

**SUBJECT**  
**Response to Drainage Planning questions –**  
**Warrender Primary School**

**CLIENT**  
 London Borough of Hillingdon

**DATE**  
 01 February 2017

**OUR REF**  
 35311100 / W / DN003

**COPIES TO**  
 Tim Martin ..... London Borough of Hillingdon  
 Kieran Poland ..... London Borough of Hillingdon

**PROJECT NUMBER**  
 35311100

## 1 Introduction

On the 25 January 2017 we were asked to respond to commentary from the LBH Planning Specialists to assist in the Committee. The comments and responses are provided below:

**It is noted that the original FRA now refers in the surface water management section to the variety of site constraints which influence the final drainage design. The additional design note refers to a CCTV survey that has been undertaken but not provided, with this additional information, and should be provided to understand the issues highlighted on site.**

Please see attached the CCTV provided.

**The proposals now include some information on the anecdotal evidence from residents - however it appears to imply that these houses are flooded. This report should be clear on the extent of the impact – i.e. is it garden flooding or internal property flooding?**

Evidence of surface water flooding to the north of the site was identified by the Waterco Consultants Flood Risk Assessment in October 2016. See Figure 1 below, Flood Risk from Surface Water Flooding.

We were advised during design team meeting with the school that during extreme storm events, surface runoff from the paved courts within the school boundary flowed over the grassed area to the north of the school, and towards the residential houses on Eastcote Road. This was identified as flooding to gardens only and no cases of properties flooding was brought to the attention of the Design Team.

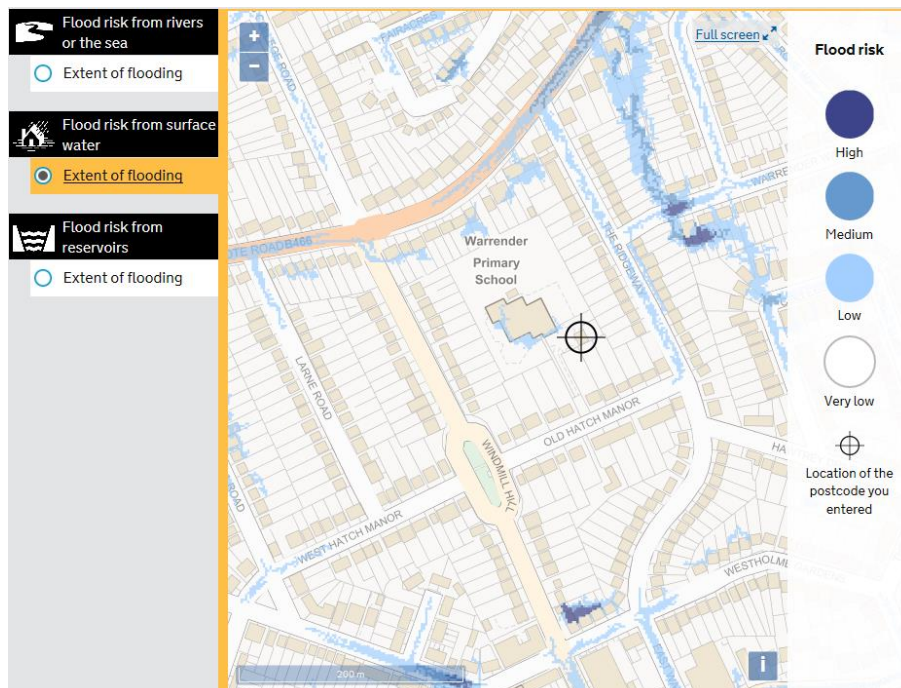


Figure 1

**It is identified that the existing site and hardstanding is the cause of flooding, possibly partly due to the issues within the site of the drainage. However no additional storage is provided to address the existing problems which potentially pass over the MUGA and may mean it is overwhelmed, and perpetuate the issues off site. There are new fences etc. proposed within the site, have any of these been linked with the provision of trenches and planting either side of these to encourage infiltration and reduce the run off?**

The surfacing of the MUGA will be porous. Storage is provided beneath the MUGA in the form of a stone blanket or modular storage crates. A bund has been provided at the northern end of the MUGA to intercept surface water runoff thus keeping it within the site.

Stone filled cut off trenches including a filter geotextile have been provided within the design at the toe of the steep slope between the existing school and playing field. These trenches will discharge into a stone blanket beneath the playing field. A second stone filled cut off trench has been provided at the northern end of the playing field to intercept SW runoff. This also discharges to the stone blanket or modular storage crates beneath the playing field. A bund has been provided at the top of the bank to prevent direct surface water runoff and exceedance flows leaving the site and entering the residential properties in Eastcote Road.

**The proposals for the drainage scheme address the proposed development area. It is noted that a new drainage link is provided so that there is no dependence on the existing and what appear to be broken and inadequate one. However you cannot make the conclusion that it will solve the some of the existing problems as the CCTV is not provided, and it provides limited additional extra capacity.**

We have designed the new drainage to accommodate surface water runoff from the new building, new external areas and MUGA. Connection to any existing downstream infrastructure within the site boundary will be upgraded to suit the additional flows from the new development in terms of capacity and operation.

**The calculations provided shows the use of 3,190m<sup>2</sup> which accounts for all proposed impermeable areas including the new buildings and hard-standing areas. However this is clearly an underestimate according even to the design and access statement which states the development area as much larger and even the retained grassed area is heavily sloped therefore providing little storage. This attenuation must be sized for the whole site or 1.22 ha if the majority of the site runs towards the north and is not contained within the existing drainage.**

The 3190m<sup>2</sup> of impermeable development area and the estimated storage volume of 162m<sup>3</sup> was taken from the Waterco Consultants FRA, October 2016 and relates to the storage required for the new proposed building and external areas only.

Land drainage and overland flows for the whole site will be intercepted by stone filled trenches and bunding to the north of the site and will discharge to the storage beneath the MUGA and football pitches.

The attached calculation shows an additional 721m<sup>3</sup> of storage is required to accommodate a 1:100 year + 40% climate change storm event for the whole site to comply with NPPF requirements. This storage is a total volume that could partially be stored above the mini football pitch as depression storage instead of excavating for an attenuation structure.

Enc. CCTV provision

Calculation of additional storage

Summary of Results for 100 year Return Period (+40%)


Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	9.725	0.075	2.7	221.7	Flood Risk
30 min Summer	9.747	0.097	3.9	286.7	Flood Risk
60 min Summer	9.769	0.119	4.9	351.1	Flood Risk
120 min Summer	9.790	0.140	4.9	412.7	Flood Risk
180 min Summer	9.801	0.151	4.9	444.7	Flood Risk
240 min Summer	9.808	0.158	4.9	464.0	Flood Risk
360 min Summer	9.816	0.166	4.9	487.7	Flood Risk
480 min Summer	9.820	0.170	4.9	500.5	Flood Risk
600 min Summer	9.822	0.172	4.9	506.6	Flood Risk
720 min Summer	9.823	0.173	4.9	508.5	Flood Risk
960 min Summer	9.823	0.173	4.9	509.2	Flood Risk
1440 min Summer	9.822	0.172	4.9	506.0	Flood Risk
2160 min Summer	9.818	0.168	4.9	493.3	Flood Risk
2880 min Summer	9.811	0.161	4.9	475.2	Flood Risk
4320 min Summer	9.798	0.148	4.9	434.5	Flood Risk
5760 min Summer	9.784	0.134	4.9	395.5	Flood Risk
7200 min Summer	9.773	0.123	4.9	362.4	Flood Risk
8640 min Summer	9.765	0.115	4.7	337.9	Flood Risk
10080 min Summer	9.758	0.108	4.4	318.6	Flood Risk
15 min Winter	9.734	0.084	3.2	248.0	Flood Risk
30 min Winter	9.759	0.109	4.5	320.9	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	144.018	0.0	121.0	46
30 min Summer	93.832	0.0	172.4	60
60 min Summer	58.167	0.0	285.6	88
120 min Summer	34.816	0.0	350.1	144
180 min Summer	25.441	0.0	386.8	202
240 min Summer	20.245	0.0	411.7	258
360 min Summer	14.656	0.0	447.8	374
480 min Summer	11.648	0.0	473.7	488
600 min Summer	9.740	0.0	493.3	604
720 min Summer	8.412	0.0	508.8	710
960 min Summer	6.670	0.0	531.3	812
1440 min Summer	4.802	0.0	553.9	1054
2160 min Summer	3.452	0.0	710.9	1456
2880 min Summer	2.729	0.0	744.4	1860
4320 min Summer	1.957	0.0	779.7	2648
5760 min Summer	1.544	0.0	891.2	3408
7200 min Summer	1.284	0.0	921.6	4120
8640 min Summer	1.104	0.0	942.5	4848
10080 min Summer	0.972	0.0	952.6	5560
15 min Winter	144.018	0.0	141.3	46
30 min Winter	93.832	0.0	199.5	59

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m <sup>3</sup> )	Status
60 min Winter	9.784	0.134	4.9	393.9	Flood Risk
120 min Winter	9.808	0.158	4.9	464.2	Flood Risk
180 min Winter	9.820	0.170	4.9	501.2	Flood Risk
240 min Winter	9.828	0.178	4.9	523.9	Flood Risk
360 min Winter	9.838	0.188	4.9	552.5	Flood Risk
480 min Winter	9.843	0.193	4.9	568.8	Flood Risk
600 min Winter	9.846	0.196	4.9	577.8	Flood Risk
720 min Winter	9.848	0.198	4.9	582.0	Flood Risk
960 min Winter	9.848	0.198	4.9	581.5	Flood Risk
1440 min Winter	9.843	0.193	4.9	569.3	Flood Risk
2160 min Winter	9.835	0.185	4.9	544.6	Flood Risk
2880 min Winter	9.824	0.174	4.9	512.7	Flood Risk
4320 min Winter	9.802	0.152	4.9	446.2	Flood Risk
5760 min Winter	9.782	0.132	4.9	388.0	Flood Risk
7200 min Winter	9.767	0.117	4.8	345.4	Flood Risk
8640 min Winter	9.758	0.108	4.4	317.0	Flood Risk
10080 min Winter	9.750	0.100	4.0	294.5	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
60 min Winter	58.167	0.0	325.4	86
120 min Winter	34.816	0.0	397.0	142
180 min Winter	25.441	0.0	437.6	200
240 min Winter	20.245	0.0	465.0	256
360 min Winter	14.656	0.0	504.3	368
480 min Winter	11.648	0.0	532.3	482
600 min Winter	9.740	0.0	553.2	594
720 min Winter	8.412	0.0	569.5	706
960 min Winter	6.670	0.0	592.2	918
1440 min Winter	4.802	0.0	611.6	1140
2160 min Winter	3.452	0.0	799.5	1588
2880 min Winter	2.729	0.0	837.0	2028
4320 min Winter	1.957	0.0	878.8	2836
5760 min Winter	1.544	0.0	1001.7	3584
7200 min Winter	1.284	0.0	1036.4	4264
8640 min Winter	1.104	0.0	1060.8	5016
10080 min Winter	0.972	0.0	1073.5	5752

Arcadis Consulting (UK) Ltd		Page 3
HCL House Forttran Road St Mellons Business Park Cardiff CF3 0EY	Warrender Primary School Attenuation for Total Site	
Date 01/02/2017 File Total Storage for the W...	Designed by MDJ Checked by PD	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 10.000

Tank or Pond Structure

Invert Level (m) 9.650

Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.000	2944.0	0.250	2944.0	0.251	0.0

Hydro-Brake Optimum® Outflow Control

Unit Reference	MD-SHE-0115-5000-0250-5000
Design Head (m)	0.250
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Diameter (mm)	115
Invert Level (m)	9.650
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.250	5.0
Flush-Flo™	0.155	4.9
Kick-Flo®	0.222	4.7
Mean Flow over Head Range	-	3.5

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake Optimum® as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.0	1.200	10.3	3.000	15.9	7.000	24.4
0.200	4.8	1.400	11.1	3.500	17.2	7.500	25.3
0.300	5.4	1.600	11.8	4.000	18.4	8.000	26.1
0.400	6.2	1.800	12.5	4.500	19.6	8.500	27.0
0.500	6.8	2.000	13.2	5.000	20.6	9.000	27.7
0.600	7.5	2.200	13.8	5.500	21.6	9.500	28.5
0.800	8.5	2.400	14.4	6.000	22.6		
1.000	9.5	2.600	14.8	6.500	23.5		

Site Vision Surveys

Warrender School

19 December 2016



## GRADE 3,4 & 5 Summary

### STRUCTURAL DEFECTS

Structural defects			
Section	PLR	Grade	Fault description
6	BR 1 X	5	Deformed sewer/drain, 60%
13	BR 1 X	3	Fracture, circumferential, from 9 to 3 o'clock
20	MH007 X	5	Multiple defects at 24.3m

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

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

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

### SERVICE / OPERATIONAL DEFECTS

Service defects			
Section	PLR	Grade	Fault description
2	BR 1 X	5	Multiple defects at 0.2m
3	BR 2 X	4	Multiple defects at 2.8m
8	MH003 X	4	Settled deposits, fine, 25% cross-sectional area loss
12	MH004 X	3	Settled deposits, fine, 20% cross-sectional area loss
13	BR 1 X	4	Multiple defects at 1.8m
18	BR 2 X	5	Multiple defects at 0.2m
33	BR 6 X	3	Settled deposits, fine, 20% cross-sectional area loss

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

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

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

### Abandoned Surveys

Camera no access		
Section	PLR	Fault description
2	BR 1 X	Settled deposits, fine, 40% cross-sectional area loss
3	BR 2 X	Settled deposits, hard or compacted, 70% cross-sectional area loss
13	BR 1 X	Settled deposits, hard or compacted, 25% cross-sectional area loss
17	BR 1 X	Line deviates right
18	BR 2 X	Settled deposits, fine, 90% cross-sectional area loss
20	MH007 X	Deformed sewer/drain, 60%
36	MH008 X	Water level, 20% of the vertical dimension
37	MH008 X	Start node type, manhole, reference number : MH012
38	MH012 X	Water level, 0% of the vertical dimension
39	MH020 X	Start node type, manhole, reference number : MH010
41	RWP X	Start node type, manhole, reference number : MH014
47	BR1 X	Joint displaced, medium
48	BR2 X	Water level, 20% of the vertical dimension

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## Project-information

Project name : <b>Warrender School</b>	Project Number :	Contact :	Date : <b>08/12/2016</b>
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Client:  
 Contact Name:  
 Department:  
 Road:  
 Town:  
 County:  
 Telephone:  
 Fax:  
 Mobile:  
 E-mail:

Site: **Warrender School**  
 Contact Name:  
 Department:  
 Road: **Warrender School**  
 Town: **Ruislip**  
 County: **Greater London**  
 Telephone:  
 Fax:  
 Mobile:  
 E-mail:

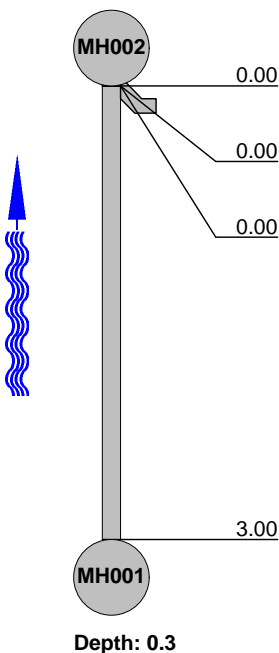
Contractor **Site Vision Surveys**  
 Contact Name:  
 Department:  
 Road: **19 Warwick Street**  
 Town: **Rugby, CV21 3DH**  
 County: **Warwickshire**  
 Telephone: **01788575036**  
 Fax:  
 Mobile:  
 E-mail:

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>1</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH002 (U/S) MH001</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH001 0.3 MH002 0.3</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 3.00 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Unidentified type of plastics</b>		

Comment :

1:50 Depth: 0.3	Position	Observation	Photo						
	0.00	Start node type, manhole, reference number : MH002	1_1_1_A.JPG						
	0.00	Water level, 0% of the vertical dimension	1_1_3_A.JPG						
	0.00	Junction, at 9 o'clock, diameter 100mm	1_1_4_A.JPG						
	3.00	Finish node type, manhole reference number: MH001	1_1_5_A.JPG						
<b>Depth: 0.3</b>									
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

## Inspection pictures

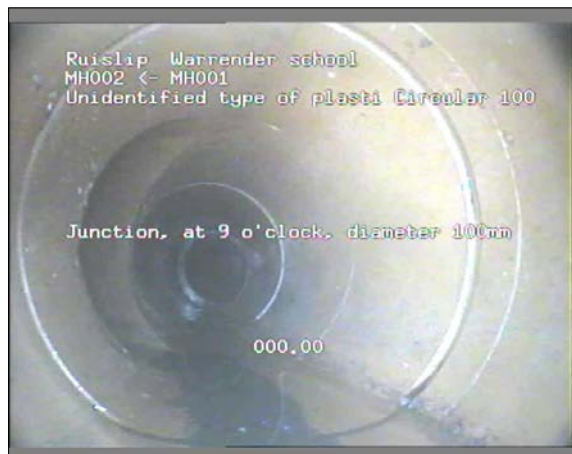
Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**1**PLR Suffix :  
**X**

Photo: 1\_1\_1\_A.JPG  
 0m, Start node type, manhole, reference number : MH002

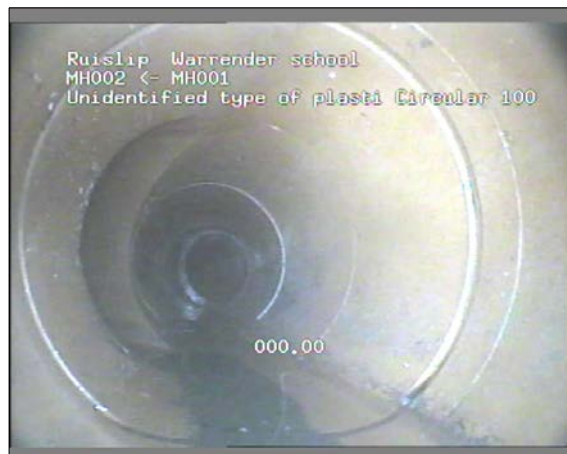


Photo: 1\_1\_3\_A.JPG  
 0m, Water level, 0% of the vertical dimension



Photo: 1\_1\_4\_A.JPG  
 0m, Junction, at 9 o'clock, diameter 100mm

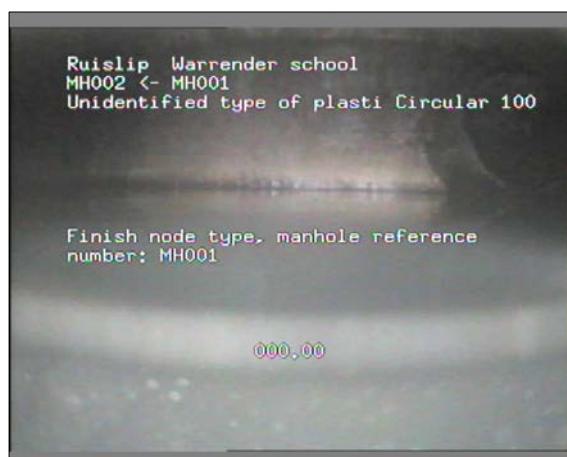


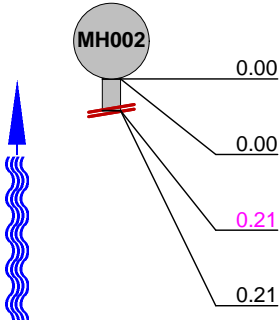
Photo: 1\_1\_5\_A.JPG  
 3m, Finish node type, manhole reference number: MH001

