concentrations of metals screened.

The daily and hourly maximum volumes of waste water to be discharged from the facility are 180m³ and 40m³ respectively (as set out in Schedule B.3 of the licence). The total volume of wastewater discharged during 2018 was 40,284 m³. The maximum daily and hourly waste water discharges recorded were 175 m³ and 24 m³ respectively.

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Table 3.9 Wastewater Monitoring Results Q1 – Q2

Parameter	Unit	January		February		March		April		May		June		ELV	ELV Grab Sample
		Composit e	Grab	Composit e	Grab	Composit e	Grab	Composit e	Grab	Composit e	Grab	Composit e	Grab	Composit e Sample	
Temperature	°C	-	6	-	4	-	8	-	8	-	16	-	18		42
pH	Units	-	7.76	-	7.43	-	7.44	-	7.74	-	7.12	-	6.76	6 – 10	6 - 10
BOD	mg/l	118	-	11	-	199	-	47	-	5	-	264	-	800	2,000
COD	mg/l	556	-	429	-	717	-	282	-	134	-	575	-	1,600	4,000
Sulphate	mg/l	93.0	-	168.3	-	62.2	-	29.4	-	35.8	-	177.8	-	1,000	1,000
Surfactants	mg/l	-	1.3	-	3.2	-	0.6	-	0.3	-	0.5	-	1.6	100	100
Zinc	mg/l	0.034	-	0.087	-	0.016	-	0.052	-	0.042	-	0.070	-	3	3
Copper	mg/l	0.016	-	0.117	-	<0.007	-	0.038	-	0.066	-	<0.007	-	1	1
Chromium	mg/l	0.0646	-	0.0689	-	0.064	-	0.0376	-	0.0208	-	0.0029	-	1	1
Lead	mg/l	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	0.2	0.2
Nickel	mg/l	0.041	-	0.042	-	0.044	-	0.041	-	0.012	-	0.023	-	1	1
Arsenic	mg/l	0.0472	-	0.0649	-	0.0782	-	0.0083	-	0.0094	-	0.0025	-	0.5	0.5
Benzene	mg/l	-	<0.0005	-	<0.0005	-	<0.005	-	<0.0005	-	<0.005	-	<0.005	1	1
Toluene	mg/l	-	0.017	-	<0.005	-	0.019	-	0.017	-	<0.005	-	0.053	1	1
Ethylbenzene	mg/l	-	<0.001	-	<0.001	-	<0.005	-	<0.001	-	<0.005	-	0.020	1	1
Xylenes	mg/l	-	<0.010	-	<0.003	-	<0.010	-	<0.010	-	<0.010	-	0.139	1	1
TSS	mg/l	25	-	<10	-	25	-	18	-	<10	-	90	-	400	500
Ammonia	mg/l	265.58	-	228.31	-	236.88	-	130.30	-	55.48	-	6.19	-		
Mineral Oil	mg/l	-	<0.01	-	<0.010	-	<0.01	-	<0.010	-	<0.010	-	0.332	10	10

Table 3.10 Wastewater Monitoring Results Q3 – Q4

Parameter	Unit	July		August		September		October		November		December		ELV Composite Sample	ELV Grab Sample
		Composite	Grab												
Temperature	°C	-	17	-	17	-	13	-	12	-	13	-	10		42
pH	Units	-	7.03	-	6.94	-	7.22	-	7.08	-	6.64	-	6.76	6 – 10	6 - 10
BOD	mg/l	187	-	191	-	222	-	236	-	390	-	272	-	800	2,000
COD	mg/l	477	-	626	-	727	-	821	-	931	-	545	-	1,600	4,000
Sulphate	mg/l	466.3	-	338.3	-	577.9	-	389.3	-	532.1	-	162.3	-	1,000	1,000
Surfactants	mg/l	-	1.4	-	0.8	-	2.7	-	1.4	-	11.0	-	1.5	100	100
Zinc	mg/l	0.014	-	<0.003	-	0.138	-	0.009	-	0.414	-	0.011	-	3	3
Copper	mg/l	<0.007	-	<0.007	-	<0.007	-	<0.007	-	<0.007	-	<0.007	-	1	1
Chromium	mg/l	<0.0015	-	<0.0015	-	.0024	-	<0.0015	-	<0.0015	-	<0.0015	-	1	1
Lead	mg/l	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	0.2	0.2
Nickel	mg/l	0.017	-	0.022	-	0.185	-	0.020	-	0.042	-	0.018	-	1	1
Arsenic	mg/l	0.0101	-	0.0105	-	.0112	-	0.0137	-	0.0031	-	<0.0025	-	0.5	0.5
Benzene	mg/l	-	<0.005	-	<0.005	-	<0.005	-	<0.005	4.1685	4.568	-	0.008	1	1
Toluene	mg/l	-	0.062	-	0.015	-	0.045	-	0.054	4.064	4.010	-	0.058	1	1
Ethylbenzene	mg/l	-	0.020	-	0.005	-	0.023	-	0.037	0.430	0.931	-	0.007	1	1
Xylenes	mg/l	-	0.148	-	0.036	-	0.179	-	0.244	1.985	1.866	-	0.067	1	1
TSS	mg/l	51	-	77	-	99	-	85	-	45	-	29	-	400	500
Ammonia	mg/l	29.84	-	7	-	13.32	-	9.90	-	18.13	-	4.40	-		
Mineral Oil	mg/l	-	<0.010	-	<0.010	-	1.478	-	6.725	-	<0.010	-	<0.010	10	10

Table 3.11 Annual Wastewater Monitoring Results

Parameter	Unit	November	
		Composit e	Grab
Boron	°C	1.797	-
Cadmium	Units	<0.0005	-
Mercury	mg/l	<0.001	-
Selenium	mg/l	<0.003	-
SVOCs except	mg/l	ND	-
2-Methylphenol	mg/l	0.2447	-
2,4-Dimethylphenol	mg/l	0.075	-
4-Methylphenol	mg/l	0.192	-
Phenol	mg/l	0.127	-
2-Methylnaphthalene	mg/l	0.042	-
Isopropylbenzene	mg/l	0.047	-
Propylbenzene	mg/l	0.041	-
1,3,5-Triethylbenzene	mg/l	0.131	-
1,2,4-Trimethylbenzene	mg/l	0.383	-
4-Isopropyltoluene	mg/l	0.009	-
n-Butylbenzene	mg/l	0.006	-

3.4 Dust Monitoring

The facility conducted dust monitoring in May/June, August/September and October/November 2018. The results are in Table 3.9. The results for all samples were below the dust deposition limit.

Table 3.13 Dust Monitoring Results 2018

	May/June mg/m ² /day	August / September mg/m ² /day	October / November mg/m ² /day	Deposition Limit mg/m ² /day
D-1	148	122	196	350
D-2	232	217	248	350
D-3	<10	177	148	350
D-4	83	69	182	350

3.5 Noise Survey

A noise survey is carried out annually at the facility. This was conducted in February 2018. Day time noise monitoring was carried out at approved noise monitoring locations as shown in the site plan with the monitoring locations in Appendix 1 and the results are presented in Table 3.11

Site specific L_{Aeq 30 min} levels were calculated at <56 dB at N1, <53 at N2, 58 dB at N3 and 58 dB at N4. The 55 dB daytime limit specified in waste licence W0192-03 is not considered relevant to any of the four noise stations due to the absence of nearby sensitive receptors.

The limit is considered more appropriate to NSLs. An inspection at the nearest NSLs following the survey indicated that facility operations were not audible, and thus lower than the 55 dB daytime noise limit. No tones or impulses were noted at offsite NSLs, thus complying with schedule B.4 of the licence.

Table 3.12 Noise Data

Station	Date	Time	Wind vector	L _{Aeq} 30 min dB	L _{AF10} 30 min dB	L _{AF90} 30 min dB	Specific L _{Aeq} 30 min dB
N1	21.02.18	1014-1044	0	56	59	51	<56
	<p>Facility: Various activities across yard audible (5), including angle grinder in drum centre, plant movements on yards, and vehicle movements through entrance.</p> <p>Extraneous: Intermittent traffic outside boundary and on surrounding roadways (6-7). Regular activity at adjacent premises, including truck and plant movements (5). Birdsong and aircraft.</p> <p>Specific L_{Aeq T} determination: Leq dominated by traffic outside boundary, and also influenced by adjacent premises. <Leq determination possible only.</p>						
N2	21.02.18	1025-1055	0	56	59	51	<53
	<p>Facility: Plant activity at N end of yard, and forklift truck operation in nearest building, slightly audible (3).</p> <p>Extraneous: Repeated forklift truck activity at adjacent premises dominant (6). Activity at premises to N also audible (4), and industrial estate traffic (4-5).</p> <p>Specific L_{Aeq T} determination: Leq dominated by adjacent site. <Leq determination possible only, corrected for near field.</p>						
N3	21.02.18	1104-1134	0	58	58	56	58
	<p>Facility: Various operations in nearest building almost continuously audible (6). Water flow in nearby tank continuously audible (3).</p> <p>Extraneous: None, other than local birdsong and aircraft.</p> <p>Specific L_{Aeq T} determination: Leq representative.</p>						
N4	21.02.18	1054-1124	0	61	63	56	58
	<p>Facility: Operations in adjacent building almost continuously audible, particularly repeated angle grinder use (7).</p> <p>Extraneous: None, apart from intermittent traffic on roadway outside boundary (5).</p> <p>Specific L_{Aeq T} determination: Traffic occurrence and amplitude insufficient to preclude Leq suitability to represent site emissions, corrected for near field.</p>						

Audibility scale: Inaudible; faintly discernible; slightly audible; audible at low level; quite audible; clearly audible; dominant; intrusive; excessive.

3.6 Air Quality

Volatile Organic Compound monitoring was completed at three monitoring points (A1, A2 and A3) shown on the site layout plan in Appendix 1 on two occasions. All results were in compliance with licence limits.

3.7 Nuisance Control Review

Rilta use masking agents in the treatment of waste as required along with a closed door policy when required. Rilta outsource vermin control to an external contractor.

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4. SITE DEVELOPMENT WORKS

4.1 Engineering Works

An upgrade to the drum washing equipment was installed in 2018, as notified to the Agency. Modification of processes to improve plastics recyclability is proposed for 2019.

4.2 Summary of Resource & Energy Consumption

Table 4.1 is summary of the resources used on-site during the reporting period.

Table 4.1 Resources Used On-Site in 2017 & 2018

Resources	Quantities 2017	Quantities 2018
Natural Gas	88,0085 KwH	119,134 KwH
Road Diesel	212,921 Litres	283,900 Litres
Electricity	610,025 KwH	558,335 KwH
Water	39,316 m ³	31,556m ³

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5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

Table 5.1 shows the total quantities of waste received and Table 5.2 shows the total quantities of waste consigned from the facility in 2018. Table 5.3 shows the quantities of waste received and consigned in previous years. A breakdown of the waste types is provided in accordance with the European Waste Catalogue and Hazardous Waste (EWC/HWL) list. More details of the wastes consigned and the waste destinations are provided in the Waste Management Record in Appendix 2.

Table 5.1 Waste Received 2018

Waste Type		Maximum Allowable Annual Tonnage Note 3	Waste Received 2018	
Non-Hazardous Waste Notes 1,2	Description			
	Commercial Waste	500	0	
	C & D Waste	500	9769.81	
	Industrial Sludges	1,000	37.58	
	Other Industrial Waste	3,000	14,879.33	
Non-Hazardous Waste Total		5,000	24,686.72	
Hazardous Waste	EWC Code	Description	Maximum Allowable Annual Tonnage Note 3	Waste Received 2018
	13 05 03*	Interceptor Sludges	10,000	1,628.842
	16 07 08*	Waste containing Oil	2,000	1,537.682
	16 10 01*	Aqueous Liquid waste containing Dangerous Substances	1,500	5,069.424
	17 05 03*	Soil and Stones containing Dangerous Substances	60,000	18,836.298
	17 06 01*	Insulation Materials and Construction Materials containing Asbestos	8,000	0
	17 06 05*			0
	Other Note 4		24,500	26,430.170
Hazardous Waste Total		106,000	53,502.416	
Total Tonnage per Annum		111,000	78,189.136	

Note 1: Any proposals to accept other compatible non-hazardous waste types must be agreed in advance with the Agency.

Note 2: Excluding putrescible waste.

Note 3: The limitations on individual hazardous and non-hazardous waste types may be varied with the agreement of the Agency subject to the **total annual waste quantity remaining the same**.

Note 4: Hazardous waste types as detailed in Attachment H.1 of the review application for this licence Reg No: 192-03 or may be otherwise agreed in advance with the Agency.

The total amount of non-hazardous waste received was 24,686.72 tonnes and the total amount of hazardous waste received was 53,502.416 tonnes giving a total amount of waste received as 78,189.136 tonnes. The total amount consigned was 82,956.44 tonnes.

The difference in waste received into and consigned from the facility in 2018 is 4,767.30 tonnes. This is related to waste that remained on site at the end of 2018 and was consigned from the site in Q1 2019.

All the wastes consigned from the site went to recovery and disposal facilities agreed with the Agency.

Table 5.2 Waste Consigned 2018

EWC	Description	Waste Out
01 05 05*	Oil containing drilling muds and wastes	838.26
02 07 04	Beverage waste unsuitable for consumption or processing	58.08
03 02 01*	Organic Wood Preservatives	0.17
03 02 05*	Other wood preservatives containing dangerous substances	111.91
06 01 01*	Sulphuric acid and sulphurous acid	15.43
06 01 02*	Hydrochloric Acid	16.68
06 01 04*	Phosphoric Acid	22.4
06 01 05*	Nitric Acid	2.51
06 01 06*	Other acids	300.1
06 02 04*	Sodium & potassium hydroxide	12.33
06 02 05*	Other bases	98.5
06 04 04*	Wastes containing mercury	1.01
06 13 02*	Spent Activated Carbon	31.91
07 04 04*	Other organic solvents, washing liquids and mother liquors	0.01
07 05 13*	Solid wastes containing dangerous substances	62.8
08 01 11*	Waste paint and varnish containing organic solvents or other dangerous substances	414.15
08 01 13*	Paint / Varnish sludges containing organic solvents or other hazardous substances	1.95
08 03 12*	Waste Ink	26.43
08 03 14*	Ink sludge containing hazardous substances	16.09
08 04 09*	Waste Adhesives	10.71
09 01 04*	Fixer solutions	0.74
09 01 05*	Bleach solutions and bleach fixer solutions	20.91
10 01 04*	Oil Fly Ash	4.13
11 01 05*	Pickling Acids	46.55
11 01 09*	Sludges and filter cakes containing dangerous substances	47.75
12 01 09*	Machining emulsions and solutions free of halogens	498.11
13 02 05*	Engine and Gear Oil	12.34
13 02 08*	Nondescript waste oils	4
13 03 01*	Insulating or heat transmission oils containing PCBs	0.21
13 07 01*	Fuel Oil and Diesel	0.06
13 07 03*	Other fuels (including mixtures)	140.84
14 06 03*	Mixed Organic Solvents	360.26
15 01 04	Metallic Packaging	1,367.18
15 01 10*	Packaging containing residues of or contaminated by dangerous substances	264.62

Table 5.2 Cont'd		
EWC	Description	Waste Out
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	589.56
16 02 09*	Transformers and capacitors containing PCBs	2.56
16 02 12*	Discarded components containing free asbestos	22.88
16 02 13* C	Discarded Components containing hazardous substances	0.39
16 02 13* D	Discarded Components containing hazardous substances	11.84
16 02 14	WEEE	7.45
16 03 03*	Inorganic Off spec Product Wastes	78.68
16 03 05*	Organic Off spec Product Wastes	5.56
16 05 04*	Gases in pressure containers (including halons) containing dangerous substances	12.89
16 05 06*	Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	187.81
16 05 07*	Discarded inorganic chemicals consisting of or containing dangerous substances	139.93
16 05 08*	Discarded organic chemicals consisting of or containing dangerous substances	238.36
16 06 01*	Lead batteries	2,178.71
16 06 02*	Ni-Cd batteries	17.3
16 06 04	Alkaline batteries (except 16 06 03)	7.95
16 06 05	Other batteries & accumulators	1.95
16 07 08*	Wastes containing Oil	29.81
19 09 04*	Oxidising substances, not otherwise specified	0.04
16 10 01*	Aqueous liquid wastes containing dangerous substances	977.01
17 01 03	Tiles and Ceramics	46.05
17 01 06*	Mixture of, or separate fractions of concrete, brick, tile & ceramics containing hazardous substances	531.82
17 02 04*	Glass, plastic and wood containing dangerous substances	60.98
17 03 01*	Bituminous mixtures containing coal tar	5.46
17 05 03*	Soil & stones containing dangerous substances	19,372.85
17 05 04	Soil and stones other than those mentioned in 17 05 03	10,351.92
18 01 09	Medicines	1.05
18 02 05*	Chemicals consisting of or containing hazardous substances	0.97
18 02 08*	Veterinary Waste	108.77
19 01 07*	Solid Waste From Gas Treatment	1,360.30
19 02 05*	Sludges from physico/chemical treatment containing dangerous substances	1,212
19 02 11*	Process Sludge	3.74
19 02 99	Wastes not otherwise specified	40,290
19 12 01	Paper & cardboard	2.58
19 12 02	Ferrous Metal	60.36
19 12 04	Plastic & rubber	10.24
20 01 19*	Pesticides	8.19
20 01 21*	Fluorescent Tubes	0.23
20 01 25*	Grease Trap Waste	5.89
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances	225.17
20 01 29*	Detergents	3.20
20 01 32	Medicines	6.89
20 01 40 A	Ferrous metals	8.79

Table 5.2 Cont'd		
	Total Consigned	82,956.44
	Recovered	12,054.54
	Disposed	70,901.90
	Recovery Rate (%)	14.53%

Table 5.3 Waste Received & Consigned in recent years

	2017	2016	2015	2014	2013
Total Received	78,189.136	108,318.8	92,812.421	93,787	82,051
Total Consigned	78,996.838	101,669.59	82,725.058	86,337.171	78,303.94
Total Recovered	11,794.296	22,925.04	8,892.793	13,366.258	17,927.52
Total Disposed	67,202.542	78,744.316	73,832.265	72,970.913	60,376.42
Recovery Rate	17.55	22.55	12.04%	15.48%	22.89%

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6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

6.1 Incidents

There were three notifiable incidents in 2018. These were as follows:

EPA Ref	Source	Summary	Closed / Ongoing
INCI015931	WWTP	In Q4, MTBE exceeded the Licence ELVs. This was an isolated incident and will be closed out in Q2 2019	Ongoing
INCI014802	Groundwater	In Q2 MTBE concentrations exceeded the IGW in BH02 and BH03. Concentration of these parameters dropped in Q3 and Q4 but continued to exceed the IGW. Monitoring continues in 2019.	Ongoing
INCI012535	Air	There was an exceedance of the volume of air discharged from the spray booth in Q3. This was an isolated incident.	Closed

6.2 Register of Complaints

Rilta maintains a register of complaints received in accordance with Condition 10.4 of the waste licence. The complaints register includes the details of all complaints and the actions carried out in response to each complaint. There were no complaints during the reporting period that related to activity at the licensed site.