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>2</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH002 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular  Circular  Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1  MH002 0.3</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 0.21 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Unidentified type of plastics  </b>		

Comment :

1:50 Depth: 0.3	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH002	3_3_6_A.JPG
	0.00	Water level, 0% of the vertical dimension	3_3_7_A.JPG
	0.21	Settled deposits, fine, 40% cross-sectional area loss	3_3_8_A.JPG
	0.21	Survey abandoned	3_3_9_A.JPG

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	5	23.81	5	5

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>2</b>	PLR Suffix : <b>X</b>
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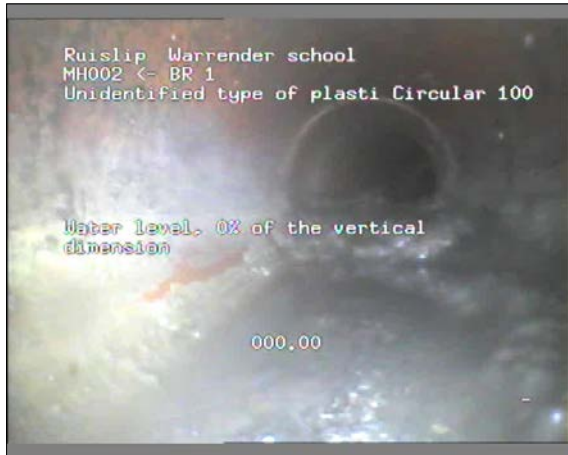


Photo: 3\_3\_6\_A.JPG  
 0m, Start node type, manhole, reference number : MH002



Photo: 3\_3\_7\_A.JPG  
 0m, Water level, 0% of the vertical dimension

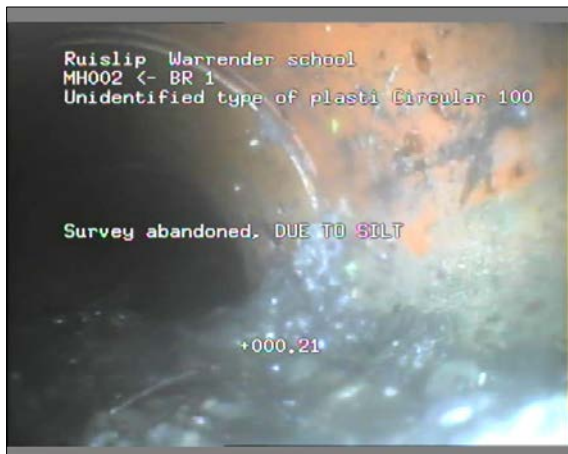


Photo: 3\_3\_8\_A.JPG  
 0.21m, Settled deposits, fine, 40% cross-sectional area loss

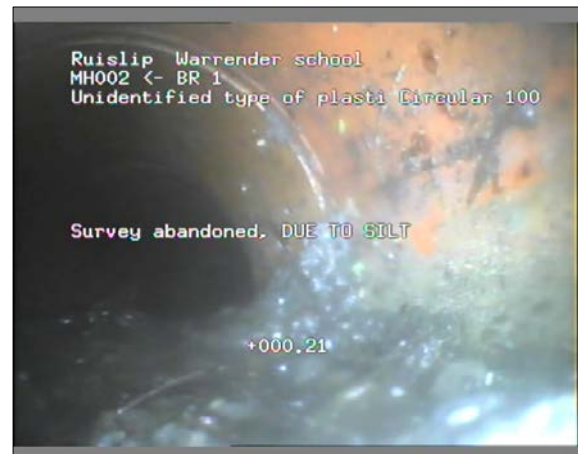


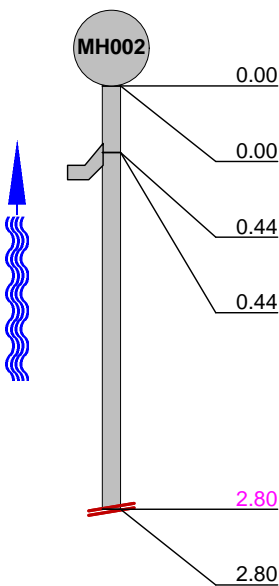
Photo: 3\_3\_9\_A.JPG  
 0.21m, Survey abandoned

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>3</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH002 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2 MH002 0.3</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 2.80 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Unidentified type of plastics</b>		

Comment :

1:50 Depth: 0.3	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH002	4_4_10_A.JPG
	0.00	Water level, 0% of the vertical dimension	4_4_11_A.JPG
	0.44	Water level, 40% of the vertical dimension	4_4_12_A.JPG
	0.44	Junction, at 3 o'clock, diameter 100mm	4_4_13_A.JPG
	2.80	Settled deposits, hard or compacted, 70% cross-sectional area loss	4_4_14_A.JPG
2.80	Survey abandoned	4_4_15_A.JPG	

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	8	2.86	8	4



## Inspection pictures

 Place :  
**Ruislip**

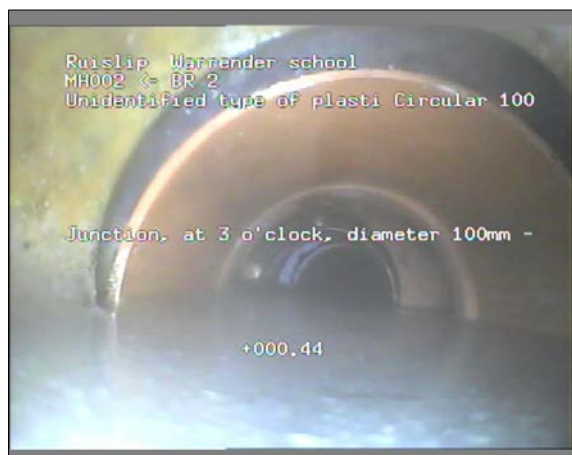
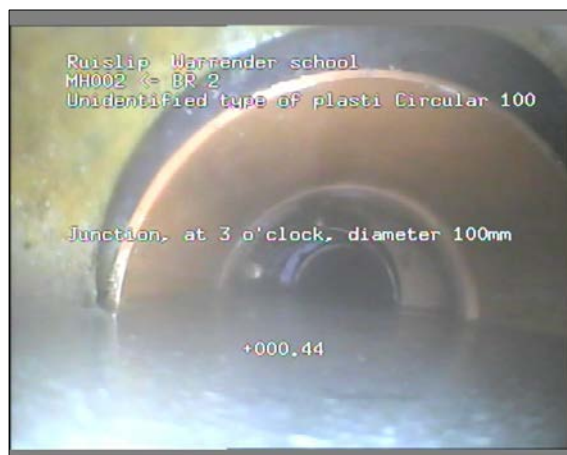
 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**3**

 PLR Suffix :  
**X**

 Photo: 4\_4\_10\_A.JPG  
 0m, Start node type, manhole, reference number : MH002

 Photo: 4\_4\_11\_A.JPG  
 0m, Water level, 0% of the vertical dimension

 Photo: 4\_4\_12\_A.JPG  
 0.44m, Water level, 40% of the vertical dimension

 Photo: 4\_4\_13\_A.JPG  
 0.44m, Junction, at 3 o'clock, diameter 100mm



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**3**

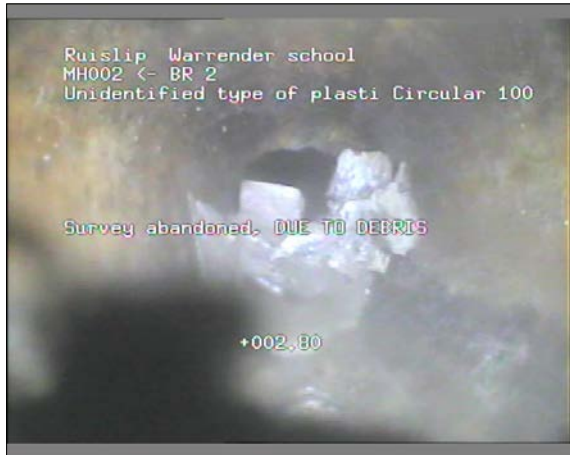
 PLR Suffix :  
**X**


Photo: 4\_4\_14\_A.JPG  
 2.8m, Settled deposits, hard or compacted, 70% cross-sectional area loss



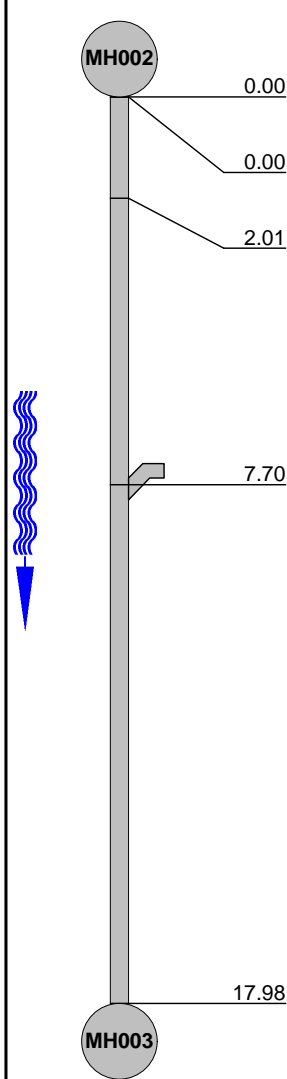
Photo: 4\_4\_15\_A.JPG  
 2.8m, Survey abandoned

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>4</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH002 (D/S) MH003</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH002 0.3 MH003 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 17.98 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:150 Position Depth: 0.3	Observation	Photo
	Start node type, manhole, reference number : MH002	5_5_16_A.JPG
0.00	Water level, 0% of the vertical dimension	5_5_17_A.JPG
2.01	Water level, 10% of the vertical dimension	5_5_18_A.JPG
7.70	Junction, at 9 o'clock, diameter 100mm	5_5_19_A.JPG
17.98	Finish node type, manhole reference number: MH003	5_5_20_A.JPG
Depth: 0.7		

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

## Inspection pictures

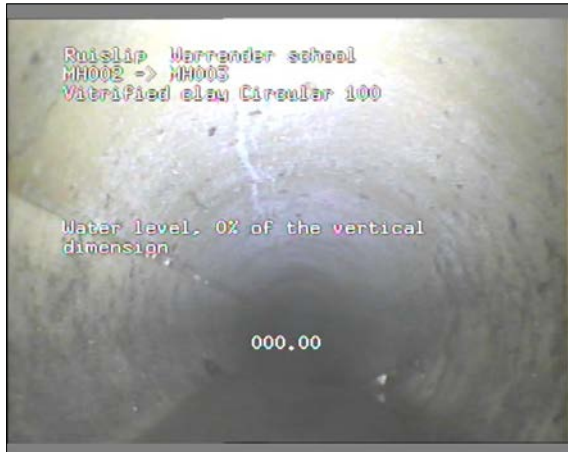
Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**4**PLR Suffix :  
**X**

Photo: 5\_5\_16\_A.JPG  
 0m, Start node type, manhole, reference number : MH002



Photo: 5\_5\_17\_A.JPG  
 0m, Water level, 0% of the vertical dimension

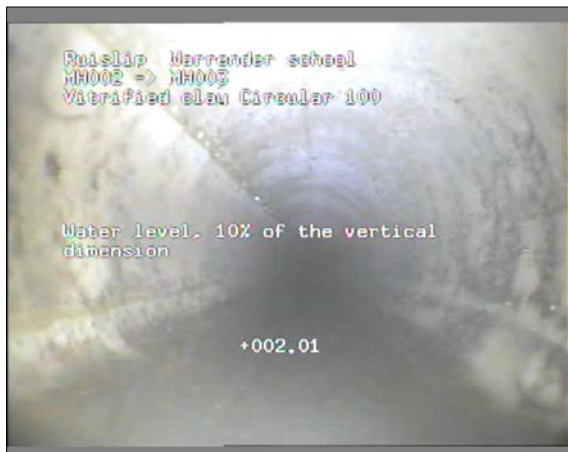


Photo: 5\_5\_18\_A.JPG  
 2.01m, Water level, 10% of the vertical dimension



Photo: 5\_5\_19\_A.JPG  
 7.7m, Junction, at 9 o'clock, diameter 100mm

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**4**

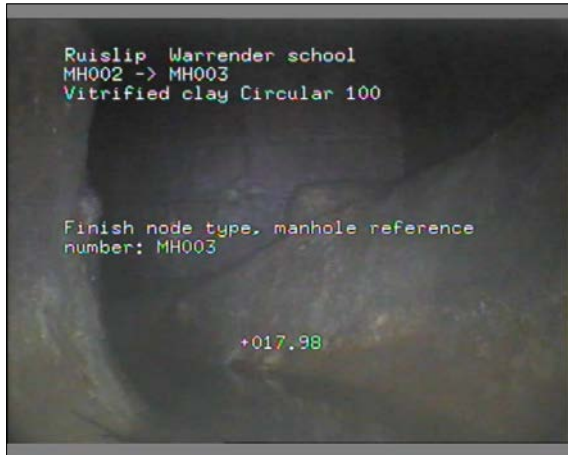
 PLR Suffix :  
**X**


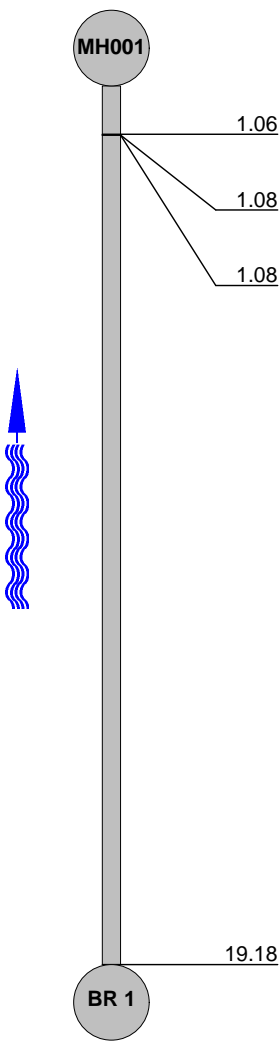
Photo: 5\_5\_20\_A.JPG  
 17.98m, Finish node type, manhole reference number: MH003

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>5</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH001 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular 19.18 m</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1 0.3 MH001 0.3</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 19.18 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Unidentified type of plastics</b>		

Comment :

1:165 Position Depth: 0.3	Observation	Photo							
	<p>Water level, 5% of the vertical dimension</p> <p>Start node type, manhole, reference number : MH001</p> <p>Water level, 0% of the vertical dimension</p> <p>Finish node type, outfall reference number: BR 1</p>	<p>6_6_23_A.JPG</p> <p>6_6_21_A.JPG</p> <p>6_6_22_A.JPG</p> <p>6_6_24_A.JPG</p>							
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**5**

 PLR Suffix :  
**X**


Photo: 6\_6\_23\_A.JPG  
 1.06m, Water level, 5% of the vertical dimension



Photo: 6\_6\_21\_A.JPG  
 1.08m, Start node type, manhole, reference number : MH001



Photo: 6\_6\_22\_A.JPG  
 1.08m, Water level, 0% of the vertical dimension



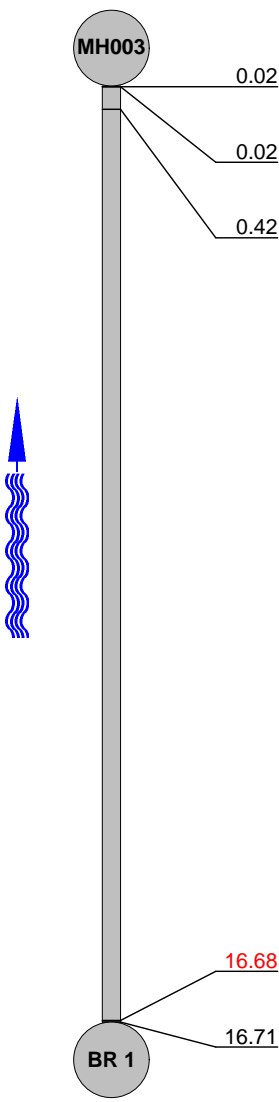
Photo: 6\_6\_24\_A.JPG  
 19.18m, Finish node type, outfall reference number: BR 1

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>6</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH003 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1 BR 1 MH003 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 16.71 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:135 Position Depth: 0.7	Observation	Photo							
	<p>Start node type, manhole, reference number : MH003</p> <p>Water level, 0% of the vertical dimension</p> <p>Material changes, pitch fibre</p> <p style="color: red;">Deformed sewer/drain, 60%</p> <p>Finish node type, outfall reference number: BR 1</p>	<p>7_7_25_A.JPG</p> <p>7_7_26_A.JPG</p> <p>7_7_27_A.JPG</p> <p style="color: red;">7_7_28_A.JPG</p> <p>7_7_29_A.JPG</p>							
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	165	9.87	165	5	0	0	0	0	1



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**6**

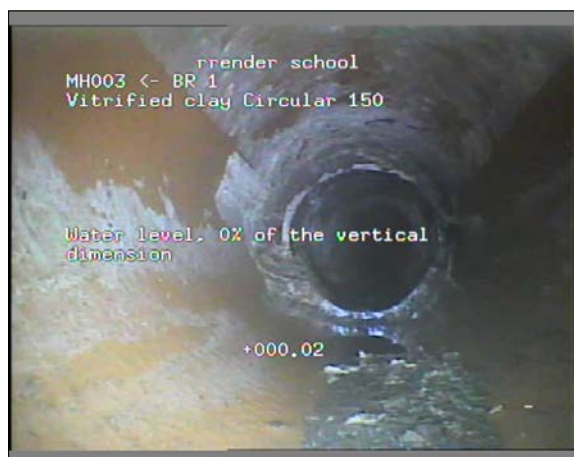
 PLR Suffix :  
**X**


Photo: 7\_7\_25\_A.JPG  
 0.02m, Start node type, manhole, reference number : MH003