7. ENVIRONMENTAL DEVELOPMENT

7.1 Environmental Management Programme Report

Rilta have implemented an Integrated Management System (IMS) in accordance with the requirements of Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and International Standard Organisation (ISO) 14001:2004 in order to manage the Health, Safety and Environmental performance of their business and to control health and safety risk and to minimise their environmental aspects and impacts.

The IMS has been developed for the achievement of continual improvement taking into account the requirements of the Waste Licence Conditions. Rilta has prepared and effectively implement documented procedures and instructions in accordance with the requirements of both the OHSAS 18001:2007 and ISO 14001:2004. The EMS was recertified in February 2015.

The Register of EMS Targets and Objectives 2018 - 2020, including their status for 2018 is included in Appendix 3.

7.2 Site Management Structure

Details of the site management structure are presented in Appendix 4.

7.3 Environmental Management Programme

7.3.1 Schedule of Objectives 2018

The objectives that were achieved during this reporting period are outlined in Appendix 2.

7.4 Communications Programme

Rilta maintains a 'Public File' which contains all correspondence between Rilta and the Agency, all waste data and monitoring data as required by the licence. The 'Public File' is available to view during normal office hours.

7.5 Report Financial Provision

A Decommissioning Management Plan (DMP) and Environmental Liabilities Risk Assessment (ELRA) including Financial Provision (FP) have been submitted to and approved by the Agency.

7.6 Nuisance Controls

Rilta has contracted an external vermin control company to carry out nuisance control at the facility.

7.7 Tank and Pipeline Testing

Bund integrity testing commenced in July 2016 and was completed in May 2017 as per Condition 6.11 of the Licence. A copy of the Bund Integrity Test report is included in Appendix 5.

7.8 Water Demand and Trade Effluent Discharge

The trade effluent discharged in 2018 was 40,284m³.

7.9 Efficiency of use of Raw Materials / Reduction in Waste Generated

The main raw material used on site is paint. Paint use overall decreased by 961 litres in 2018 when compared to 2014. The use of solvent based paint decreased in 2018 compared to 2017. Water based paint was used for the first time since before 2014 in 2018. The use of Xylene increased by 5 litres in 2018 compared to 2017 and acetone continues to not be used at the facility.

Table 7.1 Raw Material Usage 2014 - 2018

	Units	2014	2015	2016	2017	2018
56% Solids Paint	Litres	5,111	5,360	6,200	5,800	2,620
65% Solids Paint	Litres	0	0	0	0	1,530
Xylene	Litres	200	80	120	200	205
Acetone	Litres	0	0	0	0	0

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APPENDIX 1

Site Plan showing Environmental Monitoring Locations

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Monitoring Point Locations (to National Grid Reference)

Groundwater Monitoring Points
 BH1 E301555, N228440
 BH2 E301600, N228550
 BH3 E301630, N228555

Underground Settlement Tank Monitoring Points
 GW1 E301630, N228515
 GW2 E301650, N228540
 GW3 E301625, N228540

Surface Water/Invertebrate Monitoring Points
 SW1/KS1 E301670, N228562
 SW2/KS2 E301565, N228555
 SW3 (Proposed) E301480, N228560

Dust Monitoring Points
 D1 E301630, N228450
 D2 E301580, N228550
 D3 E301670, N228555
 D4 E301630, N228420

Noise Monitoring Points
 N1 E301630, N228450
 N2 E301580, N228550
 N3 E301670, N228555
 N4 E301630, N228420

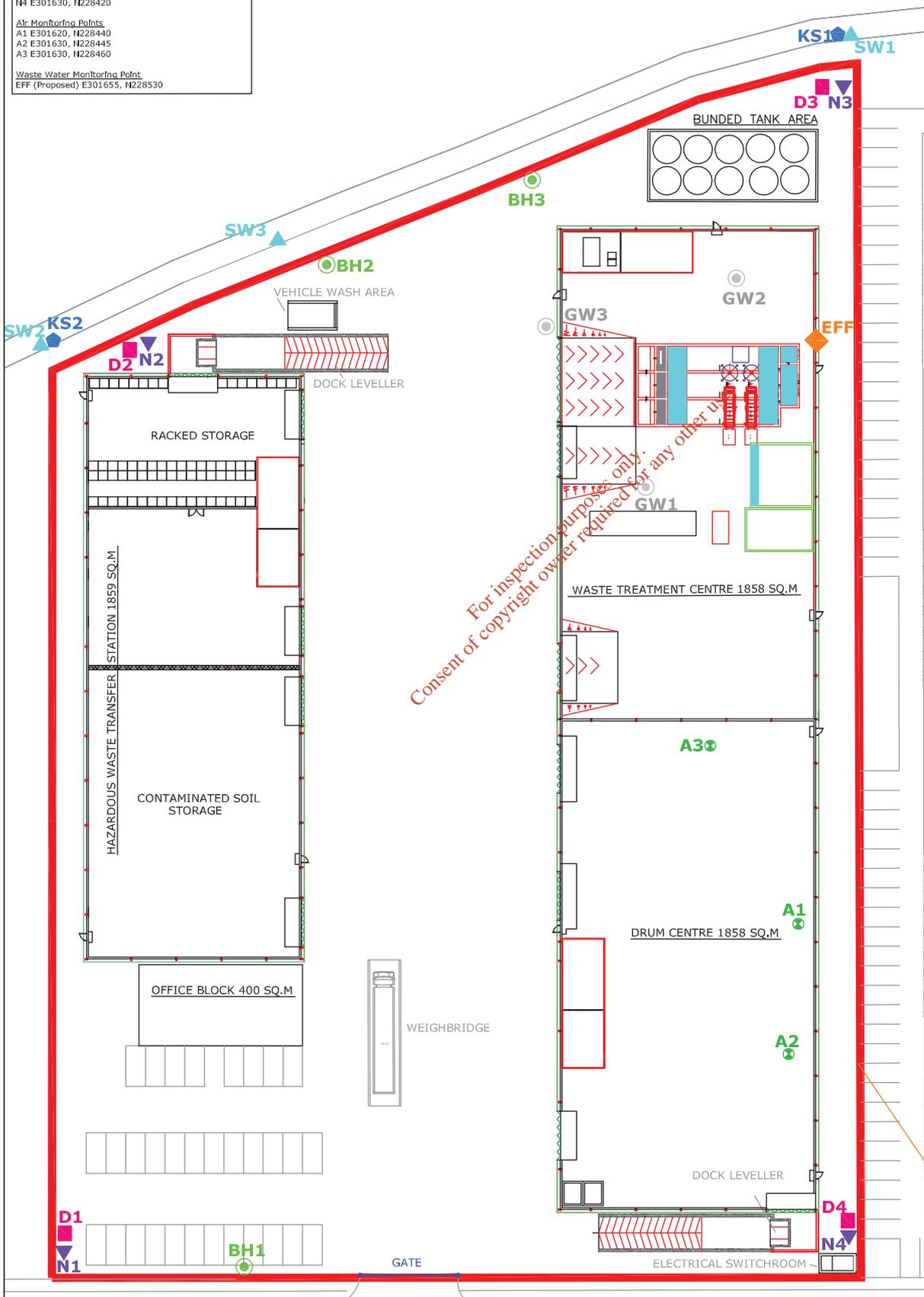
Air Monitoring Points
 A1 E301620, N228440
 A2 E301630, N228445
 A3 E301630, N228460

Waste Water Monitoring Point
 EFF (Proposed) E301655, N228530

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Legend:

- ▬ Licence Boundary
- ▲ Surface Water Monitoring Points
- ◆ Invertebrate Kick Sampling Monitoring Points
- Dust Monitoring Points
- ▼ Noise Monitoring Points
- ◆ Waste Water Monitoring Point
- Groundwater Monitoring Points
- Underground Settlement Tank Monitoring Points
- ⊗ Air Monitoring Points



- Notes:**
- Figured Dimensions only to be taken from this drawing
 - All Drawings to be checked by the Contractor on site
 - Engineer to be informed of any discrepancies before any work commences
 - All levels relate to Ordnance Survey Datum at Malin Head

Scale	Date	By

Client: _____
 Date: _____

Drawing Title:
 SITE LAYOUT PLAN

Project:
 INTEGRATED WASTE MANAGEMENT FACILITY, GREENOGUE, CO. DUBLIN

Scale: 1/500
 Drawn by: MARK CONROY Checked by: _____ Date: January 2007

O'Callaghan Moran & Associates,
 Unit 15 Malbourn Business Park,
 Model Farm Road,
 Cork,

Drawing No.: 2.1

Rev.				

APPENDIX 2

Waste Management Record 2018

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
01 05 05*	oil-containing drilling muds and wastes	Hazardous	838.26	-	-	-	TWMA, PPC/A/1000175	Unit 12 Dales Industrial Estate, Peterhead, AB42 3JR, United Kingdom	R09 - Oil re-refining or other reuses of oil
02 07 04	materials unsuitable for consumption or processing	-	27.04	ERAS ECO, W0211-01	Foxhole, Youghal, Co. Cork, Ireland	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	-	-
02 07 04	materials unsuitable for consumption or processing	-	31.04	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy	-	-	-
03 02 01*	non-halogenated organic wood preservatives	Hazardous	0.17	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
03 02 05*	other wood preservatives containing hazardous substances	Hazardous	111.91	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
06 01 01*	sulphuric acid and sulphurous acid	Hazardous	4.69	-	-	-	REVATECH SA, .	Zoning l'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
06 01 01*	sulphuric acid and sulphurous acid	Hazardous	10.74	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 01 02*	hydrochloric acid	Hazardous	5.49	-	-	-	REVATECH SA, .	Zoning l'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
06 01 02*	hydrochloric acid	Hazardous	1.19	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 01 04*	phosphoric and phosphorous acid	Hazardous	22.4	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)

LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
06 01 05*	nitric acid and nitrous acid	Hazardous	1.67	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 01 05*	nitric acid and nitrous acid	Hazardous	2.5	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
06 01 05*	nitric acid and nitrous acid	Hazardous	0.01	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
06 01 06*	other acids	Hazardous	51.46	-	-	-	McQuillan Environmental		D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 01 06*	other acids	Hazardous	143.97	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 01 06*	other acids	Hazardous	104.67	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 02 04*	sodium and potassium hydroxide	Hazardous	12.33	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
06 02 05*	other bases	Hazardous	9.71	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	R05 - Recycling/reclamation of other inorganic materials
06 02 05*	other bases	Hazardous	0.03	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	R05 - Recycling/reclamation of other inorganic materials
06 02 05*	other bases	Hazardous	79.59	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
06 02 05*	other bases	Hazardous	9.17	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
06 04 04*	wastes containing mercury	Hazardous	1.01	Irish Lamp Recycling, WFP-KE-14-0072-01	Woodstock Industrial Estate, Athy, Co. Kildare, Ireland	R13 - Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced)	Future Industrial Services-KP3437TF	Tweedmouth, Berwick upon Tweed	R04 - Recycling/reclamation of metals and metal compounds
06 13 02*	spent activated carbon (except 06 07 02)	Hazardous	31.91	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
07 04 04*	other organic solvents, washing liquids and mother liquors	Hazardous	0.01	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
07 05 13*	solid wastes containing hazardous substances	Hazardous	27.01	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
07 05 13*	solid wastes containing hazardous substances	Hazardous	35.79	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Hazardous	33.86	-	-	-	ARF, .	22 Rue Jean Messager, St Remy Du Nord, FR59330, France	R01 - Use principally as a fuel or other means to generate energy
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Hazardous	47.31	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Hazardous	156.33	-	-	-	Nehlsen Gmbh & Co A-4187HH	Neiderlassung Nehlsen-Plimp, Betriebsstatte Bremen, Louis-Krages Strasse 10, Bremen, Germany	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Hazardous	48.52	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Hazardous	128.13	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	R01 - Use principally as a fuel or other means to generate energy
08 01 13*	sludges from paint or varnish containing organic solvents or other hazardous substances	Hazardous	1.95	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	R01 - Use principally as a fuel or other means to generate energy
08 03 12*	waste ink containing hazardous substances	Hazardous	1.81	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
08 03 12*	waste ink containing hazardous substances	Hazardous	7.07	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
08 03 12*	waste ink containing hazardous substances	Hazardous	17.55	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
08 03 14*	ink sludges containing hazardous substances	Hazardous	16.09	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	Hazardous	4.58	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	Hazardous	1.99	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	Hazardous	4.14	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
09 01 04*	fixer solutions	Hazardous	0.74	-	-	-	Remondis UK, .	Scott Lane Industrial Estate, Blackrod, Bolton, BL6 5SL, United Kingdom	R04 - Recycling/reclamation of metals and metal compounds

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
09 01 05*	bleach solutions and bleach fixer solutions	Hazardous	20.91	-	-	-	Remondis UK, .	Scott Lane Industrial Estate, Blackrod, Bolton, BL6 5SL, United Kingdom	R04 - Recycling/reclamation of metals and metal compounds
10 01 04*	oil fly ash and boiler dust	Hazardous	4.13	-	-	-	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung, 783/240406	3-7+31 Gottlieb-Daimler Strasse, DE 33334, Guterslo, Germany	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
11 01 05*	pickling acids	Hazardous	46.55	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
11 01 09*	sludges and filter cakes containing hazardous substances	Hazardous	47.75	-	-	-	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung, 783/240406	3-7+31 Gottlieb-Daimler Strasse, DE 33334, Guterslo, Germany	R05 - Recycling/reclamation of other inorganic materials
12 01 09*	machining emulsions and solutions free of halogens	Hazardous	192.99	-	-	-	ARF, .	22 Rue Jean Messenger, St Remy Du Nord, FR59330, France	D10 - Incineration on land
12 01 09*	machining emulsions and solutions free of halogens	Hazardous	257.37	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
12 01 09*	machining emulsions and solutions free of halogens	Hazardous	12.96	-	-	-	REVATECH SA, .	Zoning l'Industrial D'Ehein, B 4480 ENGIS, Belgium	R01 - Use principally as a fuel or other means to generate energy
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils	Hazardous	12.34	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
13 02 08*	other engine, gear and lubricating oils	Hazardous	4	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
13 03 01*	insulating or heat transmission oils containing PCBs	Hazardous	0.21	-	-	-	SITA Decontamination, .	Westvaardijk 97, Grimbergen, BE 1850, Belgium	D14 - Repackaging prior to submission to any of the operations numbered D 1 to D 13
13 07 01*	fuel oil and diesel	Hazardous	0.06	Veolia Environmental Services, W0050-02	Corrin, Fermoy, Ireland	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
13 07 03*	other fuels (including mixtures)	Hazardous	81.2	-	-	-	Centec International, EA	The Science Park, Brooks Lane , Middlewich, CW10 0JG, United Kingdom	R09 - Oil re-refining or other reuses of oil
13 07 03*	other fuels (including mixtures)	Hazardous	59.64	Veolia Environmental Services, W0050-02	Corrin, Fermoy, Ireland	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-
14 06 03*	other solvents and solvent mixtures	Hazardous	357.87	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
14 06 03*	other solvents and solvent mixtures	Hazardous	2.39	Soltec (Ireland) Limited - W0115	-	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-
15 01 04	metallic packaging	-	1,367.18	A1 Metal, WMP007d	Acragar, Mountmellick, Co. Laois, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	142.26	-	-	-	Delta Containers Direct Ltd, .	Preston Street, Manchester, Manchester, M188DB, United Kingdom	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	0.51	-	-	-	Nehlsen Gmbh & Co A-4187HH	Neiderlassung Nehlsen-Plimp, Betriebsstatte Bremen, Louis-Krages Strasse 10, Bremen, Germany	R04 - Recycling/reclamation of metals and metal compounds
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	43.65	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	78.14	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	R01 - Use principally as a fuel or other means to generate energy
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	0.06	SRCL, W0054-02	Unit 1A, Allied Industrial Estate, Kylemore Rd. Ballyfermot, Dublin 10, Ireland	D14 - Repackaging prior to submission to any of the operations numbered D 1 to D 13	-	-	-

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Hazardous	30.99	-	-	-	Nehlsen Gmbh & Co A-4187HH	Neiderlassung Nehlsen-Plimp, Betriebsstatts Bremen, Louis-Krages Strasse 10, Bremen, Germany	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Hazardous	72.68	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Hazardous	484.65	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	R01 - Use principally as a fuel or other means to generate energy
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Hazardous	1.24	SRCL, W0054-02	Unit 1A, Allied Industrial Estate, Kylemore Rd. Ballyfermot, Dublin 10, Ireland	D14 - Repackaging prior to submission to any of the operations numbered D 1 to D 13	-	-	-
16 02 09*	transformers and capacitors containing PCBs	Hazardous	2.56	-	-	-	SITA Decontamination, .	Westvaardijk 97, Grimbergen, BE 1850, Belgium	R04 - Recycling/reclamation of metals and metal compounds
16 02 12*	discarded equipment containing free asbestos	Hazardous	22.88	Electrical Waste Ireland, Permit No. WFP-DS-09-0012-01	Jordanstown drive, Unit 648 Greenogue Business Park, Rathcoole, Co. Dublin, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
16 02 13* C	Non-household waste TVs and monitors, flat screens	Hazardous	0.39	Rilta Environmental - W0185	Greenogue, Rathcoole	R09 - Oil re-refining or other reuses of oil	-	-	-
16 02 13* D	Non-household waste TVs and monitors, cathode ray tubes	Hazardous	11.84	-	-	-	Celtic Recycling Ltd, .	Village Farm Industrial Estate, GB CF33 6BZ Pyle, Bridgend, United Kingdom	R04 - Recycling/reclamation of metals and metal compounds

LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
16 02 14 D	Non-household other waste electrical and electronic equipment, non-hazardous	-	3.55	Electrical Waste Ireland, Permit No. WFP-DS-09-0012-01	Jordanstown drive, Unit 648 Greenogue Business Park, Rathcoole, Co. Dublin, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
16 02 14 D	Non-household other waste electrical and electronic equipment, non-hazardous	-	3.9	A1 Metal, WMP007d	Acragar, Mountmellick, Co. Laois, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
16 03 03*	inorganic wastes containing hazardous substances	Hazardous	70.27	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 03 03*	inorganic wastes containing hazardous substances	Hazardous	8.41	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
16 03 05*	organic wastes containing hazardous substances	Hazardous	5.56	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 05 04*	gases in pressure containers (including halons) containing hazardous substances	Hazardous	8.83	-	-	-	Biffa Waste Services-EPR/SP3130RY	Cornation Road, High Wycombe, UK	R04 - Recycling/reclamation of metals and metal compounds
16 05 04*	gases in pressure containers (including halons) containing hazardous substances	Hazardous	4.06	-	-	-	Remondis-17HRO03004	Am Kanal, Bramshe, Germany	D10 - Incineration on land
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Hazardous	4.54	-	-	-	AGR mbh - RZR Herten, .	Im Emscherbruch 11, 45699, Herten, Germany	D10 - Incineration on land
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Hazardous	135.04	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Hazardous	10.98	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Hazardous	37.05	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Hazardous	0.2	SRCL Limited - W0055		D14 - Repackaging prior to submission to any of the operations numbered D 1 to D 13	-	-	-
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances	Hazardous	0.07	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances	Hazardous	44.41	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances	Hazardous	0.07	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances	Hazardous	95.38	-	-	-	REVATECH SA, .	Zoning l'Industrial D'Ehein, B 4480 ENGIS, Belgium	R05 - Recycling/reclamation of other inorganic materials
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances	Hazardous	238.04	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances	Hazardous	0.32	-	-	-	REVATECH SA, .	Zoning l'Industrial D'Ehein, B 4480 ENGIS, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 06 01*	lead batteries	Hazardous	23.91	-	-	-	HJ Enthoven & Sons, BL5598	Darley Dale Smelter, South Darley, Derbyshire, DE4 2LP, United Kingdom	R04 - Recycling/reclamation of metals and metal compounds
16 06 01*	lead batteries	Hazardous	2,154.80	-	-	-	Exide Technologies-501 349 545	Vila Nova da Rainha Azambuja, portugal	R04 - Recycling/reclamation of metals and metal compounds