Photo: 7\_7\_26\_A.JPG  
 0.02m, Water level, 0% of the vertical dimension

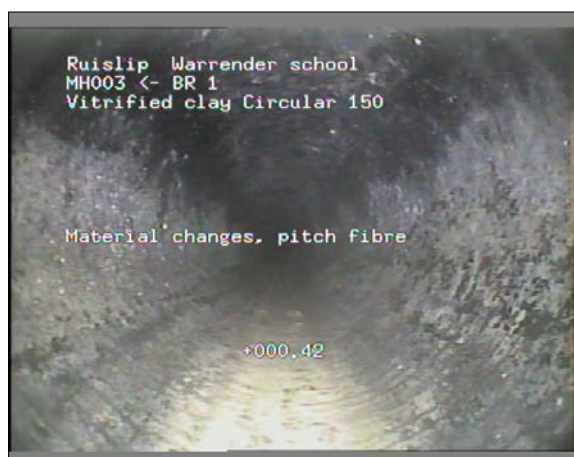


Photo: 7\_7\_27\_A.JPG  
 0.42m, Material changes, pitch fibre



Photo: 7\_7\_28\_A.JPG  
 16.68m, Deformed sewer/drain, 60%



## Inspection pictures

Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**6**PLR Suffix :  
**X**

Photo: 7\_7\_29\_A.JPG

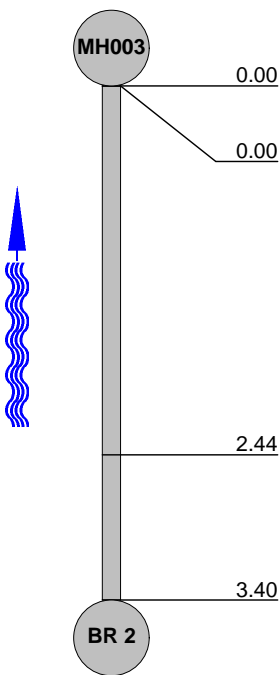
16.71m, Finish node type, outfall reference number: BR 1

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>7</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH003 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2 BR 2 MH003 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 3.40 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH003	8_8_30_A.JPG
	0.00	Water level, 0% of the vertical dimension	8_8_31_A.JPG
	2.44	Material changes, pitch fibre	8_8_32_A.JPG
	3.40	Finish node type, outfall reference number: BR 2	8_8_33_A.JPG

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

## Inspection pictures

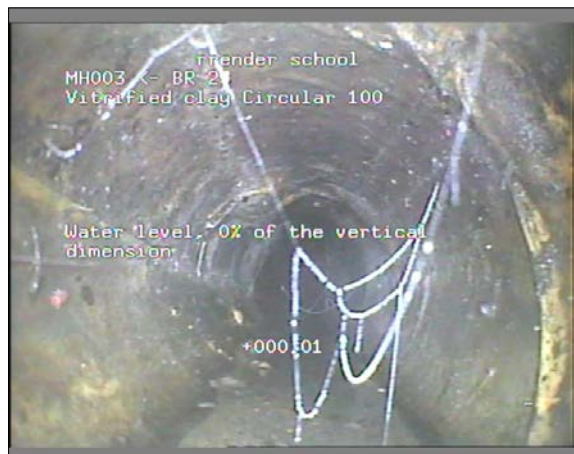
Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**7**PLR Suffix :  
**X**

Photo: 8\_8\_30\_A.JPG  
 0m, Start node type, manhole, reference number : MH003



Photo: 8\_8\_31\_A.JPG  
 0m, Water level, 0% of the vertical dimension



Photo: 8\_8\_32\_A.JPG  
 2.44m, Material changes, pitch fibre





Photo: 8\_8\_33\_A.JPG  
 3.4m, Finish node type, outfall reference number: BR 2

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>8</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH003 (D/S) MH004</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH003 0.7 MH004 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 8.26 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:75 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH003	9_9_34_A.JPG
	0.00	Water level, 20% of the vertical dimension	9_9_35_A.JPG
	2.44	Settled deposits, fine, 25% cross-sectional area loss	9_9_36_A.JPG
	7.88	Water level, 40% of the vertical dimension	9_9_37_A.JPG
	8.26	Finish node type, manhole reference number: MH004	9_9_38_A.JPG
			
Depth: 0.7			

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	5	0.61	5	4

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**8**

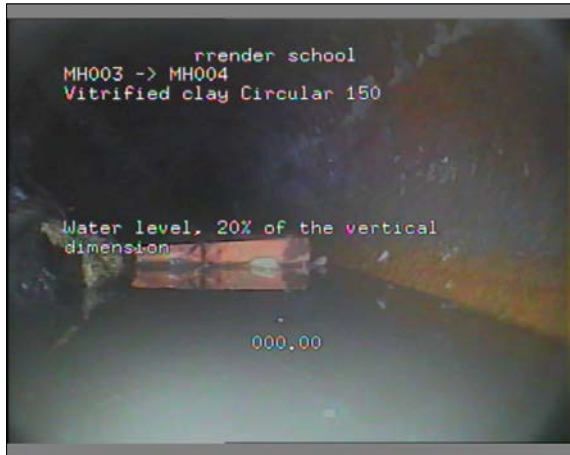
 PLR Suffix :  
**X**


Photo: 9\_9\_34\_A.JPG  
 0m, Start node type, manhole, reference number : MH003

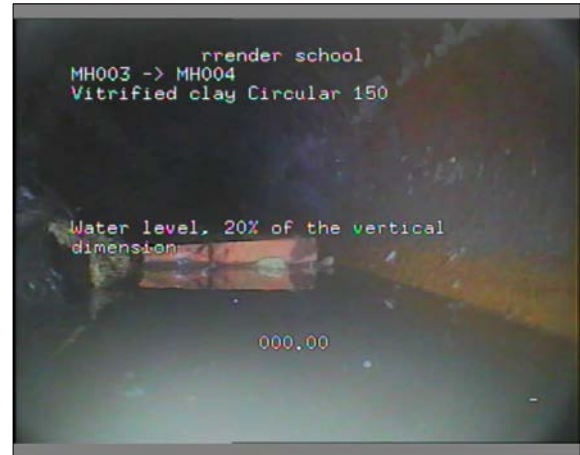


Photo: 9\_9\_35\_A.JPG  
 0m, Water level, 20% of the vertical dimension

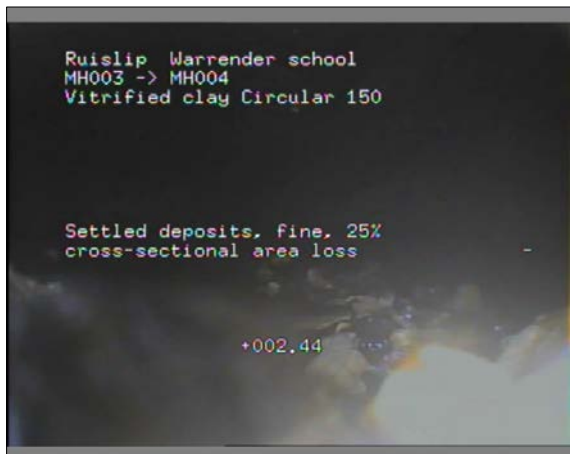


Photo: 9\_9\_36\_A.JPG  
 2.44m, Settled deposits, fine, 25% cross-sectional area loss

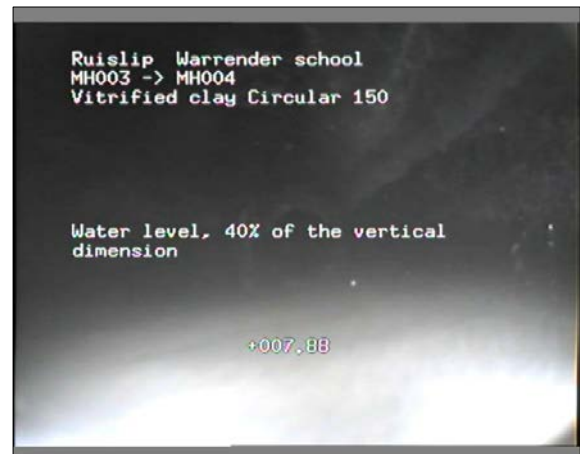


Photo: 9\_9\_37\_A.JPG  
 7.88m, Water level, 40% of the vertical dimension

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**8**

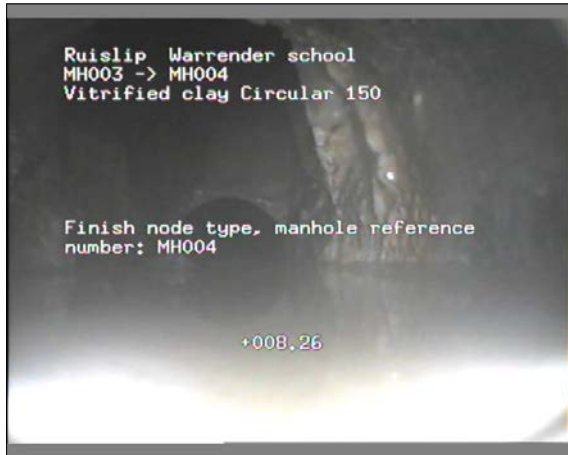
 PLR Suffix :  
**X**


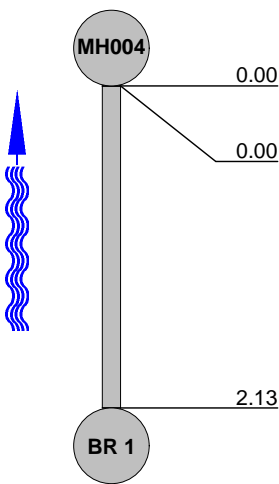
Photo: 9\_9\_38\_A.JPG  
 8.26m, Finish node type, manhole reference number: MH004

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>9</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH004 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>  <b>BR 1</b> U/S Depth : D/S MH : D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Surface water</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>2.13 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Unidentified type of plastics</b>

Comment :

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH004	10_10_39_A.JPG
	0.00	Water level, 0% of the vertical dimension	10_10_40_A.JPG
	2.13	Finish node type, gully reference number: BR 1	10_10_41_A.JPG

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



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**9**

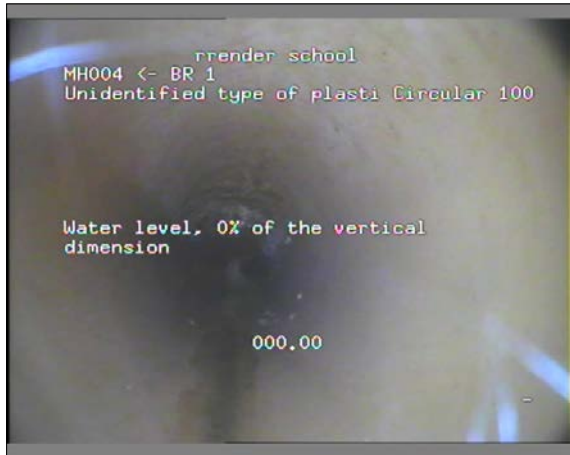
 PLR Suffix :  
**X**


Photo: 10\_10\_39\_A.JPG  
 0m, Start node type, manhole, reference number : MH004



Photo: 10\_10\_40\_A.JPG  
 0m, Water level, 0% of the vertical dimension

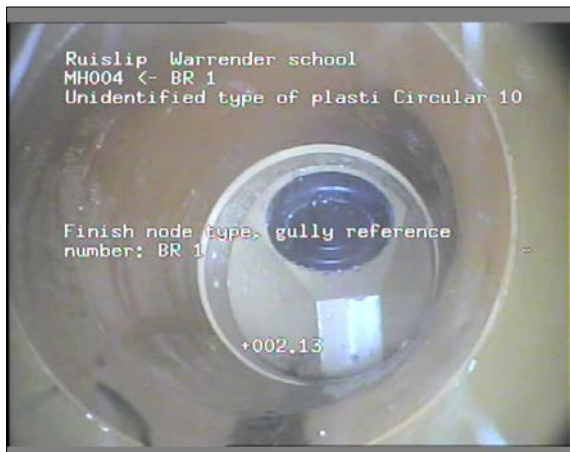


Photo: 10\_10\_41\_A.JPG  
 2.13m, Finish node type, gully reference number: BR 1

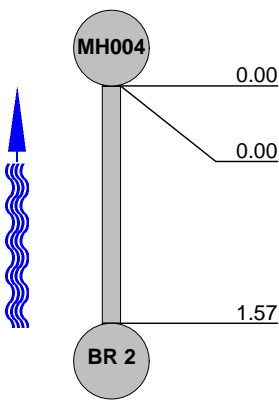


## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>10</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH004 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>   	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2</b>  <b>MH004</b> <b>0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>1.57 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Unidentified type of plastics</b> 		

Comment :

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH004	11_11_42_A.JPG
	0.00	Water level, 0% of the vertical dimension	11_11_43_A.JPG
	1.57	Finish node type, outfall reference number: BR 2	11_11_44_A.JPG

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

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>10</b>	PLR Suffix : <b>X</b>
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Photo: 11\_11\_42\_A.JPG  
 0m, Start node type, manhole, reference number : MH004



Photo: 11\_11\_43\_A.JPG  
 0m, Water level, 0% of the vertical dimension



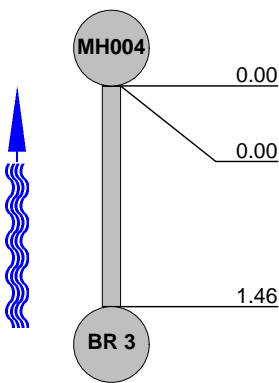
Photo: 11\_11\_44\_A.JPG  
 1.57m, Finish node type, outfall reference number: BR 2

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>11</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH004 (U/S) BR 3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 3 BR 3 MH004 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 1.46 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Unidentified type of plastics Unidentified type of plastics</b>		

Comment :

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH004	12_12_45_A.JPG
	0.00	Water level, 0% of the vertical dimension	12_12_46_A.JPG
	1.46	Finish node type, outfall reference number: BR 3	12_12_47_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**11**

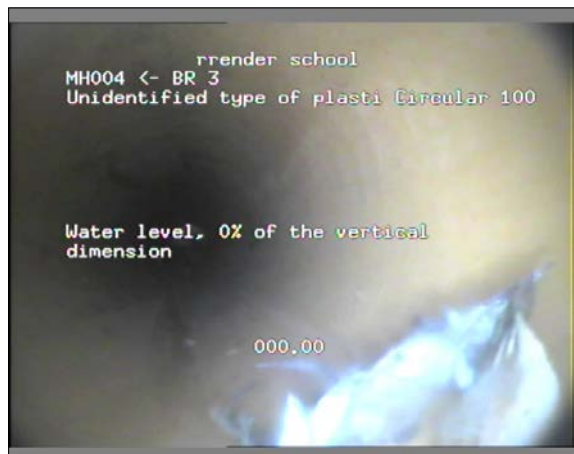
 PLR Suffix :  
**X**


Photo: 12\_12\_45\_A.JPG  
 0m, Start node type, manhole, reference number : MH004



Photo: 12\_12\_46\_A.JPG  
 0m, Water level, 0% of the vertical dimension



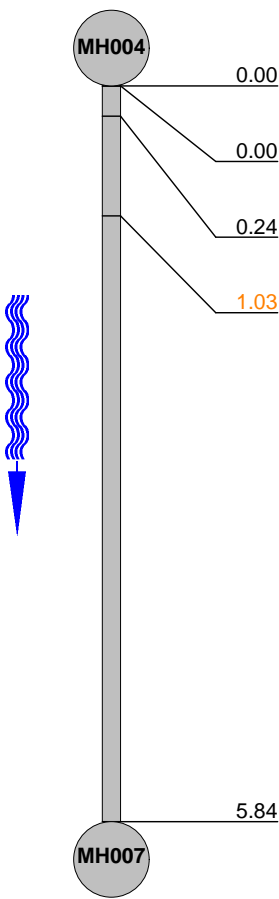
Photo: 12\_12\_47\_A.JPG  
 1.46m, Finish node type, outfall reference number: BR 3

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>12</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH004 (D/S) MH007</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>   	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH004</b> <b>0.7</b> <b>MH007</b> <b>0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>5.84 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b> 		

Comment :

1:60 Position Depth: 0.7	Observation	Photo																				
	<p>Start node type, manhole, reference number : MH004</p> <p>Water level, 40% of the vertical dimension</p> <p>Water level, 10% of the vertical dimension</p> <p style="color: orange;">Settled deposits, fine, 20% cross-sectional area loss</p> <p>Finish node type, manhole reference number: MH007</p>	<p>13_13_48_A.JPG</p> <p>13_13_49_A.JPG</p> <p>13_13_50_A.JPG</p> <p style="color: orange;">13_13_51_A.JPG</p> <p>13_13_52_A.JPG</p>																				
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>STR no def</td> <td>STR peak</td> <td>STR mean</td> <td>STR total</td> <td>STR grade</td> <td>SER no def</td> <td>SER peak</td> <td>SER mean</td> <td>SER total</td> <td>SER grade</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>2</td> <td>0.34</td> <td>2</td> <td>3</td> </tr> </table>			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	0.34	2	3
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	0.34	2	3													

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>12</b>	PLR Suffix : <b>X</b>
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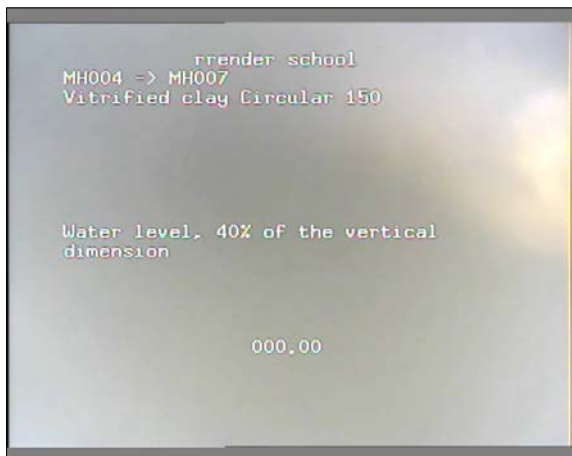