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
16 06 02*	Ni-Cd batteries	Hazardous	17.3	KMK Metals, W0113-04	Cappincur Ind Est, Daingean Road, Tullamore, Co. Offaly, Ireland	R04 - Recycling/reclamation of metals and metal compounds	Accurec Recycling GmbH-ZUUM-054-0499-45-18-1103	21 Bataverstraße, Krefeld, Germany	R04 - Recycling/reclamation of metals and metal compounds
16 06 04	alkaline batteries (except 16 06 03)	-	7.95	KMK Metals, W0113-04	Cappincur Ind Est, Daingean Road, Tullamore, Co. Offaly, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
16 06 05	other batteries and accumulators	-	1.95	KMK Metals, W0113-04	Cappincur Ind Est, Daingean Road, Tullamore, Co. Offaly, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
16 07 08*	wastes containing oil	Hazardous	29.81	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
16 09 04*	oxidising substances, not otherwise specified	Hazardous	0.04	-	-	-	AGR mbh - RZR Herten, .	Im Emscherbruch 11, 45699, Herten, Germany	D10 - Incineration on land
16 10 01*	aqueous liquid wastes containing hazardous substances	Hazardous	282.82	-	-	-	ARF, .	22 Rue Jean Messenger, St Remy Du Nord, FR59330, France	D10 - Incineration on land
16 10 01*	aqueous liquid wastes containing hazardous substances	Hazardous	12	-	-	-	McQuillan Environmental		D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
16 10 01*	aqueous liquid wastes containing hazardous substances	Hazardous	238.46	-	-	-	REVATECH SA, .	Zoning I'Industrial D'Ehein, B 4480 ENGIS, Belgium	R01 - Use principally as a fuel or other means to generate energy
16 10 01*	aqueous liquid wastes containing hazardous substances	Hazardous	432.44	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
16 10 01*	aqueous liquid wastes containing hazardous substances	Hazardous	11.29	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
17 01 03	tiles and ceramics	-	46.05	Thorntons Recycling Centre (Ballyfermot) - W0044		R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-

LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances	Hazardous	531.82	-	-	-	Theo Pouw-2017-065.772/29/V2	Kwelderwg, Netherlands	R05 - Recycling/reclamation of other inorganic materials
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances	Hazardous	60.98	-	-	-	Trackwork UK		R01 - Use principally as a fuel or other means to generate energy
17 03 01*	bituminous mixtures containing coal tar	Hazardous	5.46	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R05 - Recycling/reclamation of other inorganic materials
17 05 03*	soil and stones containing hazardous substances	Hazardous	1,086.66	-	-	-	Biffa Waste Management (Cottonmount Landfill), .	140 Mallusk Rd. Mallusk, Newtownabbey, Co.Antrim, GB BT36 4QN, United Kingdom	D01 - Deposit into or on to land (e.g. landfill, etc.)
17 05 03*	soil and stones containing hazardous substances	Hazardous	18,286.19	-	-	-	NOAH		D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
17 05 04	soil and stones other than those mentioned in 17 05 03	-	35.02	Corranure Landfill, W0077-04	Cootehill Rd, Co. Cavan, Ireland	D01 - Deposit into or on to land (e.g. landfill, etc.)	-	-	-
17 05 04	soil and stones other than those mentioned in 17 05 03	-	6,644.54	NOAH, 2009.121.T	Langoya, Serviceboks H, Holmestrand, 3081, Norway	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	-	-	-
17 05 04	soil and stones other than those mentioned in 17 05 03	-	3,672.36	Theo Pouw-2017-065.772/29/V2	Kwelderwg, Netherlands	R05 - Recycling/reclamation of other inorganic materials	-	-	-
17 06 03*	other insulation materials consisting of or containing hazardous substances	Hazardous	2.3	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
18 01 09	medicines other than those mentioned in 18 01 08	-	1.05	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy	-	-	-

LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
18 02 05*	chemicals consisting of or containing hazardous substances	Hazardous	0.97	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
18 02 08	medicines other than those mentioned in 18 02 07	-	108.77	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy	-	-	-
19 01 07*	solid wastes from gas treatment	Hazardous	1,360.30	-	-	-	NOAH	-	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
19 02 05*	sludges from physico/chemical treatment containing hazardous substances	Hazardous	915.46	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
19 02 05*	sludges from physico/chemical treatment containing hazardous substances	Hazardous	256.22	Enva Ireland Limited (Portlaoise) - W0184	-	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
19 02 05*	sludges from physico/chemical treatment containing hazardous substances	Hazardous	40.32	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
19 02 11*	other wastes containing hazardous substances	Hazardous	3.74	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
19 02 99	wastes not otherwise specified	-	40,290.00	Ringsend - D0034	WWTP, Ringsend, Dublin 4	D08 - Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	-	-	-
19 12 01	paper and cardboard	-	2.58	Thorntons Recycling Centre (Ballyfermot) - W0044	-	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-
19 12 02	ferrous metal	-	60.36	The Hammond Lane Metal Company Limited - P1002	-	R04 - Recycling/reclamation of metals and metal compounds	-	-	-

LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
19 12 04	plastic and rubber	-	10.24	AES-WFP-LH-15-0002-03	Donore Rd Drogheda	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	-	-	-
20 01 19*	Pesticides	Hazardous	8.19	-	-	-	Sava Gmbh & Co, .	1 Osterweute, Ce25541, Brunsbittel, Germany	D10 - Incineration on land
20 01 21*	Household waste fluorescent lamps and other mercury containing waste	Hazardous	0.23	Irish Lamp Recycling, WFP-KE-14-0072-01	Woodstock Industrial Estate, Athy, Co. Kildare, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-
20 01 25	edible oil and fat	-	4.24	Future Pigs Limited - P0420	Nurney, Co. kildare	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	-	-
20 01 25	edible oil and fat	-	1.65	Bolton Biofuels-WFP-KE-18-0093-01	Castledermot, Co. Kildare	R09 - Oil re-refining or other reuse of oil	-	-	-
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	Hazardous	2.15	-	-	-	ARF, .	22 Rue Jean Messenger, St Remy Du Nord, FR59330, France	R01 - Use principally as a fuel or other means to generate energy
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	Hazardous	0.53	-	-	-	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	Hazardous	5.05	-	-	-	Nehlsen Gmbh & Co A-4187HH	Neiderlassung Nehlsen-Plimp, Betriebsstatter Bremen, Louis-Krages Strasse 10, Bremen, Germany	R04 - Recycling/reclamation of metals and metal compounds
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	Hazardous	44.76	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	Hazardous	172.68	-	-	-	SISAV, .	Rua Cabeco do Seixo, PT 2140-671, Eco Parque do Relvao, Chamusca, Portugal	D09 - Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
20 01 29*	detergents containing hazardous substances	Hazardous	3.2	-	-	-	Recyfuel, .	Engis, B4480, Belgium	R01 - Use principally as a fuel or other means to generate energy

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LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Destination			Final Destination of Hazardous Material		
				Organisation	Address	Waste Treatment Operation	Organisation	Address	Waste Treatment Operation
20 01 32	medicines other than those mentioned in 20 01 31	-	6.89	Afvalstoffen Terminal Moerdijk B.V 821780	Industrieterrein - Seaport M152, Vlasweg 12, 4782 PW Moerdijk, The Netherlands	R01 - Use principally as a fuel or other means to generate energy	-	-	-
20 01 40 A	Ferrous metals	-	8.79	A1 Metal, WMP007d	Acragar, Mountmellick, Co. Laois, Ireland	R04 - Recycling/reclamation of metals and metal compounds	-	-	-

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APPENDIX 3

Registrar of EMS Targets and Objectives 2018 - 2020

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RILTA ENVIRONMENTAL LTD.

EHS-Q MANAGEMENT SYSTEM (EHS-QMS)

**ENVIRONMENTAL MANAGEMENT PLAN (EMP)
OBJECTIVES AND TARGETS REGISTER 2018 to 2020**

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In accordance with

ISO 14001:2015

Revised By:	Sean Lawlor	Approved By:	Colm Hussey	Revision Date:	07/01/2019
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Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
005c	Painting and drying - Chemical consumption	Convert over to water-based paints, 100% by end of year.	<ul style="list-style-type: none"> Complete trials with the water-based paints. Determine the required drying times and temperatures. 	<ul style="list-style-type: none"> Source and purchase suitable water-based paints. Carry out painting and drying trials with various temperatures and times and identify optimum conditions. Document the optimum conditions in an SOP which details the painting and drying process. 	<ul style="list-style-type: none"> Completed trials. Documented SOP. Cessation of purchases of high VOC content paints. 	<ul style="list-style-type: none"> 55% decrease in use of solvent paints (2017 – 2018) Water based paints now in use SOP not yet completed for the painting process.
005d	Shot blasting - Material consumption	Resolve the issue with internal dust release from the shot blast unit and rectify by end of year.	<ul style="list-style-type: none"> Identify the source(s) of the dust leaks and eliminate. 	<ul style="list-style-type: none"> Identify where the dust leaks are originating from through visual observation and communication with operative. Determine if the process needs to be altered (e.g. later door opening times, stronger extraction, etc.) and if so, what alterations are required. Determine if physical repairs are required and if they are, implement the repairs. Determine the amount of shot blast material that is used for 1 month and compare when repairs/refit is complete. 	<ul style="list-style-type: none"> Dust releases eliminated. Volume of blast material used reduces when compared to similar processing events. 	<ul style="list-style-type: none"> Both ends of the shot blast unit enclosed. Significant dust reduction achieved. Volume of blast material increased by 10% (2017 – 2018)

Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
005e	Container recycling - Utility consumption	Define the volume of waste that is recycled in both the plastics and metal recycling processes.	<ul style="list-style-type: none"> Identify the weight of plastics recycled per month. Identify the weight of metals recycled per month. Determine if more efficient recycling/processing techniques/equipment are available to increase recycling rate or to reduce the current energy consumption. 	<ul style="list-style-type: none"> Consult supervisor and operator and request a log to be kept of the volumes of plastics and metals produced per month. Research new plastics shredding technologies and new drum crushing technologies – cost appropriate systems. 	<ul style="list-style-type: none"> Establish log of volumes of plastics and metals produced each month for recycling. CAPEX request made for new appropriate equipment. 	<ul style="list-style-type: none"> Log established – figures held by Packaging Department, submitted to EHS Department CAPEX requested – new drum washing unit and plastics granulator purchased.
005f	Container processing - Utility consumption	Carry out two compressed air leak surveys per year and implement maintenance programme to eliminate identified compressed air leakages.	<ul style="list-style-type: none"> Complete two compressed air leak surveys. Implement maintenance programme to repair the identified leaks. Estimate the cost of lost air. 	<ul style="list-style-type: none"> Source a leak testing company and contract to carry out leak test surveys. Source repair company and implement repairs. Determine electricity costs before and after repairs. 	<ul style="list-style-type: none"> All identified air leaks repaired. Data generated on cost of identified compressed air leaks. 	<ul style="list-style-type: none"> No progress in 2018.

Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
006a	Vehicle collections - Production of noise, exhaust gases and particulates, liquid and solid chemicals and debris	Confirm the maintenance schedule for the Industrial Services Division vehicle fleet. Complete quarterly audits of the vehicles.	<ul style="list-style-type: none"> Establish vehicle audit template. Contact site services manager and arrange to carry out a minimum of four vehicle audits. 	<ul style="list-style-type: none"> Create a vehicle audit template form. Implement the vehicle audits in conjunction with site services manager/supervisor. 	<ul style="list-style-type: none"> Vehicle audit template created. Minimum of four vehicle audits completed per year. 	<ul style="list-style-type: none"> New Industrial Services Manager appointed in 2018. Vehicle audits now carried out on a daily basis.
006b	Cleaning works – Chemicals	Carry out 6 audits of the cleaning works that the Industrial Services team carries out at customer premises.	<ul style="list-style-type: none"> Establish site services audit template. Contact site services manager and arrange to carry out a minimum of six audits. 	<ul style="list-style-type: none"> Create a site services audit template form. Implement the site services audits in conjunction with site services manager/supervisor. 	<ul style="list-style-type: none"> Site services audit template created. Minimum of six site services audits completed per year. 	<ul style="list-style-type: none"> 19 site audits completed by Rilta supervisors.
008b	Transformer processing - Production of noise and particulates, liquid and solid chemicals and debris	Complete weekly checks of the warehouse areas to ensure correct storage techniques.	<ul style="list-style-type: none"> Carry out weekly checks of the warehouse area. Rectify issues raised in a timely manner. 	<ul style="list-style-type: none"> Consult with transformer division manager and implement weekly checks of the warehouse area. 	<ul style="list-style-type: none"> Weekly checks completed. Identified issues rectified within 1 month of notification. 	<ul style="list-style-type: none"> Warehouse is cleaned on a weekly basis. Cleaning schedule not yet documented.

Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
009a	Use of offices, canteens, toilet facilities, warehouses and yards - Utilities (gas, water, electricity)	Decrease lighting, heating and water consumption by 15% each based on 2017 consumption figures.	<ul style="list-style-type: none"> • Reduce water consumption by 15% from 2017 figures. • Reduce gas consumption by 15% from 2017 figures. • Reduce electricity consumption by 15% from 2017 figures. 	<ul style="list-style-type: none"> • Carry out water survey and identify high consumption areas. • Carry out gas survey and identify high consumption areas. • Carry out electricity survey and identify high consumption areas. • Target the identified high consumption areas with projects to minimise consumption (e.g. awareness campaign, timers, low energy lighting, etc.). 	<ul style="list-style-type: none"> • Utility consumption reduction of 15% • Water surveys completed. • Gas surveys completed. • Electricity surveys completed. 	<ul style="list-style-type: none"> • Water leak survey was completed, and several significant leaks were repaired in Unit 402 yard. • Assessment of utility billing for water consumption took place. Issues with billing method and water meter were identified. New water meter was installed in April 2018. Water monitoring was carried out for April to Dec 2018. • Water consumption is now approximately

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Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
						110m3 per week. • No other progress was made on this aspect.

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Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
009b	Use of offices and warehouses - Waste material	Determine the volume of waste generated by the Operations building and reduce volume by 10%.	<ul style="list-style-type: none"> • Determine areas where waste is generated in the operations building. • Quantify this waste volume. • Reduce this volume by 10%. 	<ul style="list-style-type: none"> • Identify the volume/weight of waste material generated by each office. • Identify high volume waste streams. • Identify the cost for disposal/recycling of this waste. • Inform staff of costs and options and task staff with waste minimisation project. 	<ul style="list-style-type: none"> • Staff buy-in to waste reduction programme(s). • 10% decrease in volume/weight of waste generated from the operations building. 	<ul style="list-style-type: none"> • Re-usable cups introduced for all office based staff. The use of once-off disposable plastic cups is now down to less than 10% use (from 100%). • Overall recovery % increased for all site from 43% in 2017 to 46% in 2018.

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Aspect Ref. No.:	Aspect (i.e. what the issue is)	Objective (i.e. high level what needs to be done)	Target (i.e. low level what needs to be done)	Implementation Plan (i.e. how we are going to do it)	Indicators of Success	Status - 2018
010b	Dispensing - Chemicals	Determine the volume of fuel consumed by each vehicle that utilises the diesel fuel pump.	<ul style="list-style-type: none"> • Determine the volume of diesel that each site vehicle consumes. • Identify high consuming vehicles and assess if more regular servicing or replacement is required. • Determine the cost of this fuel. • Determine the cost of a more efficient alternative vehicle. 	<ul style="list-style-type: none"> • Identify how the dispensing system works. • Track each user and vehicle to identify consumption pattern. • Determine servicing schedule for high consuming vehicles. • Determine if an alternative vehicle is a valid option. 	<ul style="list-style-type: none"> • Reduction in fuel consumption without affecting work volumes. 	<ul style="list-style-type: none"> • No progress was made on this aspect.

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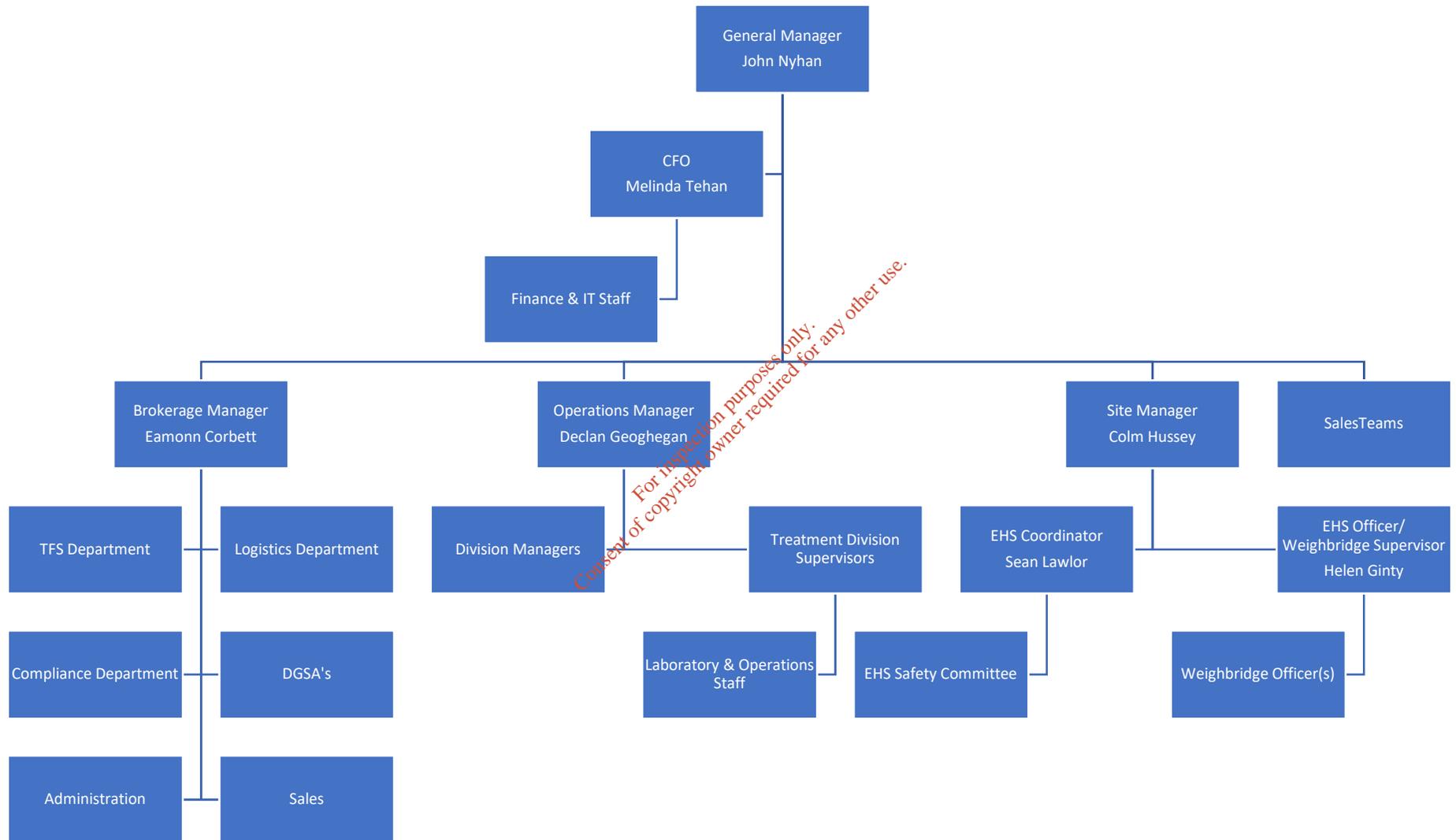
APPENDIX 4

Rilta Environmental Management Structure

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Enva Greenogue Organisational Chart 2019

Rev.04-19



Revised By: Sean Lawlor

1 of 1
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Revision Date: 13/03/2019

APPENDIX 5

Bund Integrity Test Report 2016 / 2017

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Rilta Environmental Ltd.

**Bund Integrity Testing
at Block 402,
Greenogue Business Park,
Rathcoole, Co. Dublin**

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May 2017
Revision: A

TOBIN CONSULTING ENGINEERS



REPORT

PROJECT:

Bund Integrity Testing

**Block 402, Greenogue Business
Park, Rathcoole, Co. Dublin**

CLIENT:

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DOCUMENT AMENDMENT RECORD

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

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PROJECT NUMBER: 6731				DOCUMENT REF:6731/Rev A			
A	Bund Integrity Testing	FH	08/05/17	ST	09/05/17	DG	09/05/17
Revision	Description & Rationale	Originated	Date	Checked	Date	Authorised	Date
TOBIN Consulting Engineers							

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Appendix A

Figure 1 – Bund / Tank Locations for testing (Block 402, Greenogue Business Park)

Appendix B

Block 402- CCTV Drainage Inspection Report

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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 Block 402, Greenogue Business Park, Rathcoole, Co. Dublin under the requirements of the site's EPA Waste Licence (EPA Waste Licence Reg. No. W0192-03).

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 1/03/2017. A structural survey of the buildings outlined for assessment at the site was carried out by a TOBIN Engineer on Monday, 19th December 2016.

Hydrostatic testing of a number of bunded areas and underground settlement tanks commenced on Saturday, April 1st and concluded on Monday, 10th April 2017, The underground settlement tanks were tested in July 2016.

Areas / Bunds for testing identified within Block 402, Greenogue Business Park include:

- Area / Bund No. 1: Contaminated Soil Storage Building
- Area / Bund No. 2: Asbestos Storage Building
- Area / Bund No. 3: Outdoor Bunded Tank Area
- Area / Bund No. 4: Indoor Oil Bund
- Area / Bund No. 5: Indoor Chemical Bund
- Area / Bund No. 6: Underground Tanks (Settlement Tanks (3No.) & Wet Wells (2No.))
- Area / Bund No. 7: Site Drainage Network
- Area / Bund No. 8: Brokerage Quarantine Area, No.7 Portable Bund
- Area / Bund No. 10: Drum Division Sump
- AJ – MHF-11: CCTV Drainage Inspection
- Pipework between Outdoor bund & Internal sump

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 overground 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 BLOCK 402, GREENOGUE BUSINESS PARK

A methodology for the testing of individual bunds and tanks within Block 402 is detailed below. The locations of the areas tested at Block 402 are shown in Figure 1 in Appendix A.

2.1.1 Contaminated Soil Storage Building (Area / Bund No. 1)

A structural survey was carried out by a TOBIN Engineer on the Contaminated Soil Storage Building at Block 402, on Monday, 19th December 2016, located as shown on Figure 1 of Appendix A. This building is designated as an area for the storage of contaminated soil material.

The survey consisted of a visual assessment of all walls, floors and ramps within the building.

This area is generally used to store contaminated soil and at the time of the inspection had mainly been emptied out. The construction of the ground floor slab is a 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.

The floor slab and up-stand was generally found to be in good structural condition with no obvious defects.

2.1.2 Asbestos Storage Building (Area / Bund No. 2)

A CCTV survey was carried out on all drainage pipework associated with the Asbestos Storage Building at Block 402, to ensure the integrity of the pipes and associated valves. The location of the valve connection from this building to the site drainage network is shown on Figure 1.

2.1.3 Outdoor Bunded Tank Area (Area / Bund No. 3)

It was proposed to carry out a hydrostatic test on the Outdoor Concrete Bund at the Tank Area on the Block 402 site, on Saturday, 1st of April 2017, 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 concrete walls and base 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.*

2.1.4 Indoor Oil Bund (Area / Bund No. 4)

It was proposed to carry out a hydrostatic test on the Indoor Oil Bund in the Hydrocarbon Waste Treatment Building on the Block 402 site, on Wednesday, 5th of April 2017, 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 concrete walls and base 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 Indoor Chemical Bund (Area / Bund No. 5)

It was proposed to carry out a hydrostatic test on the Indoor Chemical Bund in the Hydrocarbon Waste Treatment Building on the Block 402 site, Saturday, 8th of April 2017, 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 concrete walls and base 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.

2.1.6 Underground Tanks {Settlement Tanks (3No.) and Wet Wells (2No.)} (Area / Bund No. 6)

It was proposed that hydrostatic testing on the Underground Tanks on the Block 402 site would be carried out over a period when the underground tanks were non-operational.

It was proposed, that a data logger would be placed in each of the underground settlement tanks to increase measurement accuracy. The loggers were then added to each tank on the Friday of the testing period and the liquid allowed stand for 24hrs to ensure a state of equilibrium.

The exit and entry points to the tanks were closed on the Friday and the internal liquid allowed to stand for a 24hr period. The level of the liquid in each chamber was recorded over the weekend and the loggers were removed, prior to the recommencement of work at the facility on the Monday morning.

2.1.7 Site Drainage Network (Area / Bund No. 7)

It was proposed to carry out a CCTV survey on the entire drainage network and associated valves on the Block 402 site, to ensure the integrity of same. Upon inspection, if any pipework or valves show signs of major deterioration or malfunction they shall be replaced or repaired.

2.1.8 Brokerage Quarantine Area Portable Bund (Area / Bund No. 8)

It was proposed to test the Outdoor Portable Plastic Bund at the Brokerage Quarantine Building on the Block 402 site, 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. In this case as the bunds are plastic it would be recommended to replace the bund in the event of a fault or malfunction.

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.

2.1.9 Drum Division Sump (Area / Bund No. 10)

A CCTV survey was carried out on all drainage pipework associated with the Drum Division Sump to ensure the integrity of the pipes and associated valves. The location of the sump is shown on Figure 1 in Appendix A.

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 treated on site.

3.3 PROGRAMME FOR TESTING (BLOCK 402)

It was proposed that all testing would be carried out for Block 402 over a series of 5-day period (ie. from Saturday April 1st – Monday April 3rd 2017).

- Day 1: TOBIN staff attended Block 402 on Thursday, 30th March 2017, 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).
- Day 2: 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 3-5: TOBIN staff attended site on Saturday, 1st April, Sunday, 2nd April and Monday, 3rd April 2017 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 Monday, 19th December 2016.

4 RESULTS

4.1 HYDROSTATIC SURVEY RESULTS

Hydrostatic testing was carried out on the Bunded areas & Underground Storage Tanks from Saturday April 1st to Monday April 3rd 2017, Wednesday April 5th to Friday April 7th 2017 and Saturday April 8th to Monday April 10th 2017.

No fluctuation in liquid level was noted in the bunds or tanks during the first monitoring period Day 1 to Day 2 (1st April – 2nd April 2017, 5th of April – 6th of April 2017 and 8th of April – 9th of April 2017) and levels remained constant for the second monitoring period Day 2 to Day 3 (April 2nd – April 3rd 2017, April 7th – April 8th 2017 and April 8th to April 9th 2017). 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 BLOCK 402, GREENOGLUE BUSINESS PARK

Testing commenced 'as per methodology' on Saturday April 1st 2017. 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.

4.2.1 Contaminated Soil Storage Building (Area / Bund No. 1)

As per methodology a structural survey was carried out by a TOBIN Engineer on the Contaminated Soil Storage Building at Block 402, on Monday, 19th December 2016, located as shown on Figure 1 of Appendix A. This building is designated as an area for the storage of contaminated soil material.

The survey consisted of a visual assessment of all walls, floors and ramps within the building.

This area is generally used to store contaminated soil and at the time of the inspection had mainly been emptied out. The construction of the ground floor slab is a 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.

The floor slab and up-stand was generally found to be in good structural condition with no obvious defects.

4.2.2 Asbestos Storage Building (Area / Bund No. 2)

As per methodology a CCTV survey was carried out on all drainage pipework associated with the Asbestos Storage Building at Block 402, to ensure the integrity of the pipes and associated valves. The location of the valve connection from this building to the site drainage network is shown on Figure 1.

This area is generally used to store dry material. The concrete floors have no joints and were found to be in good condition. There is a reinforced concrete wall around the perimeter of the units, this was also found to be in good structural condition. There is a valved drainage system under the floor which is manually released. The drainage system is outlined in detail in section 5.1 of this report.

4.2.3 Outdoor Bunded Tank Area (Area / Bund No. 3)

As per methodology Area / Bund No. 3 was filled with water to an appropriate level (110% tank volume) on Friday 31st of March 2017. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Saturday 1st of April. Table 4-1 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. The overall bund was tested in 3 separate parts (Front, Middle & Rear).

Table 4-1 Bund / Area No. 3 Test Result

Measurement Location	Sat 1 st Apr (Top of bund to water level)	Sun 2 nd Apr (Top of bund to water level)	Mon 3 rd Apr (Top of bund to water level)	Fluctuation	Pass / Fail
Front of bund					
A, Front Left	75cm	75cm	75cm	0.0cm	Pass
B, Front Right	76cm	76cm	76cm	0.0cm	Pass
C, Rear Left	75cm	75cm	75cm	0.0cm	Pass
D, Rear Right	76cm	76cm	76cm	0.0cm	Pass
Middle of bund					
E, Front Left	76cm	76cm	76cm	0.0cm	Pass

F, Front Right	76cm	76cm	76cm	0.0cm	Pass
G, Rear Left	76cm	76cm	76cm	0.0cm	Pass
H, Rear Right	76cm	76cm	76cm	0.0cm	Pass
Rear of bund					
I, Front Left	72cm	72cm	72cm	0.0cm	Pass
J, Front Right	72cm	72cm	72cm	0.0cm	Pass
Control	21cm	21cm	21cm	0.0cm	Pass

Testing at this location was not impacted by facility operations.

4.2.4 Indoor Oil Bund (Area / Bund No. 4)

As per methodology Area / Bund No. 4 was filled with water to an appropriate level (110% tank volume) on Tuesday 4th of April 2017. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Wednesday 5th April. Table 4-2 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 4-2 Bund / Area No. 4 Test Result

Measurement Location	Wed 5 th Apr (Top of bund to water level)	Thur 6 th Apr (Top of bund to water level)	Fri 7 th Apr (Top of bund to water level)	Fluctuation	Pass / Fail
A, Front Left	76cm	76cm	76cm	0.0cm	Pass
B, Front Right	77cm	77cm	77cm	0.0cm	Pass
C, Left Centre	77cm	77cm	7cm	0.0cm	Pass
Control	13cm	13cm	13cm	0.0cm	Pass

Testing at this location was not impacted by facility operations.

4.2.5 Indoor Chemical Bund (Area / Bund No. 5)

As per methodology Area / Bund No. 5 was filled with water to an appropriate level (110% tank volume) on Friday 7th April 2017. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Saturday 8th April. Table 4-3 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 4-3 Bund / Area No. 5 Test Result

Measurement Location	Sat 8 th Apr (Top of bund to water level)	Sun 9 th Apr (Top of bund to water level)	Mon 10 th Apr (Top of bund to water level)	Fluctuation	Pass / Fail
A, Front Left	131cm	131cm	131cm	0.0cm	Pass
B, Front Right	131cm	131cm	131cm	0.0cm	Pass
C, Rear Right	133cm	133cm	133cm	0.0cm	Pass
D, Rear Left	133cm	133cm	133cm	0.0cm	Pass
Control	11cm	11cm	11cm	0.0cm	Pass

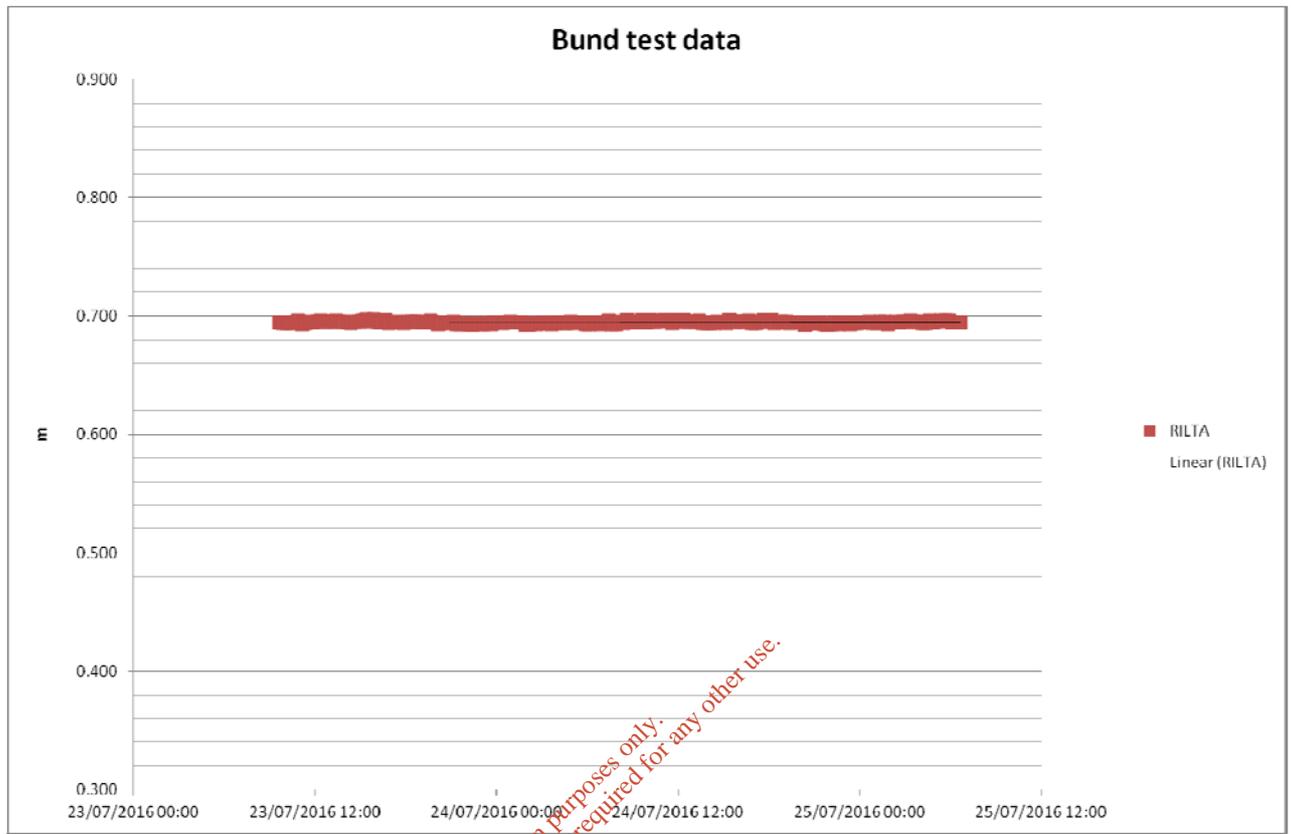
Testing at this location was not impacted by facility operations.

4.2.6 Underground Tanks (Area / Bund No. 6) {Settlement Tanks (3No.) and Wet Wells (2No.)}

As per methodology Area / Bund No. 6 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 April 1st 2017. Table 4-15 below represents recorded change in water levels within the bund and control over the test period.

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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 (July 23rd to July 24th 2017) and levels remained constant for the second monitoring period Day 2 to Day 3 (July 24th to July 25th 2017) 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

4.2.7 Site Drainage Network (Area / Bund No. 7)

As per methodology a CCTV survey was carried out on the entire drainage network and associated valves at Block 402 to ensure the integrity of same. The CCTV report is included in Appendix B.

4.2.8 Brokerage Quarantine Area Portable Bund (Area / Bund No.8)

As per methodology Area / Bund No. 8 were filled with water to an appropriate level (110% tank volume) on Friday 7th of April 2017. A >24hr absorption period was observed (due to weekend period) to allow the bund walls to become saturated. The test commenced on Saturday 8th April. Table 4-5 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 4-5 Bund / Area No. 8 Test Result

Bund No.	Sat 8 th Apr (Top of bund to water level)	Sun 9 th Apr (Top of bund to water level)	Mon 10 th Apr (Top of bund to water level)	Fluctuation	Pass / Fail
1	L: 34.2cm R:34.2cm	L: 34.2cm R:34.2cm	L: 34.2cm R:34.2cm	0.0cm	Pass
2	L: 31.1cm R:33.4cm	L: 31.1cm R:33.4cm	L: 31.1cm R:33.4cm	0.0cm	Pass
3	L: 36.8cm R:33.3cm	L: 36.8cm R:33.3cm	L: 36.8cm R:33.3cm	0.0cm	Pass
4	L: 41cm R:38.4cm	L: 41cm R:38.4cm	L: 41cm R:38.4cm	0.0cm	Pass
5	L: 17.4cm R:17.1cm	L: 17.4cm R:17.1cm	L: 17.4cm R:17.1cm	0.0cm	Pass
6	L: 5.7cm R:5.2cm	L: 5.7cm R:5.2cm	L: 5.7cm R:5.2cm	0.0cm	Pass
7	L: 5.7cm R:5.2cm	L: 5.7cm R:5.2cm	L: 5.7cm R:5.2cm	0.0cm	Pass

Testing at this location was not impacted by facility operations.

4.2.9 Drum Division Sump (Area / Bund No. 9)

A CCTV survey was carried out on all drainage pipework associated with the Drum Division Sump to ensure the integrity of the pipes and associated valves. The CCTV report is included in Appendix B.