Photo: 13\_13\_48\_A.JPG  
 0m, Start node type, manhole, reference number : MH004

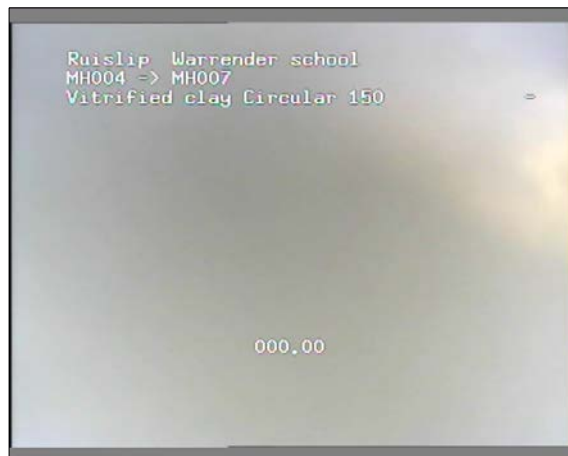


Photo: 13\_13\_49\_A.JPG  
 0m, Water level, 40% of the vertical dimension

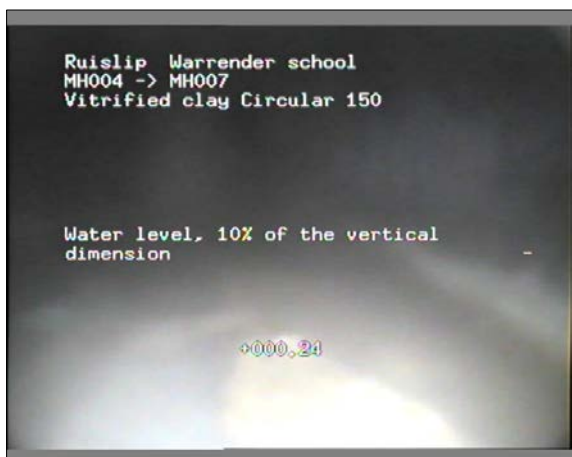


Photo: 13\_13\_50\_A.JPG  
 0.24m, Water level, 10% of the vertical dimension



Photo: 13\_13\_51\_A.JPG  
 1.03m, Settled deposits, fine, 20% cross-sectional area loss

### Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>12</b>	PLR Suffix : <b>X</b>
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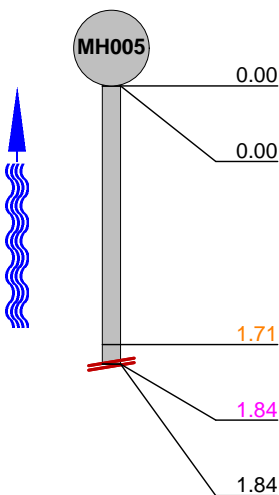
Photo: 13\_13\_52\_A.JPG  
5.84m, Finish node type, manhole reference number: MH007

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>13</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH005 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1 MH005 1.7</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 1.84 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 1.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH005	14_14_53_A.JPG
	0.00	Water level, 0% of the vertical dimension	14_14_54_A.JPG
	1.71	Fracture, circumferential, from 9 to 3 o'clock	14_14_55_A.JPG
	1.84	Settled deposits, hard or compacted, 25% cross-sectional area loss	14_14_56_A.JPG
	1.84	Survey abandoned	14_14_57_A.JPG

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
1	40	21.74	40	3	1	5	2.72	5	4



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**13**

 PLR Suffix :  
**X**


Photo: 14\_14\_53\_A.JPG  
 0m, Start node type, manhole, reference number : MH005



Photo: 14\_14\_54\_A.JPG  
 0m, Water level, 0% of the vertical dimension



Photo: 14\_14\_55\_A.JPG  
 1.71m, Fracture, circumferential, from 9 to 3 o'clock



Photo: 14\_14\_56\_A.JPG  
 1.84m, Settled deposits, hard or compacted, 25% cross-sectional area loss

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>13</b>	PLR Suffix : <b>X</b>
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Photo: 14\_14\_57\_A.JPG  
1.84m, Survey abandoned

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>14</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH005 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2 1.7 MH005 1.7</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 4.85 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 1.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH005	15_15_58_A.JPG
	0.00	Water level, 0% of the vertical dimension	15_15_59_A.JPG
	0.65	Line deviates left	15_15_60_A.JPG
	4.85	Finish node type, outfall reference number: BR 2	15_15_61_A.JPG

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

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>14</b>	PLR Suffix : <b>X</b>
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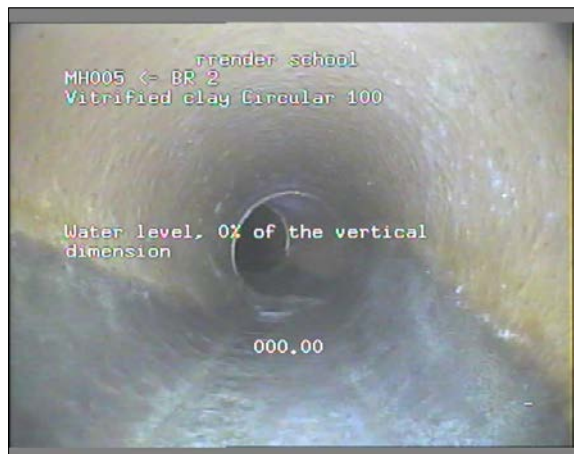


Photo: 15\_15\_58\_A.JPG  
0m, Start node type, manhole, reference number : MH005



Photo: 15\_15\_59\_A.JPG  
0m, Water level, 0% of the vertical dimension

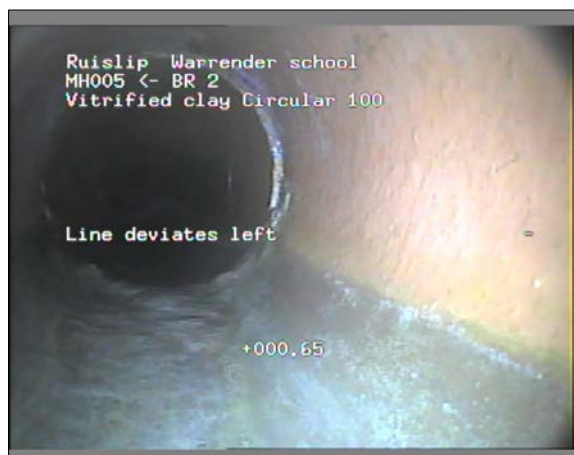


Photo: 15\_15\_60\_A.JPG  
0.65m, Line deviates left

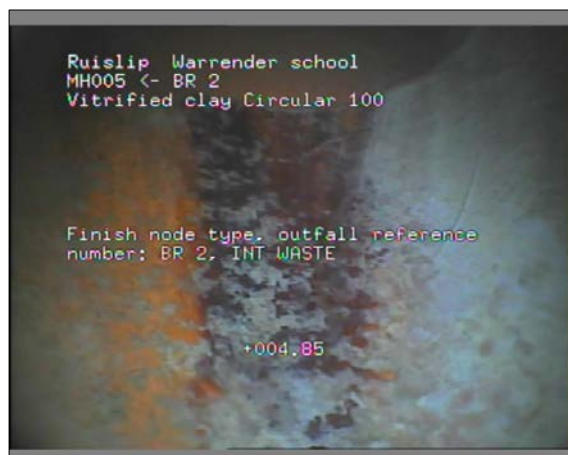


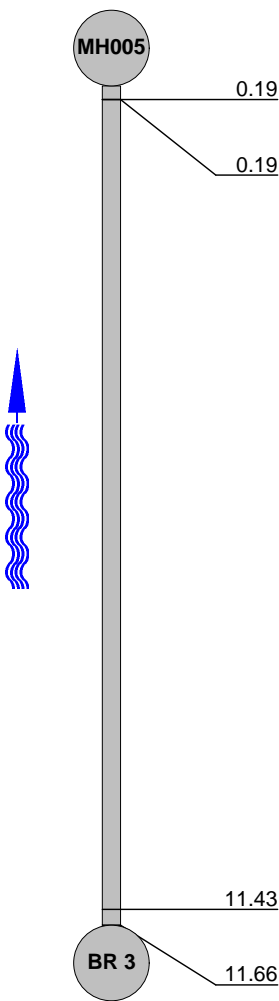



Photo: 15\_15\_61\_A.JPG  
4.85m, Finish node type, outfall reference number: BR 2

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>15</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH005 (U/S) BR 3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 3 1.7 MH005 1.7</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 11.66 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:105 Position Depth: 1.7	Observation	Photo
	Start node type, manhole, reference number : MH005	16_16_62_A.JPG
	Water level, 0% of the vertical dimension	16_16_63_A.JPG
	Line deviates right	16_16_64_A.JPG
	Finish node type, outfall reference number: BR 3	16_16_65_A.JPG

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



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

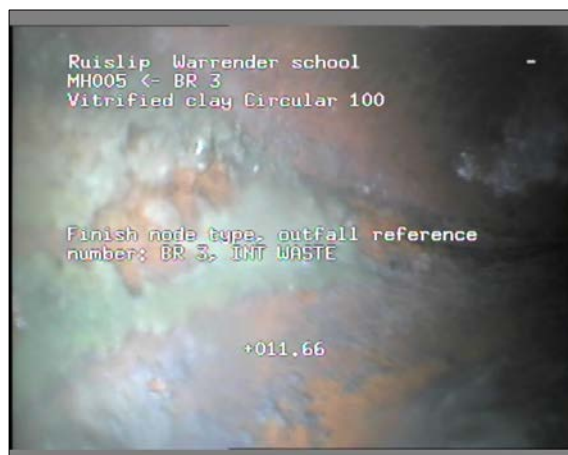
 Date :  
**08/12/2016**

 Section number :  
**15**

 PLR Suffix :  
**X**

 Photo: 16\_16\_62\_A.JPG  
 0.19m, Start node type, manhole, reference number : MH005

 Photo: 16\_16\_63\_A.JPG  
 0.19m, Water level, 0% of the vertical dimension


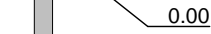
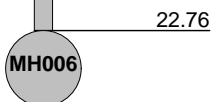
 Photo: 16\_16\_64\_A.JPG  
 11.43m, Line deviates right

 Photo: 16\_16\_65\_A.JPG  
 11.66m, Finish node type, outfall reference number: BR 3

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>16</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH005 (D/S) MH006</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH005 1.7 MH006 0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 22.76 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:180 Position Depth: 1.7	Observation	Photo
	Start node type, manhole, reference number : MH005	17_17_66_A.JPG
	Water level, 0% of the vertical dimension	17_17_67_A.JPG
	Finish node type, manhole reference number: MH006	17_17_68_A.JPG
<b>Depth: 0.8</b>		

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



## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>16</b>	PLR Suffix : <b>X</b>
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Photo: 17\_17\_66\_A.JPG  
 0m, Start node type, manhole, reference number : MH005



Photo: 17\_17\_67\_A.JPG  
 0m, Water level, 0% of the vertical dimension

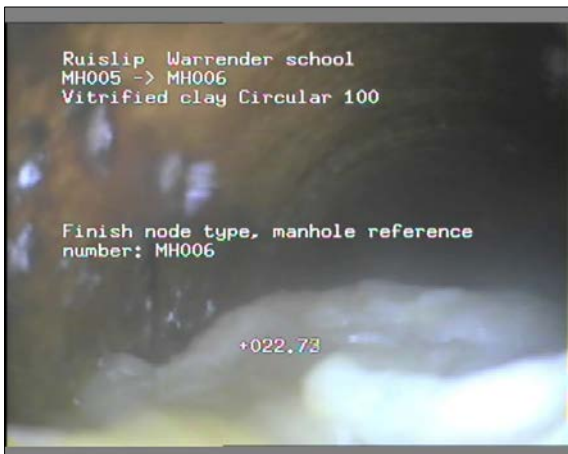


Photo: 17\_17\_68\_A.JPG  
 22.76m, Finish node type, manhole reference number: MH006

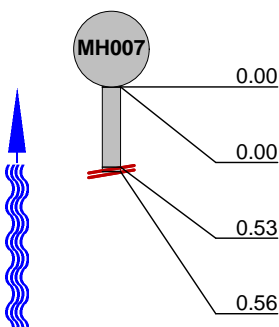
## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>17</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH007 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1</b> <b></b> <b>MH007</b> <b>0.7</b>
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Use: Year laid : Purpose : Total length :	<b>Surface water</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>0.56 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Other (state in remarks)</b> <b></b>
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Comment : **LINING MATERIAL**

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH007	18_18_69_A.JPG
	0.00	Water level, 0% of the vertical dimension	18_18_70_A.JPG
	0.53	Line deviates right	18_18_71_A.JPG
	0.56	Survey abandoned	18_18_72_A.JPG

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

### Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>17</b>	PLR Suffix : <b>X</b>
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Photo: 18\_18\_69\_A.JPG  
 0m, Start node type, manhole, reference number : MH007



Photo: 18\_18\_70\_A.JPG  
 0m, Water level, 0% of the vertical dimension



Photo: 18\_18\_71\_A.JPG  
 0.53m, Line deviates right



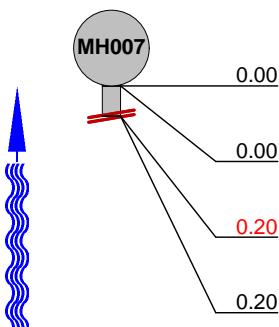
Photo: 18\_18\_72\_A.JPG  
 0.56m, Survey abandoned

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>18</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH007 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2 MH007 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 0.20 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 0.7	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH007	19_19_73_A.JPG
	0.00	Water level, 0% of the vertical dimension	19_19_74_A.JPG
	0.20	Settled deposits, fine, 90% cross-sectional area loss	19_19_75_A.JPG
	0.20	Survey abandoned	19_19_76_A.JPG

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	50	10	5

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>18</b>	PLR Suffix : <b>X</b>
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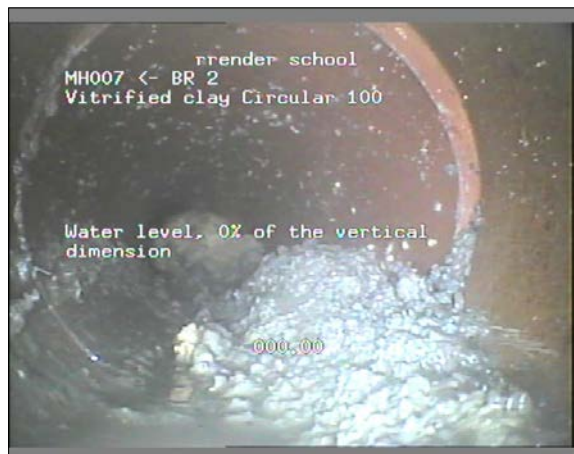


Photo: 19\_19\_73\_A.JPG  
0m, Start node type, manhole, reference number : MH007



Photo: 19\_19\_74\_A.JPG  
0m, Water level, 0% of the vertical dimension



Photo: 19\_19\_75\_A.JPG  
0.2m, Settled deposits, fine, 90% cross-sectional area loss



Photo: 19\_19\_76\_A.JPG  
0.2m, Survey abandoned




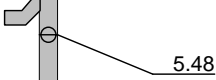


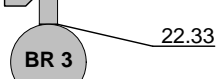


## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>19</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH007 (U/S) BR 3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 3 BR 3 MH007 0.7</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 22.33 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:180 Position Depth: 0.7	Observation	Photo
	Water level, 0% of the vertical dimension	20_20_78_A.JPG
	Start node type, manhole, reference number : MH007	20_20_77_A.JPG
	Junction, at 1 o'clock, diameter 100mm	20_20_79_A.JPG
	Junction, at 12 o'clock, diameter 100mm	20_20_80_A.JPG
	Material changes, other (see remark)	20_20_81_A.JPG
	Junction, at 3 o'clock, diameter 100mm	20_20_82_A.JPG
	Finish node type, outfall reference number: BR 3	20_20_83_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**19**

 PLR Suffix :  
**X**


Photo: 20\_20\_77\_A.JPG  
 0m, Start node type, manhole, reference number : MH007

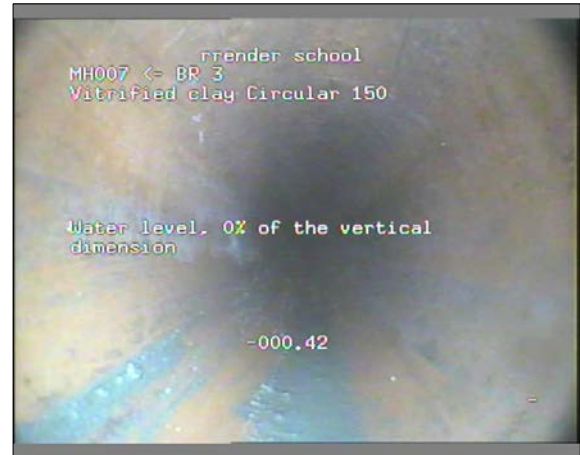


Photo: 20\_20\_78\_A.JPG  
 0m, Water level, 0% of the vertical dimension

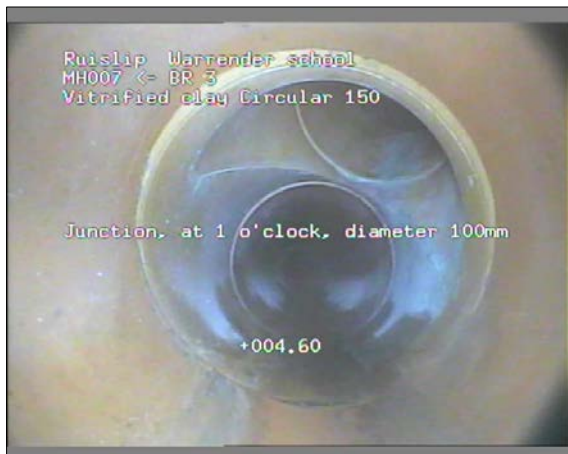


Photo: 20\_20\_79\_A.JPG  
 4.6m, Junction, at 1 o'clock, diameter 100mm

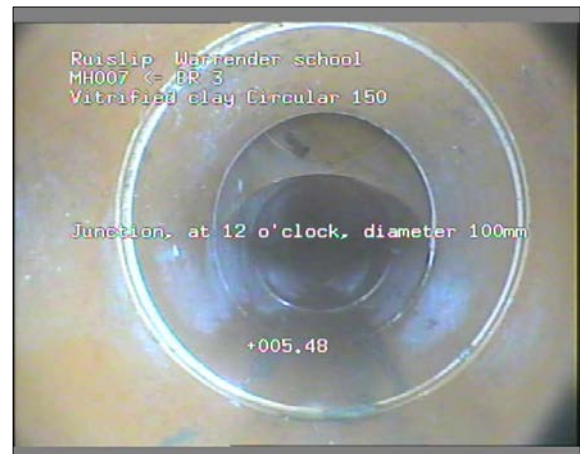


Photo: 20\_20\_80\_A.JPG  
 5.48m, Junction, at 12 o'clock, diameter 100mm



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**19**

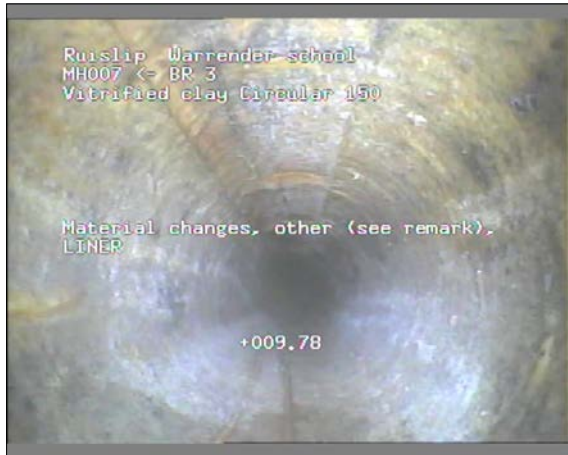
 PLR Suffix :  
**X**


Photo: 20\_20\_81\_A.JPG  
 9.78m, Material changes, other (see remark)