5 CCTV

5.1 CCTV SURVEY

A CCTV drainage inspection was carried out on 1st of March 2017, 3rd of March 2017, 11th of March 2017, 22nd of March 2017, 30th of March 2017, 31st March 2017 and 19th of April 2017, on behalf of Rilta Environmental Ltd. The Inspection Report is included in Appendix B attached.

6 CONCLUSION

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

Areas / Bunds for testing identified within Rilta Site, Block 402, Greenogue Business Park include:

- Area / Bund No. 1: Contaminated Soil Storage Building = **PASS**
- Area / Bund No. 2: Asbestos Storage Building = **PASS**
- Area / Bund No. 3: Outdoor Bunded Tank Area = **PASS**
- Area / Bund No. 4: Indoor Oil Bund = **PASS**
- Area / Bund No. 5: Indoor Chemical Bund = **PASS**
- Area / Bund No. 6: Underground Tanks = **PASS**
- Area / Bund No. 7: Site Drainage Network = **PASS**
- Area / Bund No. 8: Brokerage Quarantine Area, Portable Bund = **PASS**

Remedial Works recommended

- Area / Bund No. 9: Drum Division Sump = **PASS**

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APPENDIX A

Figure 1: Bund / Tank Locations for Testing
(Block 402, Greenogue Business Park)

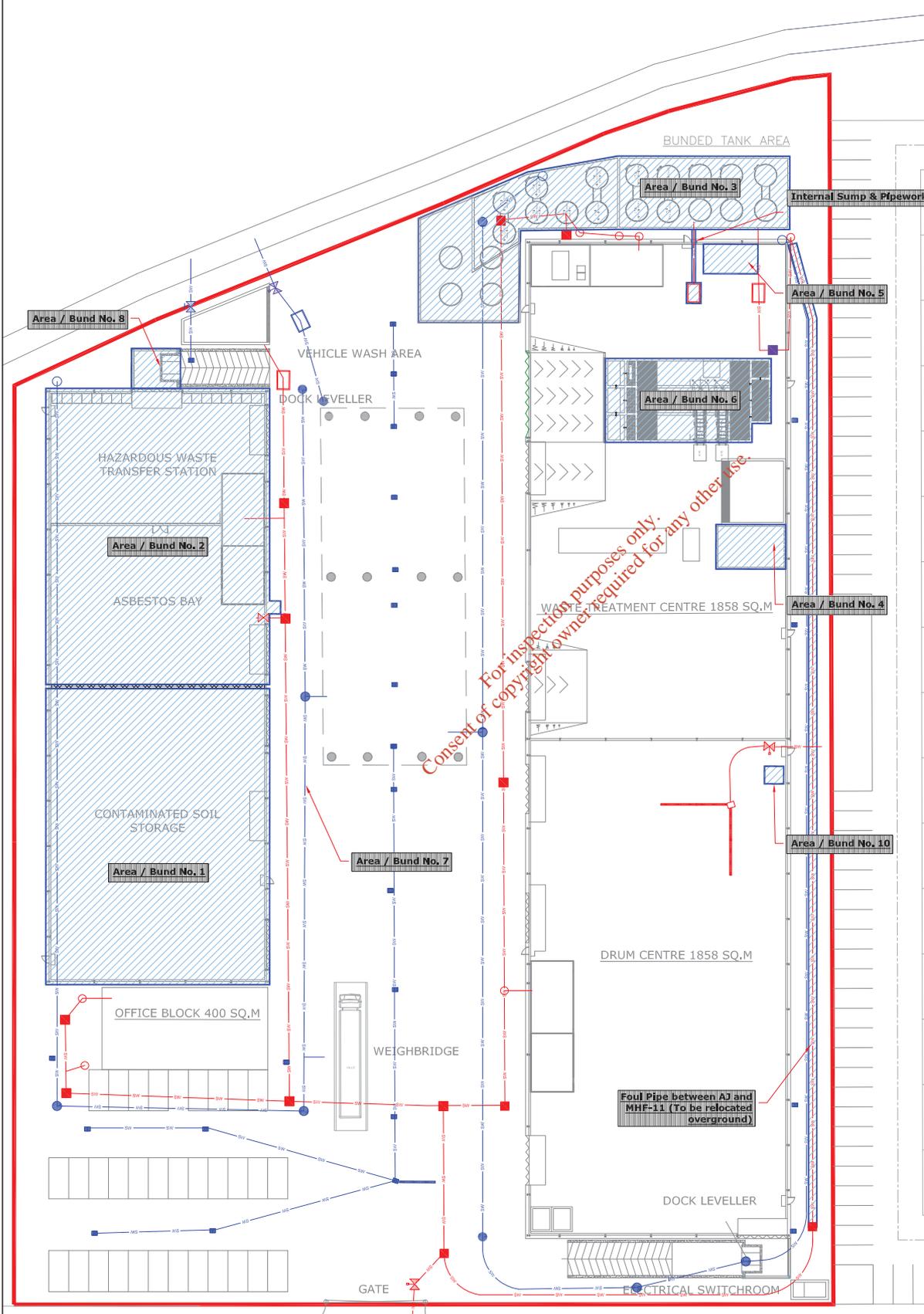
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TEST AREAS

1. Contaminated Soil Storage Building
2. Asbestos Storage Building
3. Outdoor Bunded Tank Area
4. Indoor Oil Bund
5. Indoor Chemical Bund
6. Underground tanks (Settlement Tanks (3No.) and Wet Wells (2No.))
7. Site Drainage Network
8. Brokerage Quarantine Area Portable Bund
10. Drum Division Sump
11. Internal Sump & Pipework
12. Foul pipe between AJ & MHF-11

GENERAL LEGEND

- | | | |
|---------------------|------------------|--|
| FACILITY BOUNDARY | TEST AREAS | |
| SURFACE WATER DRAIN | FOUL WATER DRAIN | |
| SW MANHOLE | FOUL MANHOLE | |
| GULLY | SHUT OFF VALVE | |
| ACCESS CHAMBER | INTERCEPTOR | |



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NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	May 2017	ISSUED FOR REPORT	MN	ST

Client: **RILTA Environmental Limited**

Project: **BUND INTEGRITY TESTING AT BLOCK 402 GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN**

Title: **BUND / TANK LOCATIONS FOR TESTING**

BLOCK 402 SITE

Scale @ A1: 1:250

Prepared by: M. Nolan Checked: S. Tinnelly Date: May 2017

Project Director: D. Grehan

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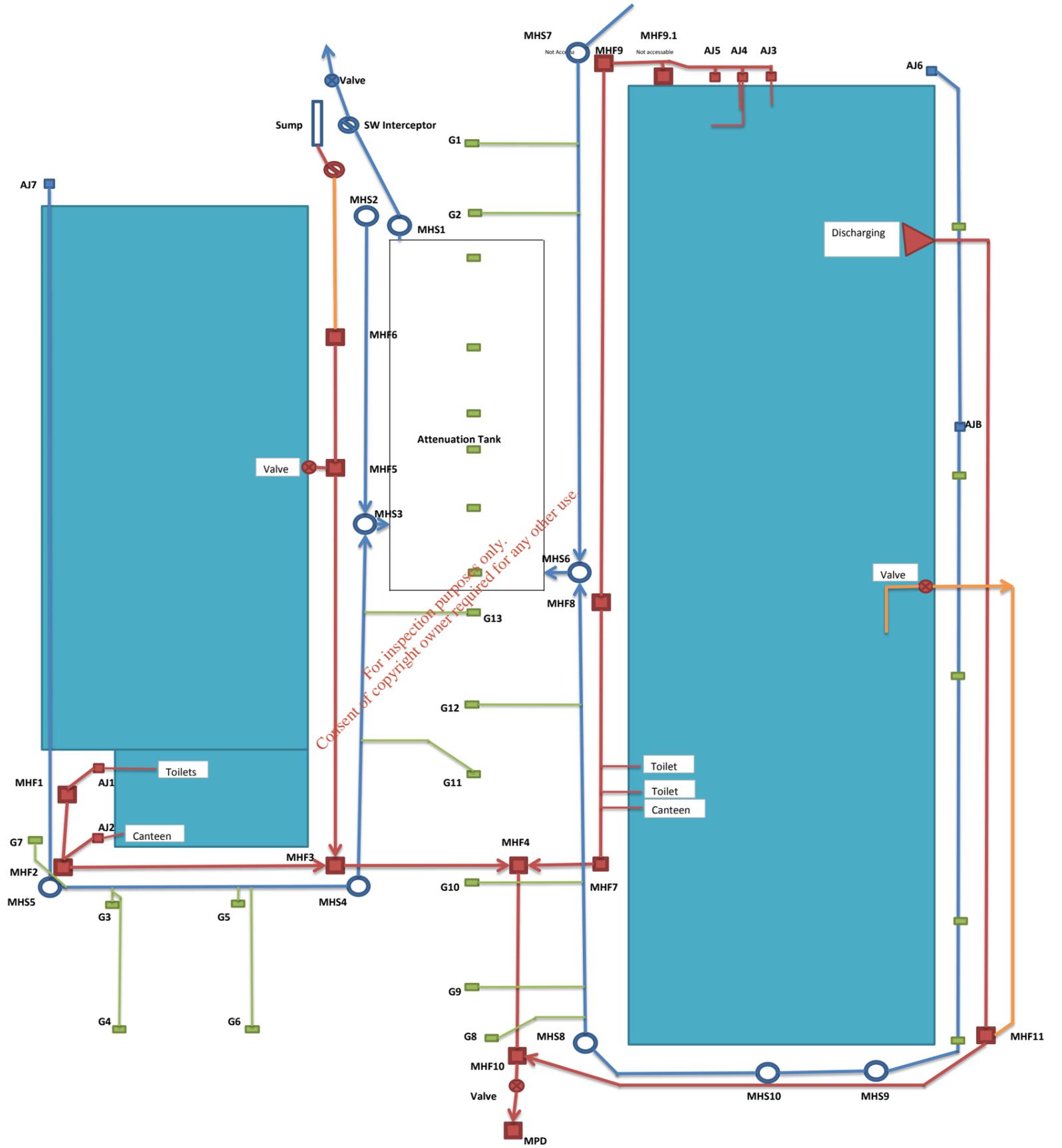
Drawing No: **Figure 1** Revision: **A**

APPENDIX B

Block 402 - CCTV Drainage Inspection Report

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- Gully Drains
- Surface Water Drain
- Foul Drain
- Drain not in use
- Gully
- Interceptor
- Storm Water Manhole
- Foul Manhole
- Storm Water AJ
- Foul AJ
- ⊗ Valve



Project-information / Inspection: 1

Project name :
Rilta Environmental Ltd.

Project Number :

Contact :

Date :
01/03/2017

Client **Rilta Environmental Ltd.**
Responsible: **Colm Hussey**
Department:
Street: **Unit 402, Greenogue Business Park**
City, St Zip: **Rathcoole**
Po Box: **Dublin**
Telephone:
Fax:
Mobile:
e-mail:

Proj mgr **Rilta Environmental Ltd.**
Responsible: **Colm Hussey**
Department:
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Mobile:
e-mail:

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Contractor **Rilta Environmental Ltd**
Responsible: **Eoin Kirby, Frantisek Navratil**
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City, St Zip: **Rathcoole**
Po Box: **Dublin**
Telephone: **01 4018000**
Fax:
Mobile: **0877988574**
e-mail: **info@rilta.ie**

Inspection report / Inspection: 1

Date : 01/03/2017	Job number :	Weather : rain	Operator : Frantisek	Section number : 1	PLR SUFFIX: X
Weather rain	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHS3 (U/S) MHS2	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS2 MHS3
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 29.84 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Concrete	

Comment :

1:252	Position	Code	Observation	MPEG	Photo	Grade
	<u>0.01</u>	MH	Start node type, manhole, reference number : MH3	00:00:00		(Constr) 0
	<u>0.02</u>	WL	Water level, 5% of the vertical dimension			(Serv) 0
	<u>2.01</u>	CN	Connection other than junction, at 10 o'clock, diameter 150mm	00:01:02		(Constr) 0
	<u>13.32</u>	CN	Connection other than junction, at 10 o'clock, diameter 150mm	00:03:22		(Constr) 0
	<u>15.14</u>	WL	Water level, 0% of the vertical dimension	00:03:40		(Serv) 0
	<u>17.04</u>	WL	Water level, 5% of the vertical dimension	00:03:53		(Serv) 0
	<u>19.82</u>	WL	Water level, 0% of the vertical dimension	00:04:38		(Serv) 0
	<u>29.27</u>	CN	Connection other than junction, at 10 o'clock, diameter 150mm	00:06:28		(Constr) 0
	<u>29.84</u>	WL	Water level, 0% of the vertical dimension	00:06:45		(Serv) 0
	<u>29.84</u>	MHF	Finish node type, manhole reference number: MH2	00:06:48		(Constr) 0

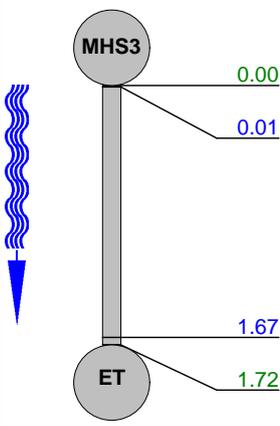
Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report / Inspection: 1

Date : 01/03/2017	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 Grants Drive Property with buildings MHS3 (D/S) ET	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS3 ET
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 1.72 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 : MHS3	00:00:00		(Constr) 0
	0.01	WL	Water level, 10% of the vertical dimension			(Serv) 0
	1.67	WL	Water level, 0% of the vertical dimension	00:01:22		(Serv) 0
	1.72	MHF	Finish node type manhole reference number: ET	00:02:15		(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	0	0	0	0	1

Inspection report / Inspection: 1

Date : 01/03/2017	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 Grants Drive Property with buildings MHS3 (D/S) MHS4	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS3 MHS4
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 47.52 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 : MH3	00:00:00		(Constr) 0
	0.16	WL	Water level, 5% of the vertical dimension			(Serv) 0
	3.11	WLC	Clear water level, 0% of the vertical dimension	00:00:46		(Serv) 0
	4.14	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:01:23		(Constr) 0
	7.64	CN	Connection other than junction, at 10 o'clock, diameter 150mm	00:02:46		(Constr) 0
	11.87	WL	Water level, 5% of the vertical dimension	00:03:37		(Serv) 0
	14.45	WL	Water level, 10% of the vertical dimension	00:03:51		(Serv) 0
	15.94	CN	Connection other than junction, at 4 o'clock, diameter 150mm	00:04:34		(Constr) 0
	21.11	WL	Water level, 15% of the vertical dimension	00:05:35		(Serv) 0
	26.29	WL	Water level, 5% of the vertical dimension	00:06:47		(Serv) 0
	28.75	WL	Water level, 10% of the vertical dimension	00:07:04		(Serv) 0
	28.75	CN	Connection other than junction, at 12 o'clock, diameter 150mm	00:07:24		(Constr) 0
	29.84	WL	Water level, 15% of the vertical dimension	00:07:37		(Serv) 0
	35.64	WL	Water level, 5% of the vertical dimension	00:08:21		(Serv) 0
	39.87	WLC	Clear water level, 10% of the vertical dimension	00:08:41		(Serv) 0
	41.12	CN	Connection other than junction, at 11 o'clock, diameter 150mm	00:09:32		(Constr) 0
	47.52	WL	Water level, 0% of the vertical dimension	00:10:11		(Serv) 0
	47.52	MHF	Finish node type, manhole reference number: MH4	00:10:14		(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 : 01/03/2017	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 Grants Drive Property with buildings MHS6 (U/S) MHS7	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS7 MHS6
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 56.13 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:462	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHS6	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:25		(Serv) 0
	0.20	CN	Connection other than junction, at 2 o'clock, diameter 150mm Remarks: Unknown Connection	00:00:28		(Constr) 0
	3.89	WLC	Clear water level, 5% of the vertical dimension	00:01:18		(Serv) 0
	5.53	WL	Water level, 0% of the vertical dimension	00:01:36		(Serv) 0
	11.53	CN	Connection other than junction, at 3 o'clock, diameter 150mm	00:02:38		(Constr) 0
	35.60	CN	Connection other than junction, at 11 o'clock, diameter 150mm	00:07:03		(Constr) 0
	38.86	CN	Connection other than junction, at 3 o'clock, diameter 150mm	00:08:00		(Constr) 0
	42.41	CN	Connection other than junction, at 11 o'clock, diameter 150mm	00:08:54		(Constr) 0
	42.41	WL	Water level, 5% of the vertical dimension	00:09:03		(Serv) 0
	44.30	WLC	Clear water level, 0% of the vertical dimension	00:09:26		(Serv) 0
	45.22	CN	Connection other than junction, at 3 o'clock, diameter 150mm	00:09:52		(Constr) 0
	51.11	WL	Water level, 5% of the vertical dimension	00:11:00		(Serv) 0
	56.13	WL	Water level, 0% of the vertical dimension	00:12:44		(Serv) 0
	56.13	MHF	Finish node type, manhole reference number: MHS7	00:12:47		(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 : 01/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 5	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHS6 (U/S) MHS8	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS8 MHS6
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 64.55 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:525	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHS6	00:00:00		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension			(Serv) 0
	0.86	WL	Water level, 0% of the vertical dimension	00:00:25		(Serv) 0
	6.37	WL	Water level, 5% of the vertical dimension	00:01:23		(Serv) 0
	14.17	CN	Connection other than junction, at 9 o'clock, diameter 150mm	00:02:52		(Constr) 0
	19.46	WLC	Clear water level, 10% of the vertical dimension	00:03:36		(Serv) 0
	22.11	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:04:21		(Constr) 0
	24.55	WL	Water level, 0% of the vertical dimension	00:04:42		(Serv) 0
	28.44	CN	Connection other than junction, at 9 o'clock, diameter 150mm	00:05:30		(Constr) 0
	29.93	WL	Water level, 5% of the vertical dimension	00:05:48		(Serv) 0
	34.12	WL	Water level, 0% of the vertical dimension	00:06:34		(Serv) 0
	42.26	WL	Water level, 5% of the vertical dimension	00:07:33		(Serv) 0
	43.57	WL	Water level, 0% of the vertical dimension	00:07:42		(Serv) 0
	44.85	CN	Connection other than junction, at 9 o'clock, diameter 150mm	00:08:23		(Constr) 0
	46.70	WL	Water level, 10% of the vertical dimension	00:08:40		(Serv) 0
	50.14	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:09:25		(Constr) 0
	56.64	CN	Connection other than junction, at 9 o'clock, diameter 150mm	00:10:30		(Constr) 0
	57.27	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:10:57		(Constr) 0
	57.73	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:11:31		(Constr) 0
	64.55	WL	Water level, 0% of the vertical dimension	00:12:20		(Serv) 0
	64.55	MHF	Finish node type, manhole reference number: MHS8	00:12:24		(Constr) 0

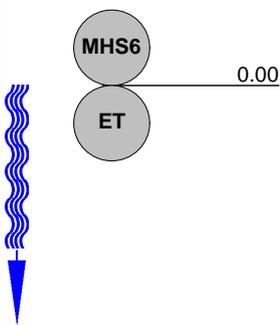
Structural Defects					Constructional Features				
Service Defects					Miscellaneous Features				
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Inspection report / Inspection: 1

Date : 01/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 6	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHS6 (D/S) ET	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS6 ET
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 0.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride			

Comment :

1:50	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

Inspection report / Inspection: 1

Date : 03/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 7	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHS5 (U/S) AJ	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ MHS5
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 45.66 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:378	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHS5	00:00:00		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	3.76	WL	Water level, 0% of the vertical dimension	00:01:20		(Serv) 0
	9.12	WL	Water level, 10% of the vertical dimension	00:02:41		(Serv) 0
	11.60	WL	Water level, 0% of the vertical dimension	00:03:24		(Serv) 0
	19.55	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:06:01		(Constr) 0
	32.63	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:09:41		(Constr) 0
	32.98	WL	Water level, 5% of the vertical dimension	00:10:01		(Serv) 0
	35.95	WL	Water level, 0% of the vertical dimension	00:10:36		(Serv) 0
	39.11	WL	Water level, 5% of the vertical dimension	00:11:38		(Serv) 0
	42.38	WL	Water level, 0% of the vertical dimension	00:12:22		(Serv) 0
	45.10	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:14:16		(Constr) 0
	45.10	OBX	Other obstacles, other object in invert, from 6 to 12 o'clock, 65% cross-sectional area loss Remarks: Poor workmanship	00:14:19		(Serv) 5
	45.49	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:13:29	8_14A	(Constr) 0
	45.66	WL	Water level, 0% of the vertical dimension	00:14:31		(Serv) 0
	45.66	SA	Survey abandoned Remarks: Survey could not be completed due to a pipe installed cross whole diameter of t	00:14:35		(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	1	10	0.22	10	5

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 03/03/2017	Section number : 7	PLR Suffix : X
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Photo: 8_14A, MPEG #: 280217_1, 00:13:29
45.49m, Connection other than junction, at 10 o'clock, diameter 100mm

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Inspection report / Inspection: 1

Date : 11/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 8	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHS5 (D/S) MHS4	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS5 MHS4
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 28.16 m			Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:231	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHS5	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:04		(Serv) 0
	0.73	WL	Water level, 5% of the vertical dimension	00:00:55		(Serv) 0
	2.63	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:02:28		(Constr) 0
	4.72	CN	Connection other than junction, at 10 o'clock, diameter 100mm	00:03:33		(Constr) 0
	13.45	WL	Water level, 5% of the vertical dimension	00:07:03		(Serv) 0
	16.65	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:08:10		(Constr) 0
	17.22	CN	Connection other than junction, at 2 o'clock, diameter 100mm	00:08:50		(Constr) 0
	24.75	WL	Water level, 0% of the vertical dimension	00:10:57		(Serv) 0
	28.16	WL	Water level, 0% of the vertical dimension	00:11:45		(Serv) 0
	28.16	MHF	Finish node type, manhole reference number: MHS4	00:11:47		(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 : 22/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 9	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ3 (D/S) MHF9	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ3 MHF9
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Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 19.71 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride
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Comment :

1:168	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJ3	00:00:02		(Constr) 0
	0.00	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	0.20	LL	Line deviates left	00:00:02		(Serv) 0
	2.50	CN	Connection other than junction, at 9 o'clock, diameter 100mm Remarks: From A04	00:00:30		(Constr) 0
	3.20	CN	Connection other than junction, at 9 o'clock, diameter 100mm Remarks: From Lab	00:00:40		(Constr) 0
	5.40	WL	Water level, 5% of the vertical dimension	00:01:01		(Serv) 0
	6.00	DES	Settled deposits, fine, 5% cross-sectional area loss	00:01:06		(Serv) 2
	6.30	WL	Water level, 10% of the vertical dimension	00:01:11		(Serv) 0
	6.70	JN	Junction, at 3 o'clock, diameter 100mm Remarks: AJ5	00:01:21		(Constr) 0
	7.20	LR	Line deviates right	00:01:48		(Serv) 0
	7.40	WL	Water level, 0% of the vertical dimension	00:01:52		(Serv) 0
	8.40	LL	Line deviates left	00:02:07		(Serv) 0
	11.50	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: Unknown connection	00:02:32		(Constr) 0
	18.00	WL	Water level, 5% of the vertical dimension	00:03:59		(Serv) 0
	19.00	WLC	Clear water level, 15% of the vertical dimension	00:04:05		(Serv) 0
	19.70	WL	Water level, 5% of the vertical dimension	00:04:12		(Serv) 0
	19.71	MHF	Finish node type, manhole reference number: MHF9	00:04:17		(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	0.05	1	2

Inspection report / Inspection: 1

Date : 22/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 10	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ3 (U/S) US	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
		280217_1	US AJ3
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 4.42 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	IC	Start node type, inspection chamber, reference number : AJ3	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.60	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: From sink	00:00:39		(Constr) 0
	3.50	CN	Connection other than junction, at 3 o'clock, diameter 100mm Remarks: Connection from the toilet on right hand	00:00:33		(Constr) 0
	3.60	DES	Settled deposits, fine, 15% cross-sectional area loss	00:00:35	10_5A	(Serv) 3
	4.40	LU	Line deviates up	00:00:51		(Serv) 0
	4.41	WL	Water level, 0% of the vertical dimension	00:00:51		(Serv) 0
	4.42	BRF	Finish node type, major connection without manhole reference number: US Remarks: From wash machine	00:00:51		(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	2	0.45	2	3

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 22/03/2017	Section number : 10	PLR Suffix : X
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Photo: 10_5A, MPEG #: 280217_1, 00:00:35
3.6m, Settled deposits, fine, 15% cross-sectional area loss

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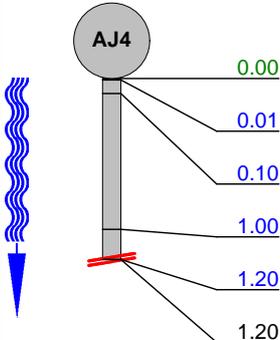
Inspection report / Inspection: 1

Date : 22/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 11	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ4 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ4 DS
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 1.40 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	IC	Start node type, inspection chamber, reference number : AJ4	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.10	LL	Line deviates left	00:00:01		(Serv) 0
	1.00	LR	Line deviates right	00:00:12		(Serv) 0
	1.20	WL	Water level, 0% of the vertical dimension	00:00:24		(Serv) 0
	1.20	SA	Survey abandoned Remarks: Survey could not be completed due to sharp bends on this pipe.	00:00:24		(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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ4 (U/S) SINK	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	SINK AJ4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 3.52 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	AJ4					
	0.00	IC	Start node type, inspection chamber, reference number : AJ4	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.50	LU	Line deviates up	00:00:36		(Serv) 0
	3.51	WL	Water level, 0% of the vertical dimension	00:00:36		(Serv) 0
	3.52	BRF	Finish node type, major connection without manhole reference number: SINK	00:00:36		(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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ4 (U/S) TOILET	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	TOILET AJ4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 7.11 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride	

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	AJ4					
	0.00	IC	Start node type, inspection chamber, reference number : AJ4	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.30	OJM	Open joint, medium	00:00:03	13_3A	(Struct) 1
	2.50	OJM	Open joint, medium	00:00:36	13_4A	(Struct) 1
	3.40	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: From Urinals	00:00:57		(Constr) 0
	4.80	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: From Toilet	00:01:24		(Constr) 0
	5.50	LR	Line deviates right	00:01:05		(Serv) 0
	7.10	WL	Water level, 0% of the vertical dimension	00:01:26		(Serv) 0
	7.11	BRF	Finish node type, major connection without manhole reference number: SINK Remarks: Sink beside Lab door.	00:01:26		(Constr) 0
	TOILET					

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
2	1	0.28	2	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 22/03/2017	Section number : 13	PLR Suffix : X
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Photo: 13_3A, MPEG #: 280217_1, 00:00:03
0.3m, Open joint, medium



Photo: 13_4A, MPEG #: 280217_1, 00:00:36
2.5m, Open joint, medium

Inspection report / Inspection: 1

Date : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHF2 (D/S) MHF3	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF2 MHF3
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 25.81 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 : MHF2	00:00:02		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:02		(Serv) 0
	8.30	WLC	Clear water level, 10% of the vertical dimension	00:01:25		(Serv) 0
	10.80	WL	Water level, 5% of the vertical dimension	00:02:32		(Serv) 0
	25.80	WL	Water level, 5% of the vertical dimension	00:05:23		(Serv) 0
	25.81	MHF	Finish node type, manhole reference number: MHF3	00:05:23		(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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHF8 (D/S) MHF7	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF8 MHF7
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 39.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:315	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF8	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	5.30	WL	Water level, 5% of the vertical dimension	00:00:47		(Serv) 0
	7.00	WL	Water level, 10% of the vertical dimension	00:01:00		(Serv) 0
	14.50	WL	Water level, 5% of the vertical dimension	00:01:53		(Serv) 0
	18.50	WL	Water level, 10% of the vertical dimension	00:02:29		(Serv) 0
	19.40	WL	Water level, 5% of the vertical dimension	00:02:35		(Serv) 0
	23.20	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Toilet from Drum Division.	00:03:01		(Constr) 0
	23.90	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Toilet from Drum Division.	00:03:07		(Constr) 0
	25.30	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: Toilet from Drum Division.	00:03:18		(Constr) 0
	32.60	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: Connection from canteen	00:04:25		(Constr) 0
	36.40	WL	Water level, 10% of the vertical dimension	00:04:56		(Serv) 0
	37.10	WL	Water level, 15% of the vertical dimension	00:05:01		(Serv) 0
	39.00	WL	Water level, 10% of the vertical dimension	00:05:17		(Serv) 0
	39.50	WL	Water level, 5% of the vertical dimension	00:05:20		(Serv) 0
	39.51	MHF	Finish node type, manhole reference number: MHF7	00:05:20		(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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHF8 (U/S) MHF9	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF9 MHF8
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 58.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

Comment :

1:462	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF8	00:00:00		(Constr) 0
	0.01	WL	Water level, 15% of the vertical dimension	00:00:00		(Serv) 0
	1.90	WLC	Clear water level, 10% of the vertical dimension	00:00:24		(Serv) 0
	3.00	WL	Water level, 5% of the vertical dimension	00:00:45		(Serv) 0
	14.10	WLC	Clear water level, 10% of the vertical dimension	00:02:04		(Serv) 0
	16.50	WL	Water level, 5% of the vertical dimension	00:02:22		(Serv) 0
	18.20	WL	Water level, 10% of the vertical dimension	00:02:35		(Serv) 0
	19.90	WLC	Clear water level, 5% of the vertical dimension	00:02:48		(Serv) 0
	29.50	WLC	Clear water level, 10% of the vertical dimension	00:04:02		(Serv) 0
	33.30	WL	Water level, 5% of the vertical dimension	00:04:35		(Serv) 0
	52.20	WL	Water level, 10% of the vertical dimension	00:07:11		(Serv) 0
	56.40	WL	Water level, 5% of the vertical dimension	00:07:46		(Serv) 0
	58.60	WL	Water level, 5% of the vertical dimension	00:08:10		(Serv) 0
	58.61	SA	Survey abandoned Remarks: Survey could not be completed due to a length of the camera rod	00:08:10		(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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ1 (U/S) TOILET	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	TOILET AJ1
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 7.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride			

Comment :

1:63	Position	Code	Observation	MPEG	Photo	Grade
	AJ1					
	0.00	IC	Start node type, inspection chamber, reference number : AJ1	00:00:03		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:03		(Serv) 0
	0.60	LL	Line deviates left	00:00:14		(Serv) 0
	1.60	LR	Line deviates right	00:00:22		(Serv) 0
	1.61	CN	Connection other than junction, at 12 o'clock, diameter 100mm	00:00:22		(Constr) 0
	3.90	CN	Connection other than junction, at 12 o'clock, diameter 100mm	00:00:45		(Constr) 0
	4.90	CN	Connection other than junction, at 12 o'clock, diameter 100mm	00:00:57		(Constr) 0
	7.50	LU	Line deviates up	00:01:39		(Serv) 0
	7.50	WL	Water level, 0% of the vertical dimension	00:01:39		(Serv) 0
	7.51	BRF	Finish node type, major connection without manhole reference number: TOILET	00:01:39		(Constr) 0
	TOILET					

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 : 22/03/2017	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 : no	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ2 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ2 DS
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 4.21 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 100.00 mm Polyvinyl chloride		

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	AJ2					
	0.00	IC	Start node type, inspection chamber, reference number : AJ2	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	0.60	LL	Line deviates left	00:00:09		(Serv) 0
	2.60	LL	Line deviates left	00:00:31		(Serv) 0
	3.90	LL	Line deviates left	00:00:42		(Serv) 0
	4.20	WL	Water level, 0% of the vertical dimension	00:00:44		(Serv) 0
	4.21	BRF	Finish node type, major connection without manhole reference number: DS Remarks: Connected to drain from	00:00:44		(Constr) 0
	DS					

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

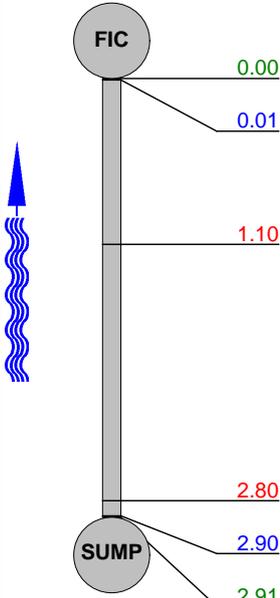
Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings FIC (U/S) SUMP	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	SUMP FIC
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 2.91 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	OS	Start node type, oil separator, reference number : FIC	00:00:01		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	1.10	OJM	Open joint, medium	00:00:27	19_3A	(Struct) 1
	2.80	FC	Fracture, circumferential, from 2 to 7 o'clock	00:00:51	19_4A	(Struct) 3
	2.90	WL	Water level, 0% of the vertical dimension	00:01:36		(Serv) 0
	2.91	CPF	Finish node type, catchpit reference number: SUMP	00:01:36		(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
2	40	14.09	41	3	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 22/03/2017	Section number : 19	PLR Suffix : X
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Photo: 19_3A, MPEG #: 280217_1, 00:00:27
1.1m, Open joint, medium



Photo: 19_4A, MPEG #: 280217_1, 00:00:51
2.8m, Fracture, circumferential, from 2 to 7 o'clock

Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings G1 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G1 G1 DS DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.91 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	G1					
	0.00	GY	Start node type, gully, reference number : G1	00:00:02		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	9.60	LD	Line deviates down	00:01:59		(Serv) 0
	9.90	WL	Water level, 0% of the vertical dimension	00:02:07		(Serv) 0
	9.91	BRF	Finish node type, major connection without manhole reference number: DS Remarks: Connected to drain from	00:02:07		(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 : 22/03/2017	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 Grants Drive Property with buildings G2 (D/S) DS	Location details: Catchment: Tape number : 280217_1 Pipe Length	U/S MH : G2 U/S Depth : D/S MH : DS D/S Depth :
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150.00 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	9.91 m	Lining :	

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	0.00	GY	Start node type, gully, reference number : G2	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, 5% of the vertical dimension	00:00:30		(Serv) 0
	6.10	WL	Water level, 0% of the vertical dimension	00:00:52		(Serv) 0
	9.90	LD	Line deviates down	00:01:18		(Serv) 0
	9.91	BRF	Finish node type, major connection without manhole reference number: DS Remarks: Connected to drain from	00:01:24		(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 : 22/03/2017	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 Grants Drive Property with buildings MHF1 (D/S) MHF2	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF1 MHF2
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 8.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	MHF1					
	0.00	GY	Start node type, gully, reference number : MHF1	00:00:01		(Constr) 0
	0.00	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	7.70	WLC	Clear water level, 5% of the vertical dimension	00:01:19		(Serv) 0
	8.50	WL	Water level, 0% of the vertical dimension	00:01:25		(Serv) 0
	8.51	MHF	Finish node type, manhole reference number: MHF2	00:01:25		(Constr) 0
	MHF2					

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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

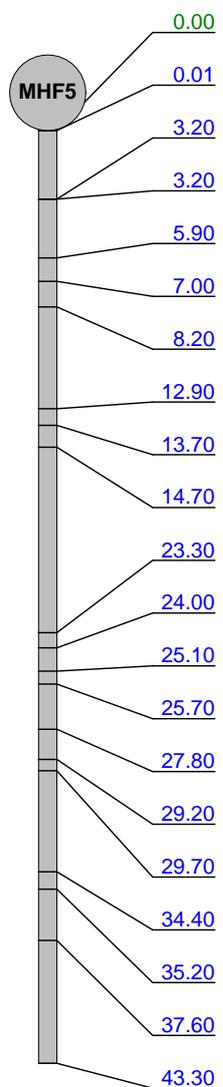
Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings MHF5 (D/S) MHF3	Location details: Catchment: Tape number : 280217_1 Pipe Length	U/S MH : MHF5 U/S Depth : D/S MH : MHF3 D/S Depth :
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 55.51 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride

Comment :

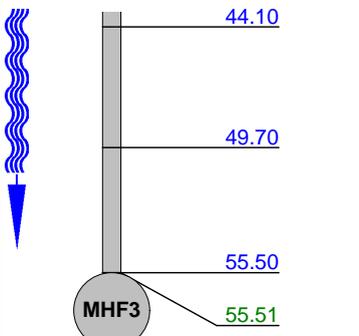
1:350	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF5	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.20	WLC	Clear water level, 5% of the vertical dimension	00:00:35		(Serv) 0
	3.20	DES	Settled deposits, fine, 5% cross-sectional area loss	00:00:35		(Serv) 2
	5.90	WLC	Clear water level, 0% of the vertical dimension	00:01:01		(Serv) 0
	7.00	WL	Water level, 5% of the vertical dimension	00:01:10		(Serv) 0
	8.20	WL	Water level, 0% of the vertical dimension	00:01:22		(Serv) 0
	12.90	WL	Water level, 5% of the vertical dimension	00:02:01		(Serv) 0
	13.70	WL	Water level, 10% of the vertical dimension	00:02:09		(Serv) 0
	14.70	DES	Settled deposits, fine, 5% cross-sectional area loss	00:02:19		(Serv) 2
	23.30	WL	Water level, 5% of the vertical dimension	00:03:28		(Serv) 0
	24.00	WL	Water level, 0% of the vertical dimension	00:03:34		(Serv) 0
	25.10	WL	Water level, 5% of the vertical dimension	00:03:42		(Serv) 0
	25.70	WL	Water level, 10% of the vertical dimension	00:03:47		(Serv) 0
	27.80	WL	Water level, 5% of the vertical dimension	00:04:03		(Serv) 0
	29.20	WL	Water level, 10% of the vertical dimension	00:04:14		(Serv) 0
	29.70	WL	Water level, 15% of the vertical dimension	00:04:17		(Serv) 0
	34.40	WL	Water level, 10% of the vertical dimension	00:04:57		(Serv) 0
	35.20	WLC	Clear water level, 5% of the vertical dimension	00:05:04		(Serv) 0
	37.60	WL	Water level, 0% of the vertical dimension	00:05:24		(Serv) 0
	43.30	WL	Water level, 5% of the vertical dimension	00:06:08		(Serv) 0