Photo: 20\_20\_82\_A.JPG  
 21.27m, Junction, at 3 o'clock, diameter 100mm



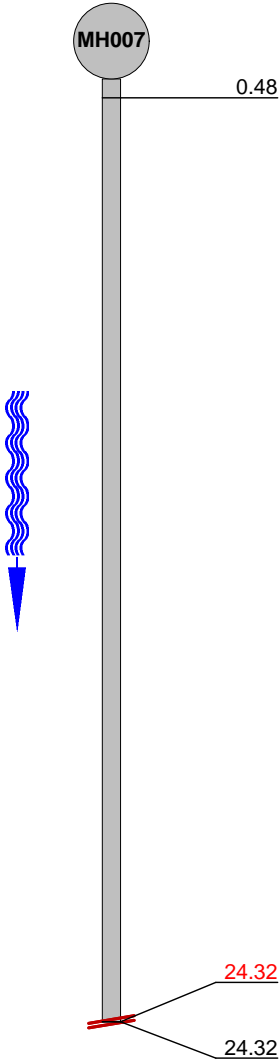
Photo: 20\_20\_83\_A.JPG  
 22.33m, Finish node type, outfall reference number: BR 3

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>20</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH007 (D/S) MH008</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH007 0.7 MH008 1.3</b>
Use: Year laid : Purpose : Total length :	<b>Surface water 1960S Routine inspection of condition 24.72 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:195 Position Depth: 0.7	Observation	Photo																				
	<p>Material changes, other (see remark)</p> <p>Deformed sewer/drain, 60%</p> <p>Survey abandoned</p>	<p>21_21_86_A.JPG</p> <p>21_21_87_A.JPG</p> <p>21_21_88_A.JPG</p>																				
<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <td>STR no def</td> <td>STR peak</td> <td>STR mean</td> <td>STR total</td> <td>STR grade</td> <td>SER no def</td> <td>SER peak</td> <td>SER mean</td> <td>SER total</td> <td>SER grade</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">165</td> <td style="text-align: center;">6.67</td> <td style="text-align: center;">165</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> </table>	STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade	1	165	6.67	165	5	0	0	0	0	1		
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade													
1	165	6.67	165	5	0	0	0	0	1													

## Inspection pictures

Place :  
**Ruislip**

Road :  
**Warrender school**

Date :  
**08/12/2016**

Section number :  
**20**

PLR Suffix :  
**X**



Photo: 21\_21\_84\_A.JPG  
-0.4m, Start node type, manhole, reference number : MH007



Photo: 21\_21\_85\_A.JPG  
-0.4m, Water level, 0% of the vertical dimension



Photo: 21\_21\_86\_A.JPG  
0.48m, Material changes, other (see remark)



Photo: 21\_21\_87\_A.JPG  
24.32m, Deformed sewer/drain, 60%

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**20**

 PLR Suffix :  
**X**

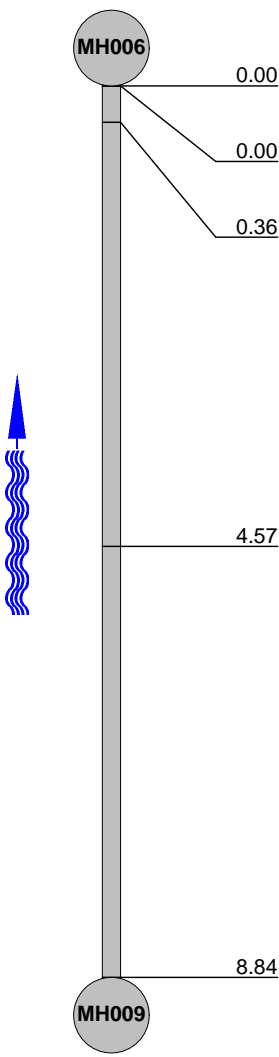

Photo: 21\_21\_88\_A.JPG  
 24.32m, Survey abandoned

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>21</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH006 (U/S) MH009</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH009  MH006 0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 8.84 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:75 Depth: 0.8	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH006	22_22_89_A.JPG
	0.00	Water level, 0% of the vertical dimension	22_22_90_A.JPG
	0.36	Line deviates right	22_22_91_A.JPG
	4.57	Line deviates left	22_22_92_A.JPG
	8.84	Finish node type, manhole reference number: MH009	22_22_93_A.JPG

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

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>21</b>	PLR Suffix : <b>X</b>
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Photo: 22\_22\_89\_A.JPG  
0m, Start node type, manhole, reference number : MH006



Photo: 22\_22\_90\_A.JPG  
0m, Water level, 0% of the vertical dimension



Photo: 22\_22\_91\_A.JPG  
0.36m, Line deviates right



Photo: 22\_22\_92\_A.JPG  
4.57m, Line deviates left

## Inspection pictures

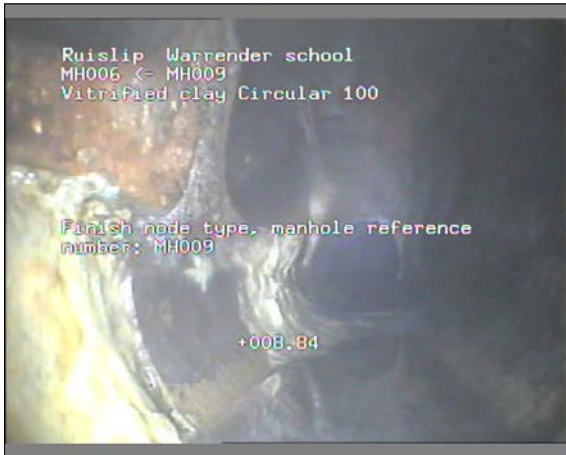
Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**21**PLR Suffix :  
**X**

Photo: 22\_22\_93\_A.JPG

8.84m, Finish node type, manhole reference number: MH009






## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>22</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH006 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1 BR 1 MH006 0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 5.99 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:60 Depth: 0.8	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH006	23_23_94_A.JPG
	0.00	Water level, 0% of the vertical dimension	23_23_95_A.JPG
	5.99	Finish node type, outfall reference number: BR 1	23_23_96_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**22**

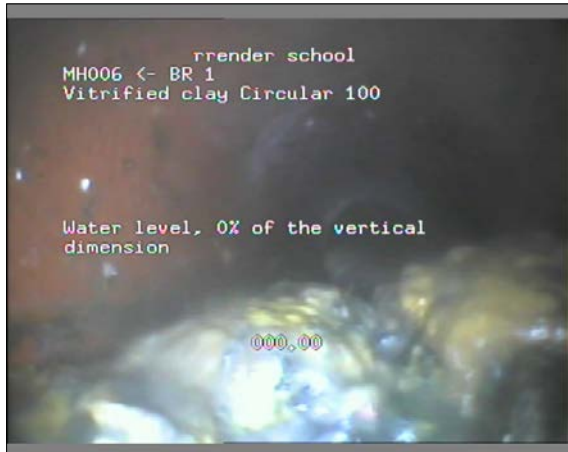
 PLR Suffix :  
**X**


Photo: 23\_23\_94\_A.JPG  
 0m, Start node type, manhole, reference number : MH006



Photo: 23\_23\_95\_A.JPG  
 0m, Water level, 0% of the vertical dimension

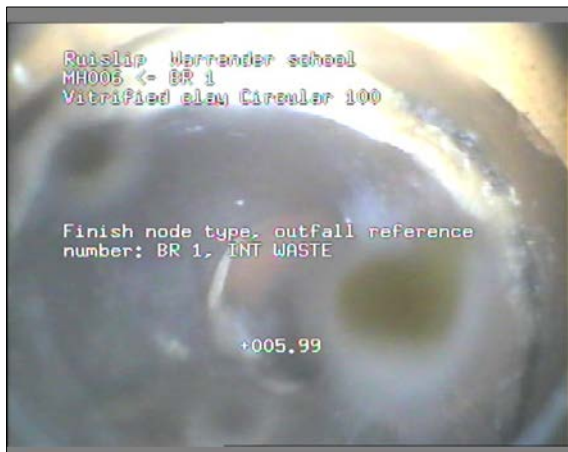


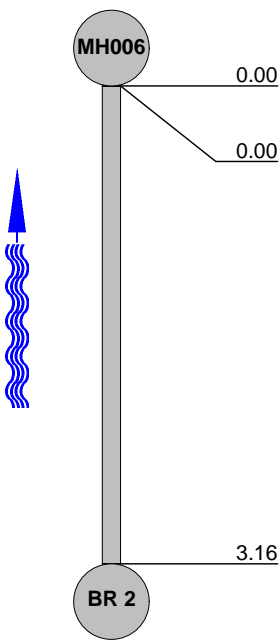
Photo: 23\_23\_96\_A.JPG  
 5.99m, Finish node type, outfall reference number: BR 1

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>23</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH006 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2 BR 2 MH006 0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 3.16 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 0.8	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH006	24_24_97_A.JPG
	0.00	Water level, 0% of the vertical dimension	24_24_98_A.JPG
	3.16	Finish node type, gully reference number: BR 2	24_24_99_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**23**

 PLR Suffix :  
**X**


Photo: 24\_24\_97\_A.JPG  
 0m, Start node type, manhole, reference number : MH006



Photo: 24\_24\_98\_A.JPG  
 0m, Water level, 0% of the vertical dimension



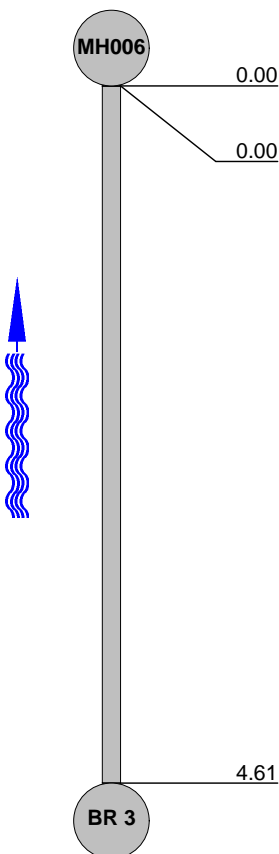
Photo: 24\_24\_99\_A.JPG  
 3.16m, Finish node type, gully reference number: BR 2

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>24</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH006 (U/S) BR 3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 3 BR 3 MH006 0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 4.61 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 0.8	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH006	25_25_100_A.JPG
	0.00	Water level, 0% of the vertical dimension	25_25_101_A.JPG
	4.61	Finish node type, gully reference number: BR 3	25_25_102_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**24**

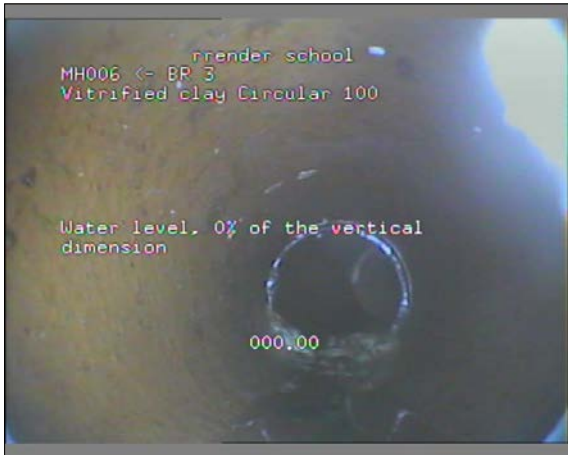
 PLR Suffix :  
**X**


Photo: 25\_25\_100\_A.JPG  
 0m, Start node type, manhole, reference number : MH006



Photo: 25\_25\_101\_A.JPG  
 0m, Water level, 0% of the vertical dimension

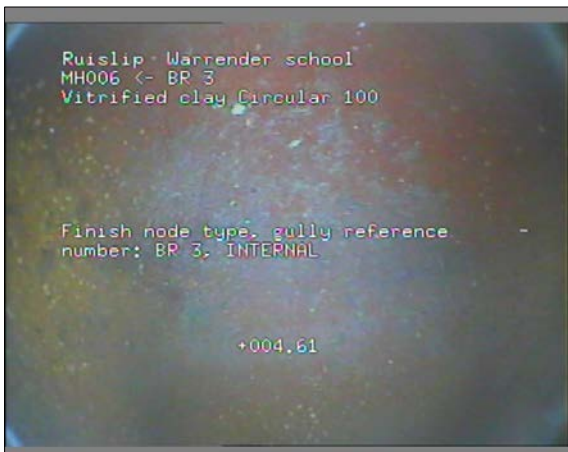


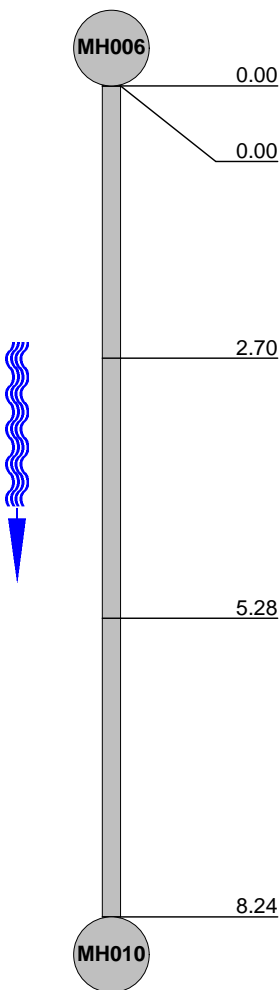
Photo: 25\_25\_102\_A.JPG  
 4.61m, Finish node type, gully reference number: BR 3

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>25</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH006 (D/S) MH010</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH006</b> <b>0.8</b> <b>MH010</b> <b>1</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>8.24 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>		

Comment :

1:75 Position Depth: 0.8	Observation	Photo							
	Start node type, manhole, reference number : MH006	26_26_103_A.JPG							
0.00	Water level, 0% of the vertical dimension	26_26_104_A.JPG							
2.70	Water level, 40% of the vertical dimension	26_26_105_A.JPG							
5.28	Water level, 40% of the vertical dimension	26_26_106_A.JPG							
8.24	Finish node type, manhole reference number: MH010	26_26_107_A.JPG							
<b>MH010</b> Depth: 1									
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**25**

 PLR Suffix :  
**X**


Photo: 26\_26\_103\_A.JPG  
 0m, Start node type, manhole, reference number : MH006



Photo: 26\_26\_104\_A.JPG  
 0m, Water level, 0% of the vertical dimension

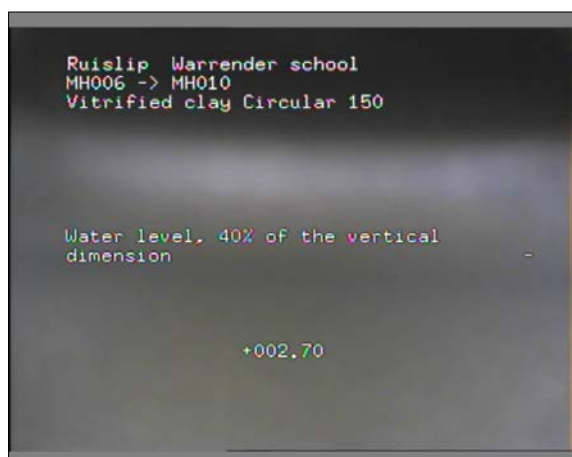


Photo: 26\_26\_105\_A.JPG  
 2.7m, Water level, 40% of the vertical dimension

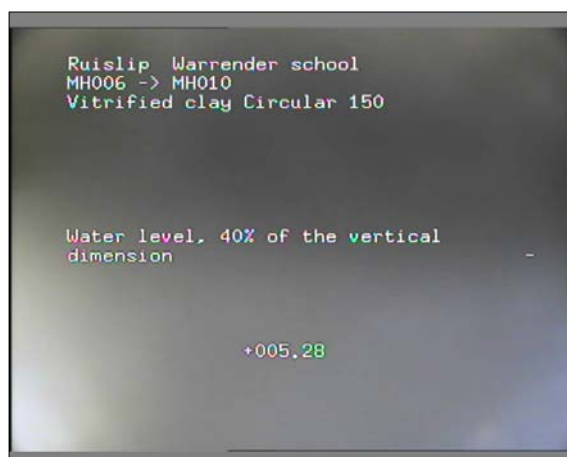


Photo: 26\_26\_106\_A.JPG  
 5.28m, Water level, 40% of the vertical dimension

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**25**

 PLR Suffix :  
**X**

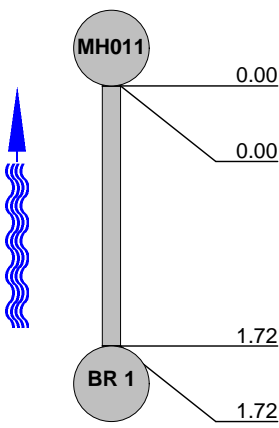

Photo: 26\_26\_107\_A.JPG  
 8.24m, Finish node type, manhole reference number: MH010