Inspection Report / Inspection: 1

Date : 22/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 23	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:350	Position	Code	Observation	MPEG	Photo	Grade
	44.10	WL	Water level, 0% of the vertical dimension	00:06:16		(Serv) 0
	49.70	WL	Water level, 5% of the vertical dimension	00:07:00		(Serv) 0
	55.50	WL	Water level, 0% of the vertical dimension	00:07:51		(Serv) 0
	55.51	MHF	Finish node type, manhole reference number: MHF3	00:07:51		(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	2	1	0.04	2	2

Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings MHF5 (U/S) MHF6	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF6 MHF5
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 17.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:147	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF5	00:00:02		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:02		(Serv) 0
	5.20	WL	Water level, 10% of the vertical dimension	00:00:49		(Serv) 0
	6.70	WL	Water level, 5% of the vertical dimension	00:01:10		(Serv) 0
	8.40	WL	Water level, 0% of the vertical dimension	00:01:31		(Serv) 0
	8.50	CN	Connection other than junction, at 10 o'clock, diameter 100mm Remarks: From toilets	00:01:30		(Constr) 0
	17.80	WL	Water level, 0% of the vertical dimension	00:03:46		(Serv) 0
	17.81	MHF	Finish node type, manhole reference number: MHF6	00:03:46		(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 : 22/03/2017	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 Grants Drive Property with buildings MH5 (U/S) VALVE	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	VALVE MH5
Use: Year laid : Purpose : Total length :	Foul 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
	MH5	MH	Start node type, manhole, reference number : MH5	00:00:03		(Constr) 0
	0.00	WL	Water level, 0% of the vertical dimension	00:00:03		(Serv) 0
	0.01					
	3.00	WL	Water level, 0% of the vertical dimension	00:00:37		(Serv) 0
	VALVE	BRF	Finish node type, major connection without manhole reference number: VALVE	00:00:37		(Constr) 0
	3.01					

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

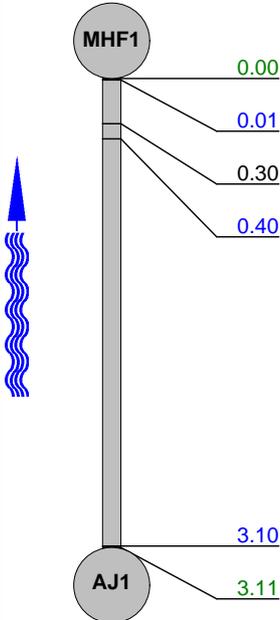
Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings MHF1 (U/S) AJ1	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ1 MHF1
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 3.11 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 : MHF1	00:00:02		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:02		(Serv) 0
	0.30	SCC	Shape changes to circular, 100mm high	00:00:00		0
	0.40	WLC	Clear water level, 0% of the vertical dimension	00:00:15		(Serv) 0
	3.10	WLC	Clear water level, 0% of the vertical dimension	00:00:39		(Serv) 0
	3.11	ICF	Finish node type, inspection chamber reference number: AJ1	00:00:39		(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 : 22/03/2017	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 Grants Drive Property with buildings MHS1 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS1 DS
Use: Year laid : Purpose : Total length :	Surface water 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 : MHS1	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.40	REM	General remark Remarks: Gate Valve	00:00:16		(Misc) 0
	1.50	SR	Sealing ring intruding, from 9 to 12 o'clock	00:00:47	27_4A	(Constr) 1
	4.80	WL	Water level, 5% of the vertical dimension	00:01:41		(Serv) 0
	7.99	LD	Line deviates down	00:02:31		(Serv) 0
	8.00	WL	Water level, 0% of the vertical dimension	00:02:31		(Serv) 0
	8.01	OSF	Finish node type, oil separator reference number: DS	00:02:31		(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	0.62	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 22/03/2017	Section number : 27	PLR Suffix : X
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Photo: 27_4A, MPEG #: 280217_1, 00:00:47
1.5m, Sealing ring intruding, from 9 to 12 o'clock

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Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings MHF11 (D/S) MHF10	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF11 MHF10
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 47.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:378	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF11	00:00:00		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	0.90	WL	Water level, 10% of the vertical dimension	00:00:11		(Serv) 0
	4.40	WL	Water level, 5% of the vertical dimension	00:00:35		(Serv) 0
	4.90	WL	Water level, 0% of the vertical dimension	00:00:40		(Serv) 0
	6.10	WL	Water level, 5% of the vertical dimension	00:00:52		(Serv) 0
	9.00	LR	Line deviates right	00:01:35		(Serv) 0
	14.50	WL	Water level, 0% of the vertical dimension	00:02:12		(Serv) 0
	16.20	WL	Water level, 5% of the vertical dimension	00:02:25		(Serv) 0
	25.00	WL	Water level, 10% of the vertical dimension	00:03:43		(Serv) 0
	26.70	WL	Water level, 5% of the vertical dimension	00:03:56		(Serv) 0
	29.60	WL	Water level, 0% of the vertical dimension	00:04:18		(Serv) 0
	39.60	WLC	Clear water level, 10% of the vertical dimension	00:05:39		(Serv) 0
	40.30	WL	Water level, 15% of the vertical dimension	00:05:46		(Serv) 0
	41.50	WL	Water level, 10% of the vertical dimension	00:05:58		(Serv) 0
	42.30	WL	Water level, 0% of the vertical dimension	00:06:04		(Serv) 0
	46.50	LD	Line deviates down	00:06:36		(Serv) 0
	47.50	LU	Line deviates up	00:06:59		(Serv) 0
	47.80	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	47.81	MHF	Finish node type, manhole reference number: MHF10	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 : 22/03/2017	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 Grants Drive Property with buildings MHF4 (D/S) MHF10	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF4 MHF10
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 18.91 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:168	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF4	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	7.40	WL	Water level, 5% of the vertical dimension	00:00:53		(Serv) 0
	11.20	WL	Water level, 10% of the vertical dimension	00:01:19		(Serv) 0
	12.20	WL	Water level, 5% of the vertical dimension	00:01:25		(Serv) 0
	13.30	WL	Water level, 10% of the vertical dimension	00:01:33		(Serv) 0
	18.90	WL	Water level, 5% of the vertical dimension	00:02:09		(Serv) 0
	18.91	MHF	Finish node type, manhole reference number: MHF10	00:02:09		(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 : 22/03/2017	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 Grants Drive Property with buildings MHF4 (U/S) MHF3	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF3 MHF4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 13.51 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 : MHF4	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	00:00:38		(Serv) 0
	13.50	WL	Water level, 5% of the vertical dimension	00:02:55		(Serv) 0
	13.51	MHF	Finish node type, manhole reference number: MHF3	00:02:55		(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 : 22/03/2017	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 Grants Drive Property with buildings MHF4 (U/S) MHF7	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF7 MHF4
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 8.21 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 : MHF4	00:00:02		(Constr) 0
	0.01	WL	Water level, 10% of the vertical dimension	00:00:00		(Serv) 0
	2.00	WL	Water level, 15% of the vertical dimension	00:00:19		(Serv) 0
	3.60	WLC	Clear water level, 10% of the vertical dimension	00:00:30		(Serv) 0
	8.20	WL	Water level, 0% of the vertical dimension	00:01:03		(Serv) 0
	8.21	MHF	Finish node type, manhole reference number: MHF7	00:01:03		(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 : 22/03/2017	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 Grants Drive Property with buildings MHF11 (U/S) US1	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	US1 MHF11
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 52.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

Comment :

1:420	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF11	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	0.50	LL	Line deviates left	00:00:05		(Serv) 0
	2.60	WL	Water level, 5% of the vertical dimension	00:00:28		(Serv) 0
	8.40	WL	Water level, 0% of the vertical dimension	00:04:28		(Serv) 0
	12.20	WL	Water level, 5% of the vertical dimension	00:01:36		(Serv) 0
	15.40	WL	Water level, 10% of the vertical dimension	00:01:56		(Serv) 0
	32.00	WLC	Clear water level, 0% of the vertical dimension	00:03:47		(Serv) 0
	36.70	WL	Water level, 5% of the vertical dimension	00:04:25		(Serv) 0
	37.60	WLC	Clear water level, 10% of the vertical dimension	00:04:36		(Serv) 0
	39.50	WL	Water level, 15% of the vertical dimension	00:05:03		(Serv) 0
	39.50	WL	Water level, 20% of the vertical dimension	00:05:09		(Serv) 0
	42.00	WL	Water level, 25% of the vertical dimension	00:05:33		(Serv) 0
	42.00	CUW	Loss of vision, camera under water	00:05:33		(Misc) 0
	52.60	WLC	Clear water level, 25% of the vertical dimension	00:07:33		(Serv) 0
	52.61	SA	Survey abandoned Remarks: Suurvey could not be completed due to length of this pipe.			(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 : 22/03/2017	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 Grants Drive Property with buildings MHF11 (U/S) US2	Location details: Catchment: Tape number : Pipe Length		US2
Use:	Foul	Pipe shape :		Circular
Year laid :		Pipe size :		150.00 mm
Purpose :	Routine inspection of condition	Pipe material :		Polyvinyl chloride
Total length :	58.51 m	Lining :		

Comment :

1:462	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF11	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	4.40	WL	Water level, 5% of the vertical dimension	00:00:49		(Serv) 0
	10.90	WL	Water level, 10% of the vertical dimension	00:01:28		(Serv) 0
	16.30	WL	Water level, 15% of the vertical dimension	00:02:12		(Serv) 0
	18.00	WL	Water level, 3% of the vertical dimension	00:02:32		(Serv) 0
	20.80	WL	Water level, 10% of the vertical dimension	00:02:47		(Serv) 0
	24.60	WL	Water level, 0% of the vertical dimension	00:03:16		(Serv) 0
	33.00	WL	Water level, 5% of the vertical dimension	00:04:14		(Serv) 0
	37.60	WLC	Clear water level, 10% of the vertical dimension	00:04:44		(Serv) 0
	39.80	WL	Water level, 5% of the vertical dimension	00:05:02		(Serv) 0
	45.10	WL	Water level, 10% of the vertical dimension	00:05:34		(Serv) 0
	46.10	WLC	Clear water level, 20% of the vertical dimension	00:05:43		(Serv) 0
	46.40	CUW	Loss of vision, camera under water	00:05:49		(Misc) 0
	58.50	WLC	Clear water level, 25% of the vertical dimension	00:06:36		(Serv) 0
	58.51	SA	Survey abandoned Remarks: Survey could not be completed due to length of this pipe.	00:06:36		(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

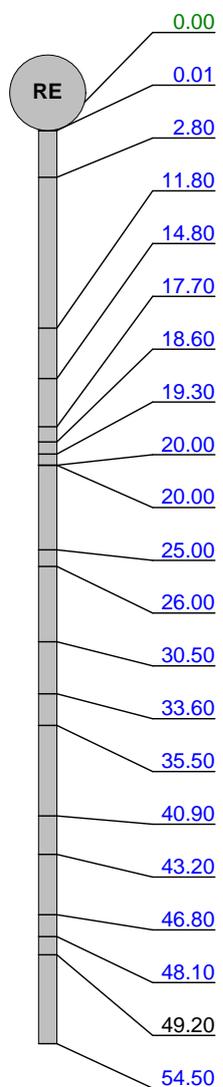
Inspection report / Inspection: 1

Date : 22/03/2017	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 Grants Drive Property with buildings RE (D/S) MHF11	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	RE MHF11
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 55.81 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

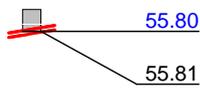
Comment :

1:450	Position	Code	Observation	MPEG	Photo	Grade
	0.00	RE	Start node type, rodding eye, reference number : RE	00:06:36		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.80	WL	Water level, 5% of the vertical dimension	00:00:28		(Serv) 0
	11.80	WL	Water level, 0% of the vertical dimension	00:01:38		(Serv) 0
	14.80	WL	Water level, 5% of the vertical dimension	00:01:58		(Serv) 0
	17.70	LR	Line deviates right	00:02:24		(Serv) 0
	18.60	LL	Line deviates left	00:02:23		(Serv) 0
	19.30	LL	Line deviates left	00:02:29		(Serv) 0
	20.00	LR	Line deviates right	00:02:35		(Serv) 0
	20.00	WL	Water level, 0% of the vertical dimension	00:02:35		(Serv) 0
	25.00	WL	Water level, 5% of the vertical dimension	00:03:06		(Serv) 0
	26.00	WL	Water level, 10% of the vertical dimension	00:03:11		(Serv) 0
	30.50	WLC	Clear water level, 15% of the vertical dimension	00:04:02		(Serv) 0
	33.60	WL	Water level, 5% of the vertical dimension	00:04:45		(Serv) 0
	35.50	WL	Water level, 0% of the vertical dimension	00:05:03		(Serv) 0
	40.90	WL	Water level, 5% of the vertical dimension	00:05:44		(Serv) 0
	43.20	WL	Water level, 10% of the vertical dimension	00:06:08		(Serv) 0
	46.80	WL	Water level, 15% of the vertical dimension	00:06:03		(Serv) 0
	48.10	WL	Water level, 20% of the vertical dimension	00:06:21		(Serv) 0
	49.20	CUW	Loss of vision, camera under water	00:06:36		(Misc) 0
	54.50	WL	Water level, 10% of the vertical dimension	00:07:05		(Serv) 0



Inspection Report / Inspection: 1

Date : 22/03/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 34	PLR : X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Grade:

1:450	Position	Code	Observation	MPEG	Photo	Grade
		WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
		SA	Survey abandoned Remarks: Survey could not be completed due to length of this pipe. Survey is going to be	00:00:00		(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 : 22/03/2017	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 : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings RE (U/S) US	Location details: Catchment: Tape number : Pipe Length		U/S MH : U/S Depth : D/S MH : D/S Depth :	US RE
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 2.51 m	Pipe shape : Pipe size : Pipe material : Lining :		Circular 150.00 mm Polyvinyl chloride	

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	RE					
	0.00	RE	Start node type, rodding eye, reference number : RE	00:00:02		(Constr) 0
	0.00	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	0.30	WL	Water level, 5% of the vertical dimension	00:00:05		(Serv) 0
	1.20	WL	Water level, 0% of the vertical dimension	00:00:10		(Serv) 0
	2.10	LU	Line deviates up	00:00:19		(Serv) 0
	2.50	WLC	Clear water level, 0% of the vertical dimension	00:00:40		(Serv) 0
	2.51	BRF	Finish node type, major connection without manhole reference number: US Remarks: WWTP	00:00:40		(Constr) 0
	US					

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 : 22/03/2017	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 : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings MHF10 (U/S) MPD	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MPD MHF10
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 0.00 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 200.00 mm Polyvinyl chloride			

Comment :

1:50	Position	Code	Observation	MPEG	Photo	Grade
	 0.00	SA	Survey abandoned Remarks: Survey could not be done due to high water level in the Public Main Drain	00:00:40		(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 : 30/03/2017	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 Grants Drive Property with buildings G4 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150.00 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	15.90 m	Lining :	

Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	G4					
	0.00	GY	Start node type, gully, reference number : G4	00:00:00		(Constr) 0
	0.01	WLC	Clear water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	2.20	OJM	Open joint, medium	00:00:12	38_3A	(Struct) 1
	3.20	WL	Water level, 5% of the vertical dimension	00:00:21		(Serv) 0
	4.70	SZ	Surface damage, other, from 4 to 8 o'clock Dents Remarks: Dents	00:00:33	38_5A	(Struct) 0
	5.80	WL	Water level, 10% of the vertical dimension	00:00:44		(Serv) 0
	6.30	WL	Water level, 15% of the vertical dimension	00:00:49		(Serv) 0
	6.90	WL	Water level, 20% of the vertical dimension	00:00:56		(Serv) 0
	8.00	WLC	Clear water level, 15% of the vertical dimension	00:01:03		(Serv) 0
	8.90	WL	Water level, 20% of the vertical dimension	00:01:10		(Serv) 0
	11.40	WL	Water level, 10% of the vertical dimension	00:01:40		(Serv) 0
	12.40	WL	Water level, 5% of the vertical dimension	00:01:47		(Serv) 0
	13.00	CN	Connection other than junction, at 9 o'clock, diameter 150mm Remarks: Unknown connection	00:01:54		(Constr) 0
	13.10	WL	Water level, 0% of the vertical dimension	00:01:56		(Serv) 0
	15.60	LL	Line deviates left	00:02:20		(Serv) 0
	15.90	WL	Water level, 0% of the vertical dimension	00:02:23		(Serv) 0
	15.90	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:02:23		(Constr) 0
	DS					

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 : Grants Drive	Date : 30/03/2017	Section number : 38	PLR Suffix : X
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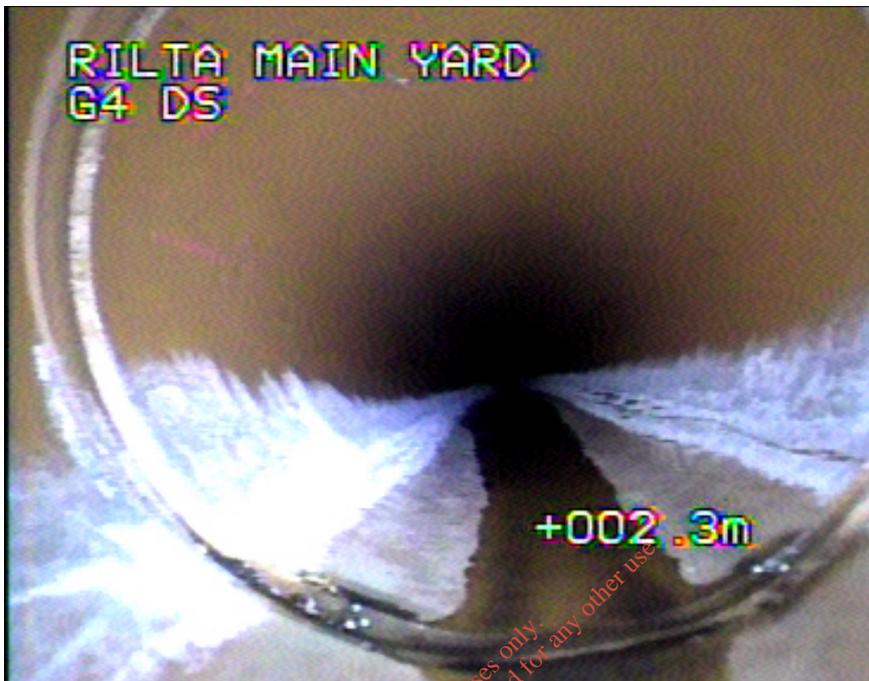


Photo: 38_3A, MPEG #: 280217_1, 00:00:12
2.2m, Open joint, medium



Photo: 38_5A, MPEG #: 280217_1, 00:00:33
4.7m, Surface damage, other, from 4 to 8 o'clock

Inspection report / Inspection: 1

Date : 30/03/2017	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 Grants Drive Property with buildings G6 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G6 G6 DS DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 15.10 m		Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

Comment :

1:126	Position	Code	Observation	MPEG	Photo	Grade
	G6					
	0.00	GY	Start node type, gully, reference number : G6	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	14.70	LD	Line deviates down	00:02:09		(Serv) 0
	15.10	WL	Water level, 0% of the vertical dimension	00:02:15		(Serv) 0
	15.10	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:02:15		(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 : 30/03/2017	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 Grants Drive Property with buildings G7 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_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 10.20 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:84	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
	3.00	WL	Water level, 5% of the vertical dimension	00:00:27		(Serv) 0
	3.80	LL	Line deviates left	00:00:34		(Serv) 0
	5.90	WLC	Clear water level, 10% of the vertical dimension	00:00:50		(Serv) 0
	7.30	WL	Water level, 0% of the vertical dimension	00:01:09		(Serv) 0
	8.70	WL	Water level, 5% of the vertical dimension	00:01:25		(Serv) 0
	10.10	WL	Water level, 0% of the vertical dimension	00:02:05		(Serv) 0
	10.11	SA	Survey abandoned Remarks: Survey could not be completed due to a sharp bend on this pipe.	00:02:05		(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 : 30/03/2017	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 Grants Drive Property with buildings G8 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G8 G8 DS DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 12.20 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	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
	1.40	REM	General remark Remarks: Socket of this pipe is connected against the stream.	00:00:15	42_3A	(Misc) 0
	4.10	SZ	Surface damage, other, from 4 to 5 o'clock dent Remarks: A	00:00:36	42_4A	(Struct) 0
	7.70	LR	Line deviates right Remarks: 45 Deg.	00:01:07		(Serv) 0
	12.20	WL	Water level, 0% of the vertical dimension	00:01:39		(Serv) 0
	12.20	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:39		(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 : Grants Drive	Date : 30/03/2017	Section number : 42	PLR Suffix : X
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Photo: 42_3A, MPEG #: 280217_1, 00:00:15
1.4m, General remark

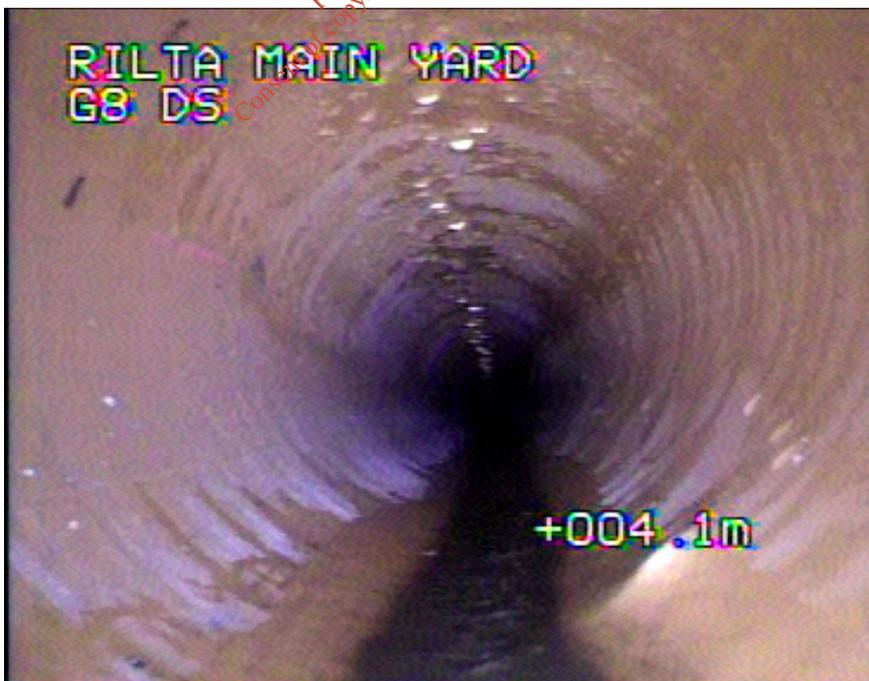


Photo: 42_4A, MPEG #: 280217_1, 00:00:36
4.1m, Surface damage, other, from 4 to 5 o'clock

Inspection report / Inspection: 1

Date : 30/03/2017	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 Grants Drive Property with buildings G9 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G9 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.70 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	G9					
	0.00	GY	Start node type, gully, reference number : G9	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	0.60	REM	General remark Remarks: Sockets of this pipe are connected against the stream.	00:00:08	43_3A	(Misc) 0
	6.50	LL	Line deviates left Remarks: 45 Deg.	00:00:56		(Serv) 0
	9.60	LR	Line deviates right	00:01:23		(Serv) 0
	9.60	LD	Line deviates down	00:01:23		(Serv) 0
	9.70	WL	Water level, 0% of the vertical dimension	00:01:27		(Serv) 0
	9.70	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is conneted to t	00:01:27		(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 pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 30/03/2017	Section number : 43	PLR Suffix : X
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Photo: 43_3A, MPEG #: 280217_1, 00:00:08
0.6m, General remark

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Inspection report / Inspection: 1

Date : 31/03/2017	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 Grants Drive Property with buildings MHS8 (U/S) AJ6	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ6 MHS8
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 41.16 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 : MHS8	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension			(Serv) 0
	2.48	WL	Water level, 5% of the vertical dimension	00:01:25		(Serv) 0
	33.84	REM	General remark Remarks: manhole	00:13:01		(Misc) 0
	34.26	CN	Connection other than junction, at 11 o'clock, diameter 100mm Remarks: gully conoction	00:14:05		(Constr) 0
	41.16	WL	Water level, 0% of the vertical dimension	00:17:36		(Serv) 0
	41.16	SA	Survey abandoned Remarks: Survey could not be completed due to sharp bend on this pipe	00:17:36		(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 : 19/04/2017	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 Grants Drive Property with buildings AJ7 (D/S) MHS5	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ7 MHS5
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 39.61 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride	

Comment :

1:315	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJ7	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	3.60	WL	Water level, 5% of the vertical dimension	00:00:32		(Serv) 0
	8.50	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:00:32		(Constr) 0
	9.80	WLC	Clear water level, 00% of the vertical dimension	00:01:14		(Serv) 0
	20.10	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:02:33		(Constr) 0
	26.40	CN	Connection other than junction, at 2 o'clock, diameter 150mm	00:03:22		(Constr) 0
	26.60	WL	Water level, 5% of the vertical dimension	00:03:23		(Serv) 0
	39.59	OBS	Other obstacles built into structure, from 1 to 3 o'clock, 75% cross-sectional area loss Remarks: Poor workmanshi	00:00:00	45_9A	(Serv) 5
	39.60	WL	Water level, 5% of the vertical dimension	00:00:00		(Serv) 0
	39.61	SA	Survey abandoned Remarks: Survey could not be completed due to a pipe cross the way.	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 pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 19/04/2017	Section number : 45	PLR Suffix : X
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Photo: 45_9A, MPEG #: 280217_1, 00:00:00
39.59m, Other obstacles built into structure, from 7 to 3 o'clock, 75% cross-sectional area loss

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Inspection report / Inspection: 1

Date : 19/04/2017	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 Grants Drive Property with buildings G10 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G10 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
	G10					
	0.00	GY	Start node type, gully, reference number : G10	00:00:00		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:02		(Serv) 0
	9.80	WL	Water level, 0% of the vertical dimension	00:01:43		(Serv) 0
	9.81	BRF	Finish node type, major connection without manhole reference number: DS Remarks: Connected to the drain b	00:01:43		(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 : 19/04/2017	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 Grants Drive Property with buildings G11 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	G11 DS
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 12.40 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	GY	Start node type, gully, reference number : G11	00:00:02		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:19		(Serv) 0
	2.20	REM	General remark Remarks: Dents	00:00:59	47_3A	(Misc) 0
	5.80	D	Deformed sewer/drain, 10%	00:01:48	47_4A	(Struct) 4
	7.20	WL	Water level, 5% of the vertical dimension	00:02:05		(Serv) 0
	9.00	LL	Line deviates left	00:02:25		(Serv) 0
	12.00	LD	Line deviates down	00:02:52		(Serv) 0
	12.30	WL	Water level, 0% of the vertical dimension	00:02:57		(Serv) 0
	12.31	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This drain is connected t	00:02:57		(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	80	6.45	80	4	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 19/04/2017	Section number : 47	PLR Suffix : X
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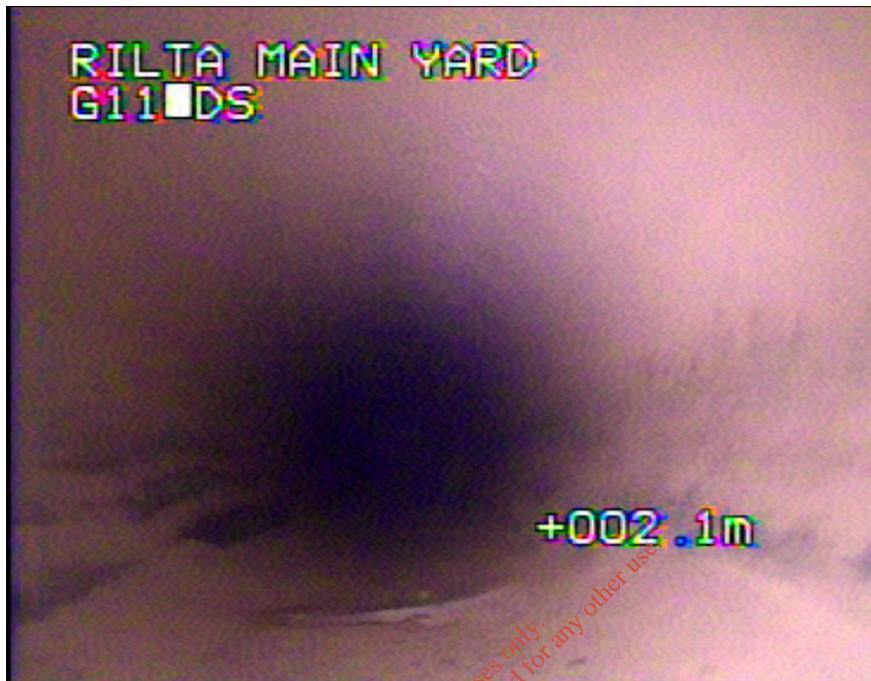


Photo: 47_3A, MPEG #: 280217_1, 00:00:59
2.2m, General remark



Photo: 47_4A, MPEG #: 280217_1, 00:01:48
5.8m, Deformed sewer/drain, 10%

Inspection report / Inspection: 1

Date : 19/04/2017	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 Grants Drive Property with buildings G12 (D/S) DS	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	G12 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
	G12					
	0.00	GY	Start node type, gully, reference number : G12	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	8.50	LD	Line deviates down	00:01:37		(Serv) 0
	9.80	WL	Water level, 0% of the vertical dimension	00:00:00		(Serv) 0
	9.81	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This drain is connected t	00:00:00		(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 : 19/04/2017	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 Grants Drive Property with buildings G13 (D/S) DS	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	G13 DS
Use: Year laid : Purpose : Total length :	Surface water 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	GY	Start node type, gully, reference number : G13	00:00:01		(Constr) 0
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	11.10	WL	Water level, 0% of the vertical dimension	00:01:54		(Serv) 0
	11.11	BRF	Finish node type, major connection without manhole reference number: DS Remarks: This pipe is connected to	00:01:54		(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 : 19/04/2017	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 Grants Drive Property with buildings MHF8 (U/S) MHF9	Location details: Catchment: Tape number : Pipe Length		280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHF9 MHF8 MHF8
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 58.01 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride			

Comment :

1:462	Position	Code	Observation	MPEG	Photo	Grade
	0.00	MH	Start node type, manhole, reference number : MHF8	00:00:00		(Constr) 0
	0.01	WL	Water level, 10% of the vertical dimension	00:00:00		(Serv) 0
	3.00	WL	Water level, 5% of the vertical dimension	00:00:33		(Serv) 0
	27.90	WL	Water level, 10% of the vertical dimension	00:03:59		(Serv) 0
	29.70	WL	Water level, 5% of the vertical dimension	00:05:12		(Serv) 0
	33.20	WLC	Clear water level, 10% of the vertical dimension	00:06:24		(Serv) 0
	34.30	WL	Water level, 5% of the vertical dimension	00:06:52		(Serv) 0
	43.40	WL	Water level, 10% of the vertical dimension	00:07:43		(Serv) 0
	44.30	WL	Water level, 20% of the vertical dimension	00:07:48		(Serv) 0
	48.80	WL	Water level, 10% of the vertical dimension	00:08:26		(Serv) 0
	51.80	WLC	Clear water level, 15% of the vertical dimension	00:08:57		(Serv) 0
	52.80	WLC	Clear water level, 20% of the vertical dimension	00:09:07		(Serv) 0
	54.90	WLC	Clear water level, 10% of the vertical dimension	00:10:07		(Serv) 0
	58.00	WLC	Clear water level, 10% of the vertical dimension	00:00:00		(Serv) 0
	58.01	SA	Survey abandoned Remarks: Survey could not be completed due to cameras rod.	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 : 19/04/2017	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 Grants Drive Property with buildings PD (D/S) OV	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	PD OV
Use: Year laid : Purpose : Total length :	Foul Routine inspection of condition 5.30 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 : PD	00:00:01		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:01		(Serv) 0
	0.90	WL	Water level, 0% of the vertical dimension	00:00:14		(Serv) 0
	1.70	LR	Line deviates right	00:00:22		(Serv) 0
	3.00	WL	Water level, 5% of the vertical dimension	00:00:35		(Serv) 0
	4.00	WL	Water level, 10% of the vertical dimension	00:00:45		(Serv) 0
	5.00	WL	Water level, 20% of the vertical dimension	00:00:53		(Serv) 0
	5.30	LR	Line deviates right	00:01:00		(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

Inspection report / Inspection: 1

Date : 19/04/2017	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 Grants Drive Property with buildings MHS6 (D/S) ET	Location details: Catchment: Tape number : Pipe Length	U/S MH : U/S Depth : D/S MH : D/S Depth :	MHS6 ET
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 9.30 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 225.00 mm Polyvinyl chloride	

Comment :

1:84	Position	Code	Observation	MPEG	Photo	Grade
	MHS6					
	0.42	WL	Water level, 5% of the vertical dimension	00:01:11		(Serv) 0
	0.42	CPF	Finish node type, catchpit reference number: ET	00:01:12		(Constr) 0
	9.24	MH	Start node type, manhole, reference number : MHS6	00:00:00		(Constr) 0
	9.24	WL	Water level, 0% of the vertical dimension	00:00:01		(Serv) 0
	9.30	WL	Water level, 5% of the vertical dimension	00:00:14		(Serv) 0
	ET					

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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 : 19/04/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 53	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJ6 (D/S) AJB	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJ6 AJB
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 48.91 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:399	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJ6	00:00:00		(Constr) 0
	0.40	WLC	Clear water level, 25% of the vertical dimension	00:00:10		(Serv) 0
	0.40	CUW	Loss of vision, camera under water	00:00:35		(Misc) 0
	3.60	WL	Water level, 10% of the vertical dimension	00:00:56		(Serv) 0
	4.20	WL	Water level, 5% of the vertical dimension	00:01:05		(Serv) 0
	11.20	WL	Water level, 5% of the vertical dimension	00:02:29		(Serv) 0
	17.90	WLC	Clear water level, 10% of the vertical dimension	00:03:17		(Serv) 0
	21.70	WL	Water level, 15% of the vertical dimension	00:03:44		(Serv) 0
	23.70	WLC	Clear water level, 20% of the vertical dimension	00:04:01		(Serv) 0
	24.70	WL	Water level, 15% of the vertical dimension	00:04:09		(Serv) 0
	25.30	WL	Water level, 10% of the vertical dimension	00:04:16		(Serv) 0
	27.00	WL	Water level, 5% of the vertical dimension	00:04:30		(Serv) 0
	30.00	WLC	Clear water level, 0% of the vertical dimension	00:04:49		(Serv) 0
	31.30	WL	Water level, 5% of the vertical dimension	00:05:00		(Serv) 0
	33.00	WL	Water level, 10% of the vertical dimension	00:05:14		(Serv) 0
	35.00	WL	Water level, 5% of the vertical dimension	00:05:31		(Serv) 0
	48.50	SR	Sealing ring intruding, from 11 to 2 o'clock Remarks: Just beside AJB	00:07:29	53_17A	(Constr) 1
	48.90	WL	Water level, 5% of the vertical dimension	00:07:43		(Serv) 0
	48.91	ICF	Finish node type, inspection chamber reference number: AJB	00:07:43		(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
1	5	0.1	5	1	0	0	0	0	1

Inspection pictures / Inspection: 1

Place : Rathcoole	Road : Grants Drive	Date : 19/04/2017	Section number : 53	PLR Suffix : X
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Photo: 53_17A, MPEG #: 280217_1, 00:07:29
48.5m, Sealing ring intruding, from 11 to 2 o'clock

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Inspection report / Inspection: 1

Date : 19/04/2017	Job number :	Weather : no rain or snow	Operator : Frantisek	Section number : 54	PLR SUFFIX: X
Weather no rain or snow	Vehicle : VEHICLE 1	Camera : camera 1	Preset :	Cleaned : yes	Operator : Frantisek

Place : Road : Location Inspection	Rathcoole Grants Drive Property with buildings AJB (D/S) MH8	Location details: Catchment: Tape number : Pipe Length	280217_1	U/S MH : U/S Depth : D/S MH : D/S Depth :	AJB MH8
Use: Year laid : Purpose : Total length :	Surface water Routine inspection of condition 37.31 m	Pipe shape : Pipe size : Pipe material : Lining :	Circular 150.00 mm Polyvinyl chloride		

Comment :

1:294	Position	Code	Observation	MPEG	Photo	Grade
	0.00	IC	Start node type, inspection chamber, reference number : AJB	00:00:02		(Constr) 0
	0.01	WL	Water level, 5% of the vertical dimension	00:00:02		(Serv) 0
	0.60	WL	Water level, 10% of the vertical dimension	00:00:07		(Serv) 0
	5.10	WL	Water level, 5% of the vertical dimension	00:00:51		(Serv) 0
	13.30	WLC	Clear water level, 10% of the vertical dimension	00:01:56		(Serv) 0
	13.30	CN	Connection other than junction, at 1 o'clock, diameter 100mm	00:01:56		(Constr) 0
	14.40	WL	Water level, 15% of the vertical dimension	00:02:06		(Serv) 0
	20.90	WL	Water level, 10% of the vertical dimension	00:03:12		(Serv) 0
	23.00	WL	Water level, 20% of the vertical dimension	00:03:37		(Serv) 0
	23.30	WL	Water level, 20% of the vertical dimension	00:03:47		(Serv) 0
	24.80	WL	Water level, 25% of the vertical dimension	00:04:17		(Serv) 0
	24.80	CUW	Loss of vision, camera under water	00:04:17		(Misc) 0
	37.30	WL	Water level, 25% of the vertical dimension	00:05:23		(Serv) 0
	37.31	SA	Survey abandoned Remarks: Survey could not be completed due to level of water in the pipe.	00:05:23		(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