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>26</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH011 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1</b> <b></b> <b>MH011</b> <b>0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>1.72 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b> <b></b>		

Comment :

1:50 Depth: 0.8	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH011	27_27_108_A.JPG
	0.00	Water level, 0% of the vertical dimension	27_27_109_A.JPG
	1.72	Line deviates up	27_27_110_A.JPG
	1.72	Finish node type, outfall reference number: BR 1	27_27_111_A.JPG

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

## Inspection pictures

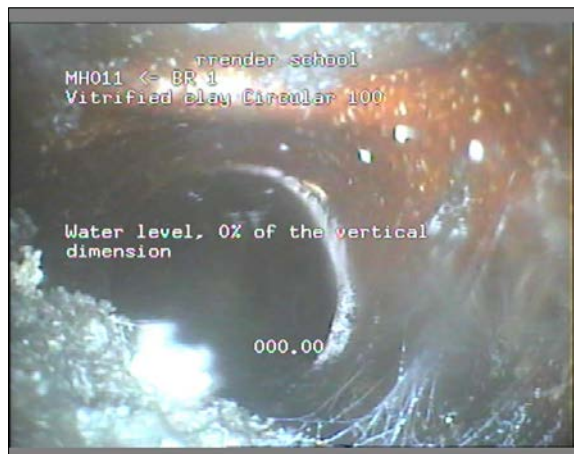
Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**26**PLR Suffix :  
**X**

Photo: 27\_27\_108\_A.JPG  
 0m, Start node type, manhole, reference number : MH011



Photo: 27\_27\_109\_A.JPG  
 0m, Water level, 0% of the vertical dimension



Photo: 27\_27\_110\_A.JPG  
 1.72m, Line deviates up



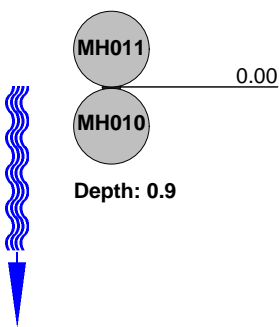
Photo: 27\_27\_111\_A.JPG  
 1.72m, Finish node type, outfall reference number: BR 1

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>27</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH011 (D/S) MH010</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH011</b> <b>0.8</b> <b>MH010</b> <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>0.01 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>		

Comment :

1:50 Depth: 0.8	Position	Observation	Photo
	<p style="text-align: center;">0.00</p>	<p>Start node type, manhole, reference number : MH011</p>	<p style="text-align: right;">28_28_112_A.JPG</p>

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

## Inspection pictures

Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**27**PLR Suffix :  
**X**

Photo: 28\_28\_113\_A.JPG  
 -0.01m, Water level, 0% of the vertical dimension

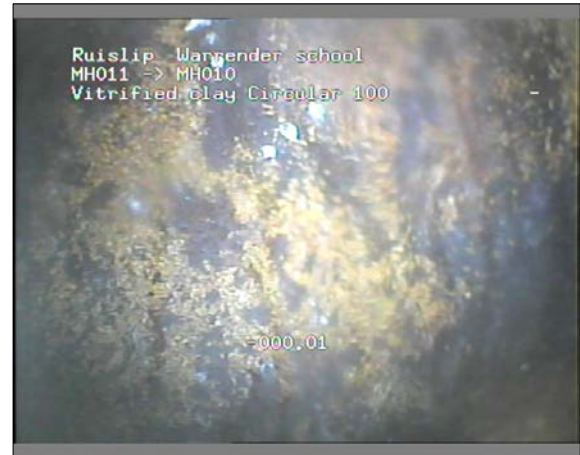


Photo: 28\_28\_114\_A.JPG  
 -0.01m, Finish node type, manhole reference number: MH010

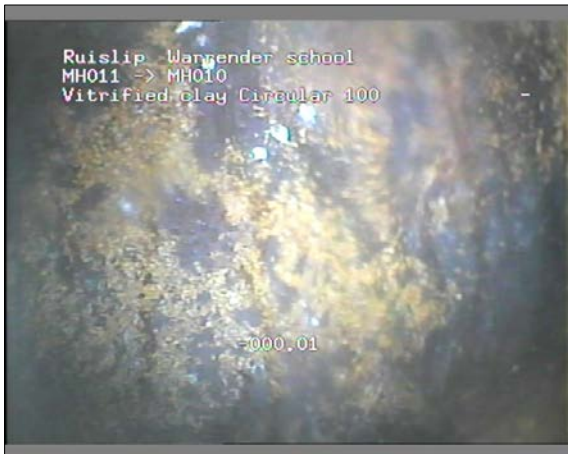


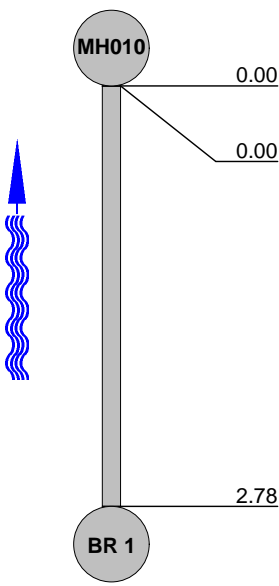
Photo: 28\_28\_112\_A.JPG  
 0m, Start node type, manhole, reference number : MH011

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>28</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (U/S) BR 1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>  <b>2.78</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 1</b>  <b>MH010</b> <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>2.78 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>  		

Comment :

1:50 Depth: 0.9	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH010	29_29_115_A.JPG
	0.00	Water level, 0% of the vertical dimension	29_29_116_A.JPG
	2.78	Finish node type, outfall reference number: BR 1	29_29_117_A.JPG

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



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**28**

 PLR Suffix :  
**X**


Photo: 29\_29\_115\_A.JPG  
 0m, Start node type, manhole, reference number : MH010



Photo: 29\_29\_116\_A.JPG  
 0m, Water level, 0% of the vertical dimension



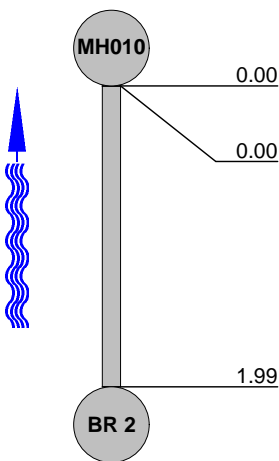
Photo: 29\_29\_117\_A.JPG  
 2.78m, Finish node type, outfall reference number: BR 1

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>29</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (U/S) BR 2</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 2</b> <b>MH010</b> <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>1.99 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>		

Comment :

1:50 Depth: 0.9	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH010	30_30_118_A.JPG
	0.00	Water level, 0% of the vertical dimension	30_30_119_A.JPG
	1.99	Finish node type, outfall reference number: BR 2	30_30_120_A.JPG

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

## Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>29</b>	PLR Suffix : <b>X</b>
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Photo: 30\_30\_118\_A.JPG  
0m, Start node type, manhole, reference number : MH010



Photo: 30\_30\_119\_A.JPG  
0m, Water level, 0% of the vertical dimension



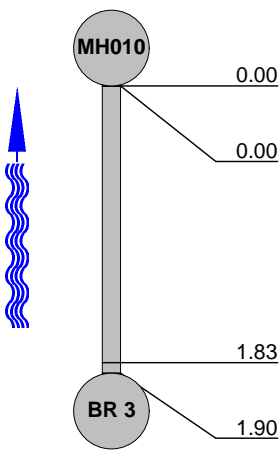
Photo: 30\_30\_120\_A.JPG  
1.99m, Finish node type, outfall reference number: BR 2

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>30</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (U/S) BR 3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 3</b> <b>MH010</b> <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>1.90 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>		

Comment :

1:50 Depth: 0.9	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH010	31_31_121_A.JPG
	0.00	Water level, 0% of the vertical dimension	31_31_122_A.JPG
	1.83	Line deviates up	31_31_123_A.JPG
	1.90	Finish node type, outfall reference number: BR 3	31_31_124_A.JPG

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

## Inspection pictures

Place :  
**Ruislip**

Road :  
**Warrender school**

Date :  
**08/12/2016**

Section number :  
**30**

PLR Suffix :  
**X**



Photo: 31\_31\_121\_A.JPG  
0m, Start node type, manhole, reference number : MH010



Photo: 31\_31\_122\_A.JPG  
0m, Water level, 0% of the vertical dimension



Photo: 31\_31\_123\_A.JPG  
1.83m, Line deviates up

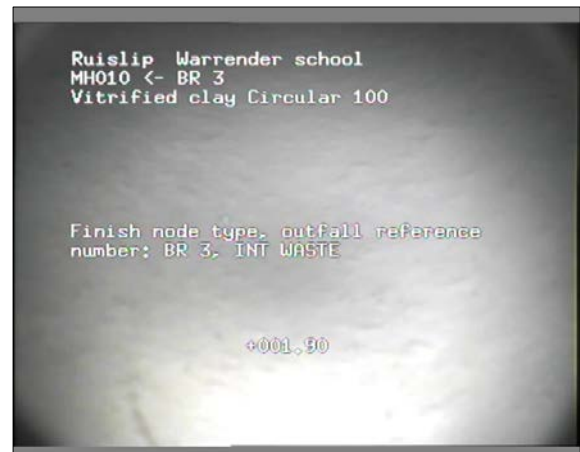


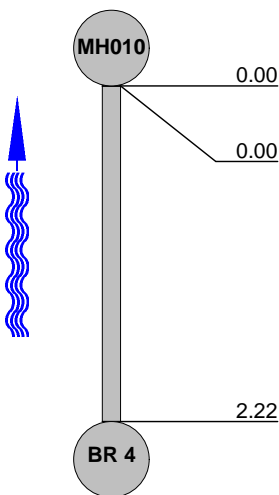
Photo: 31\_31\_124\_A.JPG  
1.9m, Finish node type, outfall reference number: BR 3

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>31</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (U/S) BR 4</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 4</b> <b>MH010</b> <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>2.22 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>		

Comment :

1:50 Depth: 0.9	Position	Observation	Photo						
	0.00	Start node type, manhole, reference number : MH010	32_32_125_A.JPG						
	0.00	Water level, 0% of the vertical dimension	32_32_126_A.JPG						
	2.22	Finish node type, outfall reference number: BR 4	32_32_127_A.JPG						
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1



## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**31**

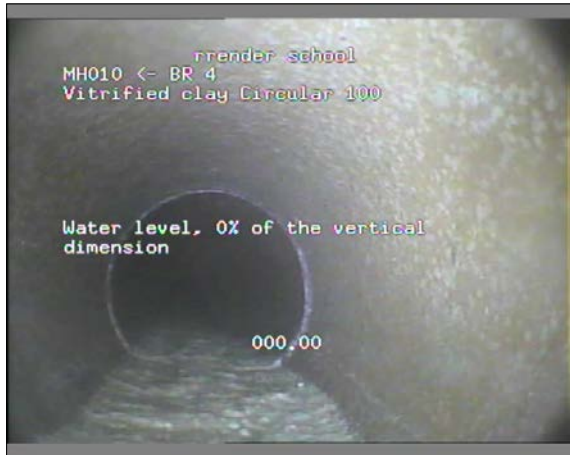
 PLR Suffix :  
**X**


Photo: 32\_32\_125\_A.JPG  
 0m, Start node type, manhole, reference number : MH010



Photo: 32\_32\_126\_A.JPG  
 0m, Water level, 0% of the vertical dimension

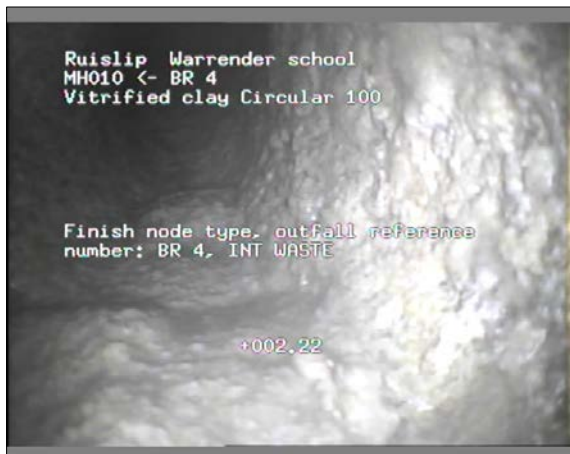


Photo: 32\_32\_127\_A.JPG  
 2.22m, Finish node type, outfall reference number: BR 4

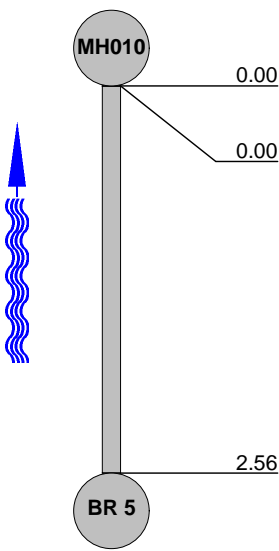


## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>32</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (U/S) BR 5</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>  <b>BR 5</b> U/S Depth : <b>MH010</b> D/S Depth : <b>0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>2.56 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm</b> <b>100 mm</b> <b>Vitrified clay</b>  

Comment :

1:50 Depth: 0.9	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH010	33_33_128_A.JPG
	0.00	Water level, 0% of the vertical dimension	33_33_129_A.JPG
	2.56	Finish node type, outfall reference number: BR 5	33_33_130_A.JPG

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

## Inspection pictures

 Place :  
**Ruislip**

 Road :  
**Warrender school**

 Date :  
**08/12/2016**

 Section number :  
**32**

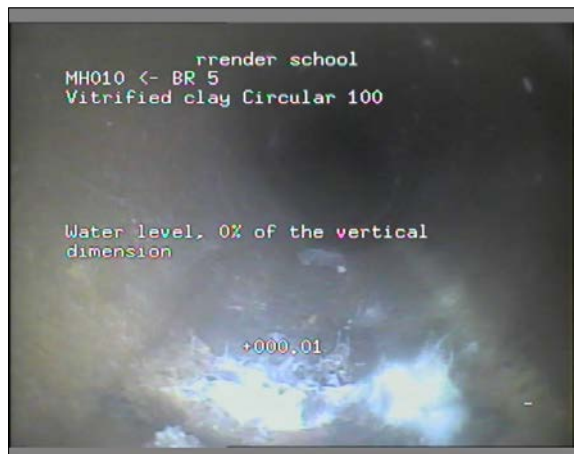
 PLR Suffix :  
**X**


Photo: 33\_33\_128\_A.JPG  
 0m, Start node type, manhole, reference number : MH010



Photo: 33\_33\_129\_A.JPG  
 0m, Water level, 0% of the vertical dimension

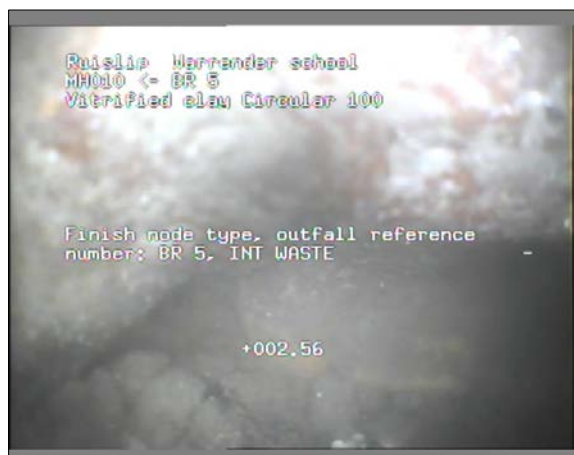


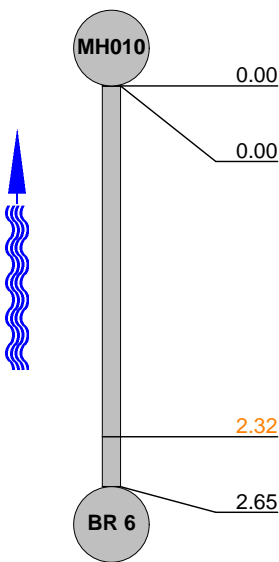
Photo: 33\_33\_130\_A.JPG  
 2.56m, Finish node type, outfall reference number: BR 5

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>33</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>Ruislip Warrender school Property with buildings MH010 (U/S) BR 6</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR 6 BR 6 MH010 0.9</b>
Use: Year laid : Purpose : Total length :	<b>Foul 1960S Routine inspection of condition 2.65 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>100 mm 100 mm Vitrified clay</b>		

Comment :

1:50 Depth: 0.9	Position	Observation	Photo
	0.00	Start node type, manhole, reference number : MH010	34_34_131_A.JPG
	0.00	Water level, 0% of the vertical dimension	34_34_132_A.JPG
	2.32	Settled deposits, fine, 20% cross-sectional area loss	34_34_133_A.JPG
	2.65	Finish node type, outfall reference number: BR 6	34_34_134_A.JPG

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	0.75	2	3

## Inspection pictures

Place :  
**Ruislip**Road :  
**Warrender school**Date :  
**08/12/2016**Section number :  
**33**PLR Suffix :  
**X**

Photo: 34\_34\_131\_A.JPG  
 0m, Start node type, manhole, reference number : MH010



Photo: 34\_34\_132\_A.JPG  
 0m, Water level, 0% of the vertical dimension

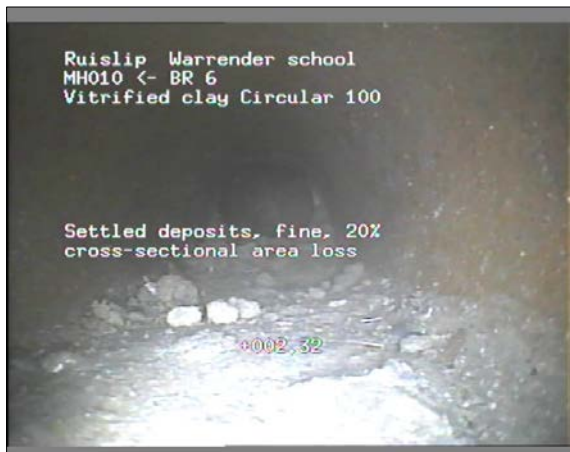


Photo: 34\_34\_133\_A.JPG  
 2.32m, Settled deposits, fine, 20% cross-sectional area loss



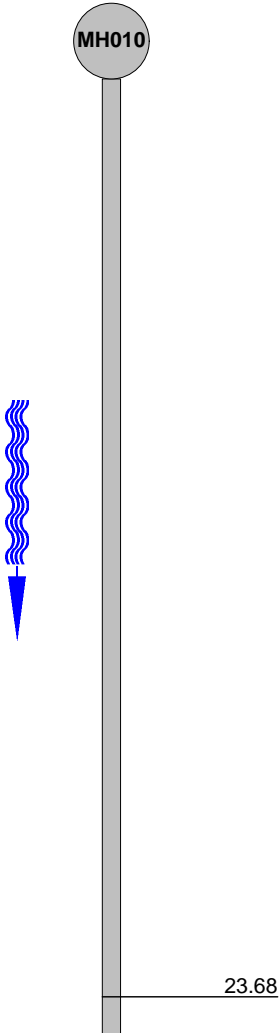
Photo: 34\_34\_134\_A.JPG  
 2.65m, Finish node type, outfall reference number: BR 6

## Inspection report

Date : <b>08/12/2016</b>	Job number :	Section Type :	Operator : <b>IAN HALE</b>	Section number : <b>34</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Type of Drain : <b>Gravity drain/sewer</b>



Place : Road : Location Inspection	<b>Ruislip</b> <b>Warrender school</b> <b>Property with buildings</b> <b>MH010 (D/S) MH011</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH010</b> <b>0.9</b> <b>MH011</b> <b>0.8</b>
Use: Year laid : Purpose : Total length :	<b>Foul</b> <b>1960S</b> <b>Routine inspection of condition</b> <b>25.08 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>		

Comment :

1:195 Position Depth: 0.9	Observation	Photo
	Finish node type, manhole reference number: MH011	35_35_137_A.JPG

## Inspection Report

Date : <b>08/12/2016</b>	Job number :	Weather : <b>no rain or snow</b>	Operator : <b>IAN HALE</b>	Section number : <b>34</b>	PLR : <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>no</b>	Grade:

1:195	Position	Observation	Photo						
									
									
		<p><b>Depth: 0.8</b></p>							
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

### Inspection pictures

Place : <b>Ruislip</b>	Road : <b>Warrender school</b>	Date : <b>08/12/2016</b>	Section number : <b>34</b>	PLR Suffix : <b>X</b>
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Photo: 35\_35\_136\_A.JPG  
-1.4m, Water level, 0% of the vertical dimension



Photo: 35\_35\_135\_A.JPG  
-0.56m, Start node type, manhole, reference number : MH010



Photo: 35\_35\_137\_A.JPG  
23.68m, Finish node type, manhole reference number: MH011

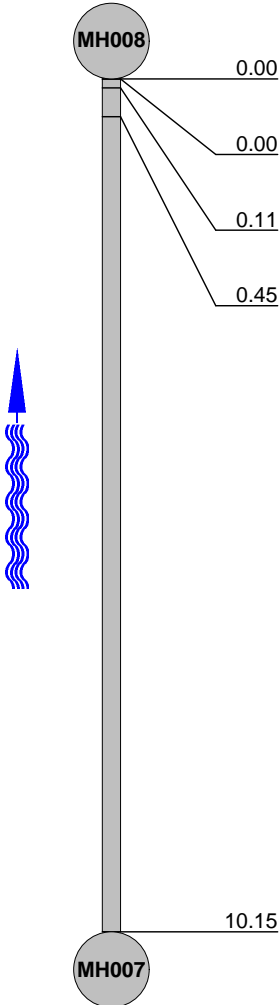


## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>35</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH008 (U/S) MH007</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH007  MH008</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 10.15 m</b>		Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>	

Comment :

1:90	Position	Observation	Photo						
		Start node type, manhole, reference number : MH008	36_36_139_A.jpg						
	0.00	Water level, 0% of the vertical dimension							
	0.11	Water level, 20% of the vertical dimension							
	0.45	Water level, 10% of the vertical dimension							
	10.15	Finish node type, manhole reference number: MH007	36_36_142_A.jpg						
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**35**

 PLR Suffix :  
**X**


Photo: 36\_36\_139\_A.jpg  
 0m, Start node type, manhole, reference number : MH008



Photo: 36\_36\_142\_A.jpg  
 10.15m, Finish node type, manhole reference number: MH007

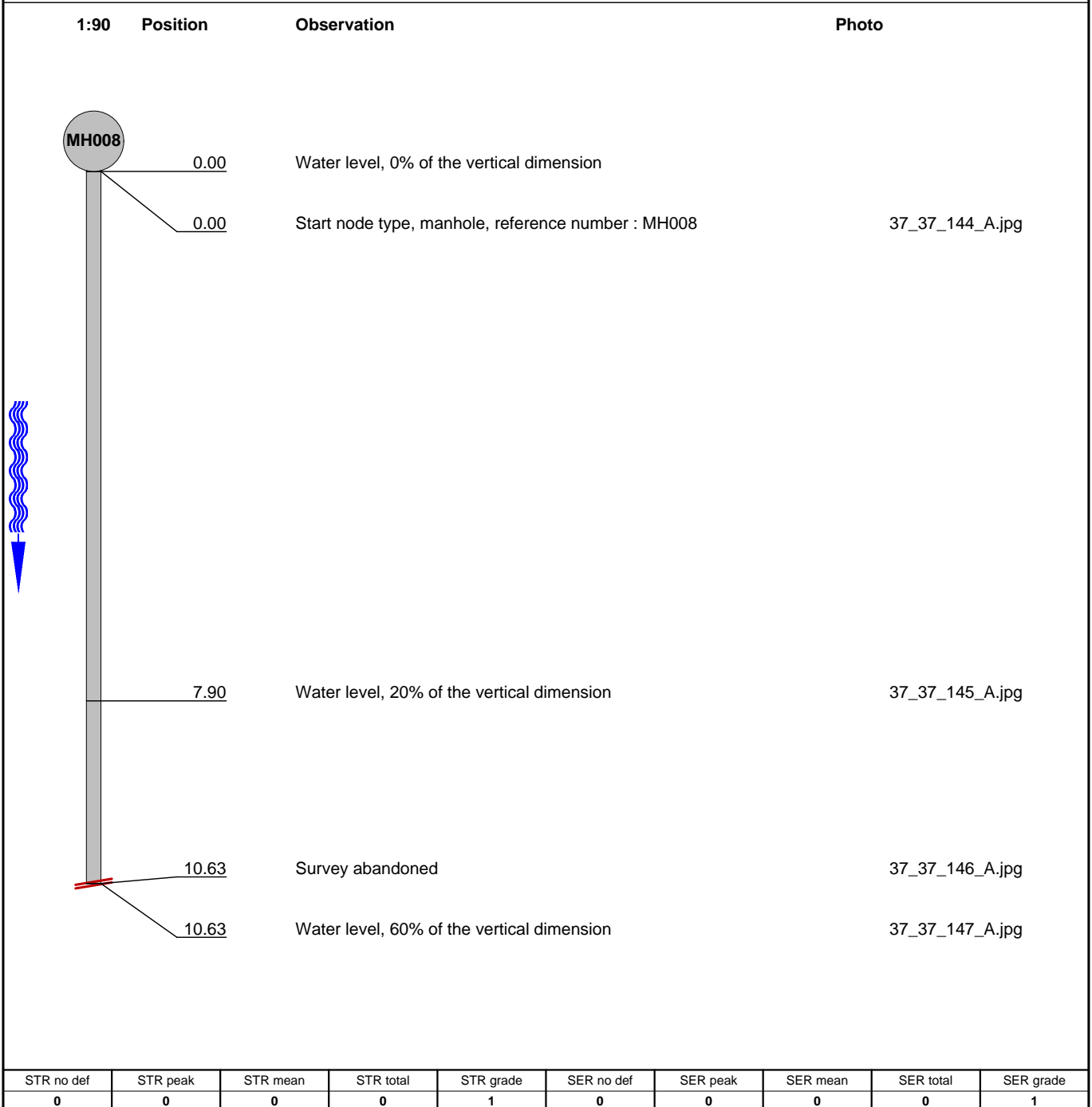
## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>36</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH008 (D/S) MH012</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>MH008</b> U/S Depth : D/S MH : <b>MH012</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Surface water</b>  <b>Sample survey to determine asset condition</b> <b>10.63 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:90	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH008	37_37_144_A.jpg
	7.90	Water level, 20% of the vertical dimension	37_37_145_A.jpg
	10.63	Survey abandoned	37_37_146_A.jpg
	10.63	Water level, 60% of the vertical dimension	37_37_147_A.jpg



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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**36**

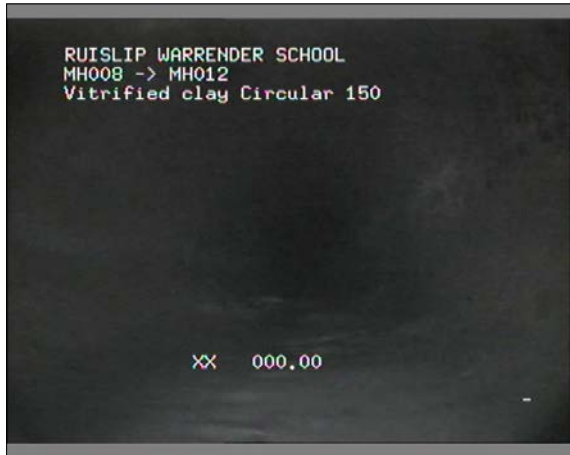
 PLR Suffix :  
**X**


Photo: 37\_37\_144\_A.jpg  
 0m, Start node type, manhole, reference number : MH008



Photo: 37\_37\_145\_A.jpg  
 7.9m, Water level, 20% of the vertical dimension

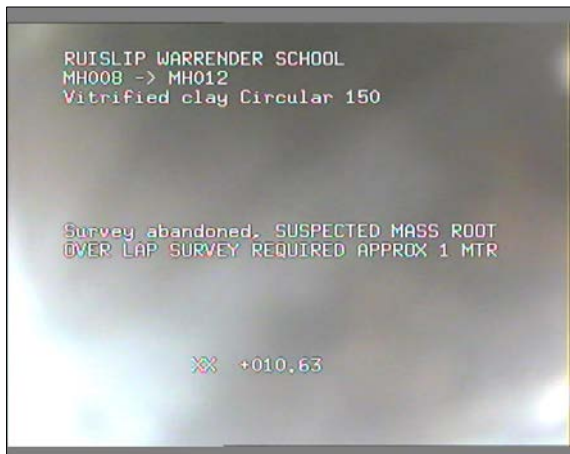


Photo: 37\_37\_146\_A.jpg  
 10.63m, Survey abandoned

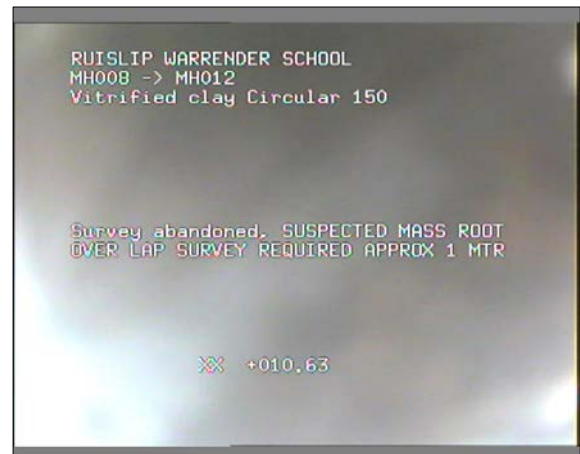


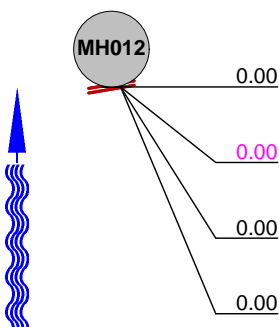
Photo: 37\_37\_147\_A.jpg  
 10.63m, Water level, 60% of the vertical dimension

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>37</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH012 (U/S) MH008</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH008  MH012</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 0.00 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:50	Position	Observation	Photo
		Water level, 0% of the vertical dimension	
	0.00	Settled deposits, fine, 60% cross-sectional area loss	
	0.00	Start node type, manhole, reference number : MH012	38_38_150_A.jpg
	0.00	Survey abandoned	38_38_151_A.jpg

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	8	0	8	4

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**37**

PLR Suffix :  
**X**



Photo: 38\_38\_150\_A.jpg  
0m, Start node type, manhole, reference number : MH012



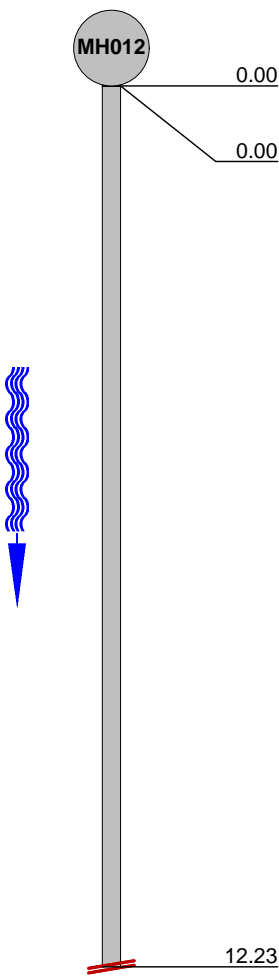
Photo: 38\_38\_151\_A.jpg  
0m, Survey abandoned

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>38</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH012 (D/S) MH017</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH012  MH017</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 45.50 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:105	Position	Observation	Photo						
		<p>Start node type, manhole, reference number : MH012</p> <p>Water level, 0% of the vertical dimension</p> <p>Survey abandoned</p>	<p>39_39_153_A.jpg</p> <p>39_39_154_A.jpg</p>						
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1



## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**38**

PLR Suffix :  
**X**



Photo: 39\_39\_153\_A.jpg  
0m, Start node type, manhole, reference number : MH012



Photo: 39\_39\_154\_A.jpg  
12.23m, Survey abandoned

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>39</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH020 (D/S) MH019</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH020  MH019</b>
Use: Year laid : Purpose : Total length :	<b>Foul  Sample survey to determine asset condition 45.68 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:360	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH010	40_40_156_A.jpg
	45.68	Survey abandoned	40_40_157_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**39**

 PLR Suffix :  
**X**


Photo: 40\_40\_156\_A.jpg  
 0m, Start node type, manhole, reference number : MH010



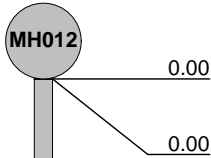


Photo: 40\_40\_157\_A.jpg  
 45.68m, Survey abandoned

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>40</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH012 (U/S) MH014</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH014  MH012</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 22.82 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:180	Position	Observation	Photo
		Start node type, manhole, reference number : MH012	41_41_159_A.jpg
		Water level, 0% of the vertical dimension	
		Finish node type, manhole reference number: MH014	41_41_160_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**40**

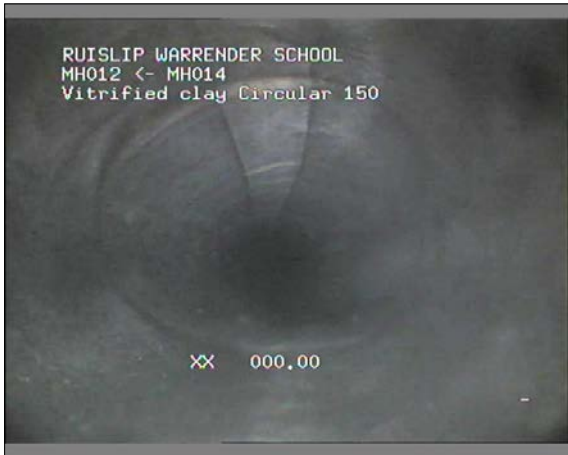
 PLR Suffix :  
**X**


Photo: 41\_41\_159\_A.jpg  
 0m, Start node type, manhole, reference number : MH012



Photo: 41\_41\_160\_A.jpg  
 22.82m, Finish node type, manhole reference number: MH014

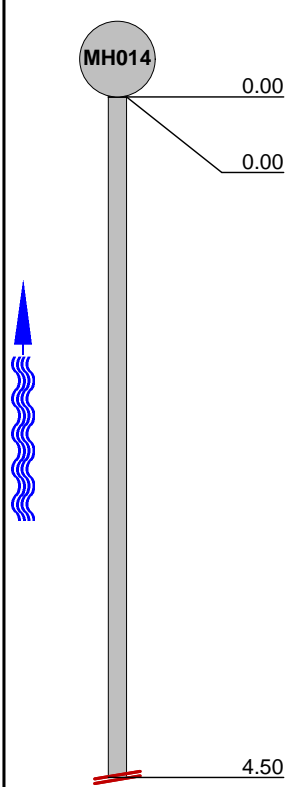
## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>41</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH014 (U/S) RWP</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>RWP MH014</b>
Use: Year laid : Purpose : Total length :	<b>Surface water Sample survey to determine asset condition 4.50 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:50	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH014	42_42_162_A.jpg
	4.50	Survey abandoned	42_42_164_A.jpg



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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**41**

PLR Suffix :  
**X**



Photo: 42\_42\_162\_A.jpg  
0m, Start node type, manhole, reference number : MH014



Photo: 42\_42\_164\_A.jpg  
4.5m, Survey abandoned

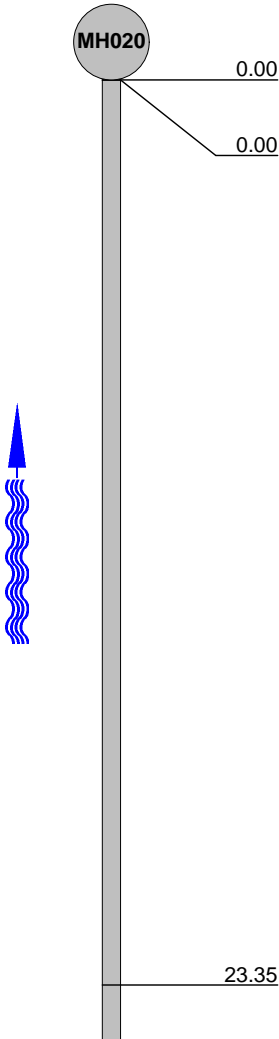
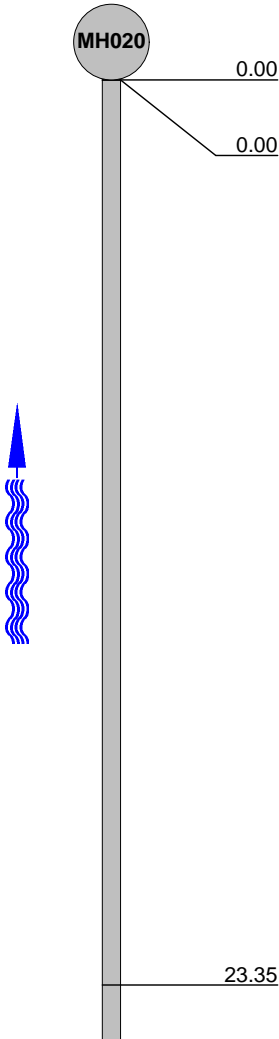


## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>42</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

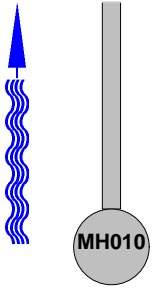
Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH020 (U/S) MH010</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>MH010</b> U/S Depth : D/S MH : <b>MH020</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Foul</b>  <b>Sample survey to determine asset condition</b> <b>30.10 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:195	Position	Observation	Photo
		Water level, 0% of the vertical dimension  Start node type, manhole, reference number : MH020	43_43_166_A.jpg
		Finish node type, manhole reference number: MH010	43_43_167_A.jpg

## Inspection Report

Date : <b>12/12/2016</b>	Job number :	Weather : <b>no rain or snow</b>	Operator : <b>STUART</b>	Section number : <b>42</b>	PLR : <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Grade:

1:195	Position	Observation	Photo						
									
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**42**

 PLR Suffix :  
**X**


Photo: 43\_43\_166\_A.jpg  
 0m, Start node type, manhole, reference number : MH020



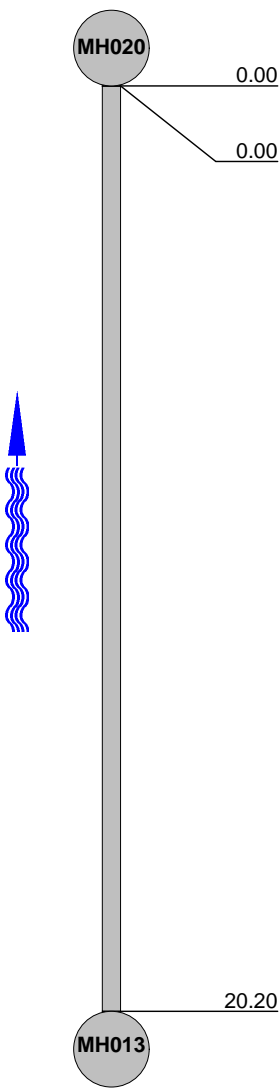
Photo: 43\_43\_167\_A.jpg  
 23.35m, Finish node type, manhole reference number: MH010

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>43</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH020 (U/S) MH013</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH013  MH020</b>
Use: Year laid : Purpose : Total length :	<b>Foul  Sample survey to determine asset condition 20.20 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:165 Position	Observation	Photo							
	<p>Water level, 10% of the vertical dimension</p> <p>Start node type, manhole, reference number : MH020</p> <p>Finish node type, manhole reference number: MH013</p>	<p>44_44_169_A.jpg</p> <p>44_44_170_A.jpg</p>							
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**43**

PLR Suffix :  
**X**



Photo: 44\_44\_169\_A.jpg  
0m, Start node type, manhole, reference number : MH020



Photo: 44\_44\_170\_A.jpg  
20.2m, Finish node type, manhole reference number: MH013

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>44</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH013 (U/S) MH016</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>MH016  MH013</b>
Use: Year laid : Purpose : Total length :	<b>Foul  Sample survey to determine asset condition 14.12 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:120	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH013	45_45_172_A.jpg
	12.26	Water level, 15% of the vertical dimension	45_45_173_A.jpg
	14.12	Finish node type, manhole reference number: MH016	45_45_174_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**44**

 PLR Suffix :  
**X**


Photo: 45\_45\_172\_A.jpg  
 0m, Start node type, manhole, reference number : MH013



Photo: 45\_45\_173\_A.jpg  
 12.26m, Water level, 15% of the vertical dimension



Photo: 45\_45\_174\_A.jpg  
 14.12m, Finish node type, manhole reference number: MH016

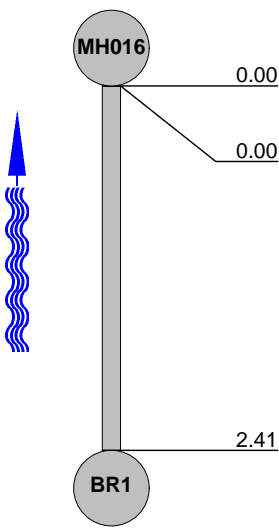


## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>45</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH016 (U/S) BR1</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>BR1</b> U/S Depth : D/S MH : <b>MH016</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Foul</b>  <b>Sample survey to determine asset condition</b> <b>2.41 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:50	Position	Observation	Photo
		Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH016	46_46_176_A.jpg
	2.41	Finish node type, manhole reference number: BR1	46_46_177_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**45**

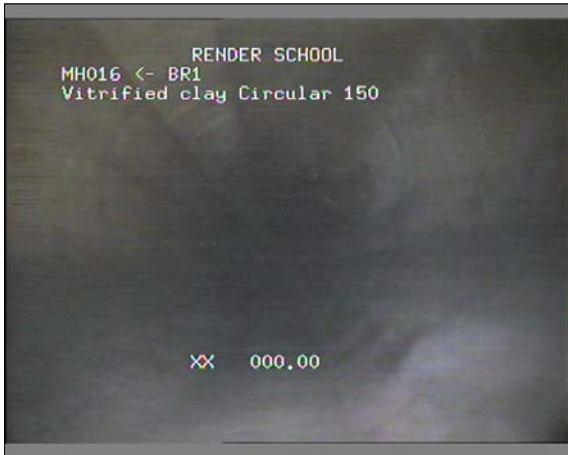
 PLR Suffix :  
**X**


Photo: 46\_46\_176\_A.jpg  
 0m, Start node type, manhole, reference number : MH016

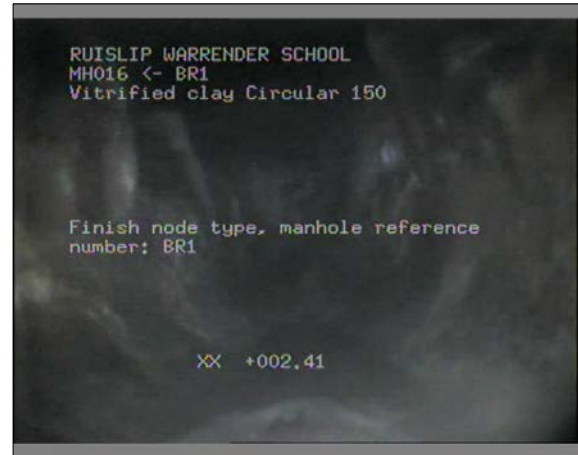


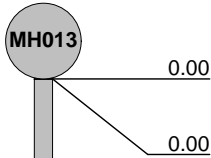
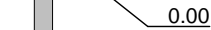
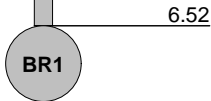
Photo: 46\_46\_177\_A.jpg  
 2.41m, Finish node type, manhole reference number: BR1

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>46</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH013 (U/S) BR1</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>BR1</b> U/S Depth : D/S MH : <b>MH013</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Foul</b>  <b>Sample survey to determine asset condition</b> <b>6.52 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:60	Position	Observation	Photo
		Water level, 0% of the vertical dimension	
		Start node type, manhole, reference number : MH013	47_47_179_A.jpg
		Finish node type, manhole reference number: BR1	47_47_180_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**46**

PLR Suffix :  
**X**



Photo: 47\_47\_179\_A.jpg  
0m, Start node type, manhole, reference number : MH013

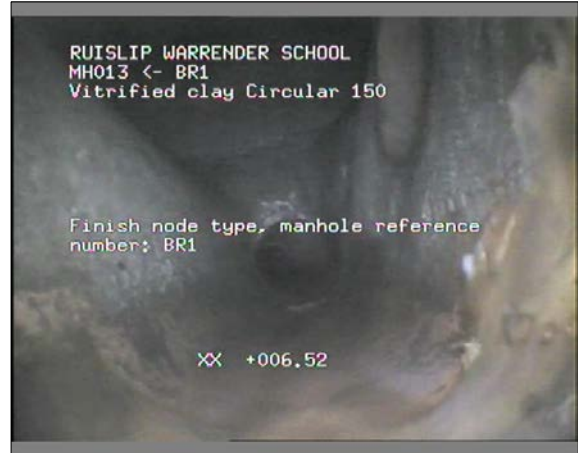


Photo: 47\_47\_180\_A.jpg  
6.52m, Finish node type, manhole reference number: BR1

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>47</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH014 (U/S) BR1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR1 MH014</b>
Use: Year laid : Purpose : Total length :	<b>Surface water Sample survey to determine asset condition 10.09 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:90	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH014	48_48_182_A.jpg
	10.09	Joint displaced, medium	48_48_183_A.jpg
	10.09	Survey abandoned	48_48_184_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**47**

PLR Suffix :  
**X**



Photo: 48\_48\_182\_A.jpg  
0m, Start node type, manhole, reference number : MH014



Photo: 48\_48\_183\_A.jpg  
10.09m, Joint displaced, medium



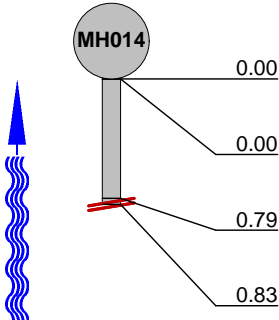
Photo: 48\_48\_184\_A.jpg  
10.09m, Survey abandoned

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>48</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH014 (U/S) BR2</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>BR2</b> U/S Depth : D/S MH : <b>MH014</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Surface water</b>  <b>Sample survey to determine asset condition</b> <b>0.83 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b> 

Comment :

1:50	Position	Observation	Photo						
		Water level, 0% of the vertical dimension							
	0.00	Start node type, manhole, reference number : MH014	49_49_186_A.jpg						
	0.79	Water level, 20% of the vertical dimension							
	0.83	Survey abandoned	49_49_188_A.jpg						
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1



### Inspection pictures

Place : <b>RUISLIP</b>	Road : <b>WARRENDER SCHOOL</b>	Date : <b>12/12/2016</b>	Section number : <b>48</b>	PLR Suffix : <b>X</b>
---------------------------	-----------------------------------	-----------------------------	-------------------------------	--------------------------



Photo: 49\_49\_186\_A.jpg  
0m, Start node type, manhole, reference number : MH014



Photo: 49\_49\_188\_A.jpg  
0.83m, Survey abandoned

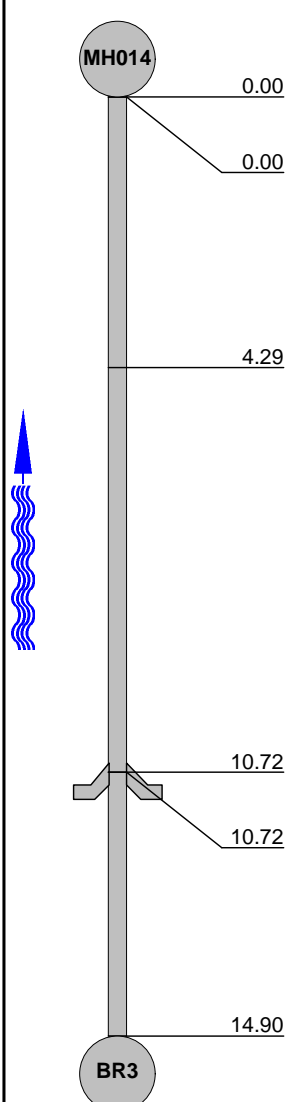
## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>49</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH014 (U/S) BR3</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR3  MH014</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 14.90 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:120	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH014	50_50_190_A.jpg
	4.29	Line deviates right	50_50_191_A.jpg
	10.72	Junction, at 3 o'clock, diameter 100mm	50_50_192_A.jpg
	10.72	Junction, at 9 o'clock, diameter 100mm	50_50_193_A.jpg
	14.90	Finish node type, manhole reference number: BR3	50_50_194_A.jpg



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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**49**

 PLR Suffix :  
**X**


Photo: 50\_50\_190\_A.jpg  
 0m, Start node type, manhole, reference number : MH014



Photo: 50\_50\_191\_A.jpg  
 4.29m, Line deviates right



Photo: 50\_50\_192\_A.jpg  
 10.72m, Junction, at 3 o'clock, diameter 100mm



Photo: 50\_50\_193\_A.jpg  
 10.72m, Junction, at 9 o'clock, diameter 100mm

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**12/12/2016**

 Section number :  
**49**

 PLR Suffix :  
**X**


Photo: 50\_50\_194\_A.jpg  
 14.9m, Finish node type, manhole reference number: BR3

## Inspection report

Date : <b>12/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>50</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH014 (U/S) BR4</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>BR4</b> U/S Depth : D/S MH : <b>MH014</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Surface water</b>  <b>Sample survey to determine asset condition</b> <b>10.59 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:90	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH014	51_51_196_A.jpg
	3.72	Line deviates left	
	10.59	Finish node type, major connection without manhole reference number: BR4	51_51_198_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**12/12/2016**

Section number :  
**50**

PLR Suffix :  
**X**

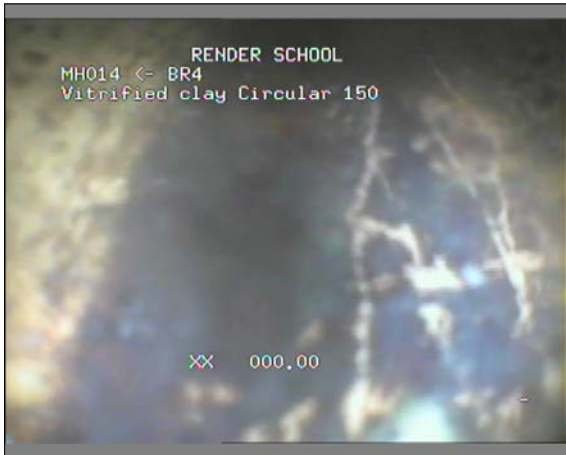


Photo: 51\_51\_196\_A.jpg  
0m, Start node type, manhole, reference number : MH014



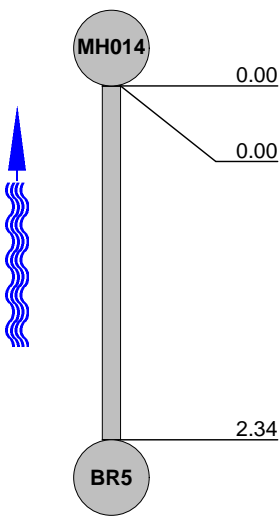
Photo: 51\_51\_198\_A.jpg  
10.59m, Finish node type, major connection without manhole  
reference number: BR4

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>51</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings MH014 (U/S) BR5</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>BR5 MH014</b>
Use: Year laid : Purpose : Total length :	<b>Surface water Sample survey to determine asset condition 2.34 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:50	Position	Observation	Photo
		Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : MH014	52_52_200_A.jpg
	2.34	Finish node type, major connection without manhole reference number: BR5	52_52_201_A.jpg

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



## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**13/12/2016**

 Section number :  
**51**

 PLR Suffix :  
**X**


Photo: 52\_52\_200\_A.jpg  
 0m, Start node type, manhole, reference number : MH014



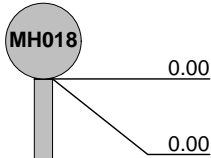
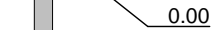
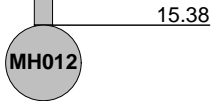
Photo: 52\_52\_201\_A.jpg  
 2.34m, Finish node type, major connection without manhole reference number: BR5

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>52</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH018 (U/S) MH012</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>MH012</b> U/S Depth : D/S MH : <b>MH018</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Surface water</b>  <b>Sample survey to determine asset condition</b> <b>15.38 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:135	Position	Observation	Photo
		Water level, 0% of the vertical dimension	53_53_202_A.jpg
		Start node type, manhole, reference number : MH018	
		Finish node type, major connection without manhole reference number: MH012	53_53_204_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**13/12/2016**

Section number :  
**52**

PLR Suffix :  
**X**

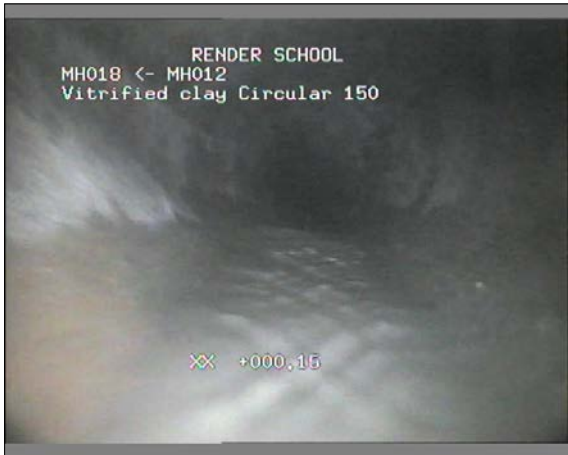


Photo: 53\_53\_202\_A.jpg  
0m, Water level, 0% of the vertical dimension



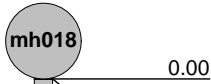


Photo: 53\_53\_204\_A.jpg  
15.38m, Finish node type, major connection without manhole reference number: MH012

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>53</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings mh018 (U/S) mh017</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>mh017  mh018</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 1.32 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:50	Position	Observation	Photo
		Water level, 0% of the vertical dimension	
		Start node type, manhole, reference number : mh018	54_54_206_A.jpg
		Finish node type, manhole reference number: mh017	54_54_207_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**13/12/2016**

Section number :  
**53**

PLR Suffix :  
**X**



Photo: 54\_54\_206\_A.jpg  
0m, Start node type, manhole, reference number : mh018



Photo: 54\_54\_207\_A.jpg  
1.32m, Finish node type, manhole reference number: mh017

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>54</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings mh018 (D/S) OSA</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>mh018  OSA</b>
Use: Year laid : Purpose : Total length :	<b>Surface water  Sample survey to determine asset condition 30.76 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:255	Position	Observation	Photo
	0.00	Water level, 0% of the vertical dimension	
	0.00	Start node type, manhole, reference number : mh018	55_55_209_A.jpg
	30.76	Finish node type, outfall reference number: OSA	55_55_210_A.jpg

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

## Inspection pictures

Place :  
**RUISLIP**

Road :  
**WARRENDER SCHOOL**

Date :  
**13/12/2016**

Section number :  
**54**

PLR Suffix :  
**X**

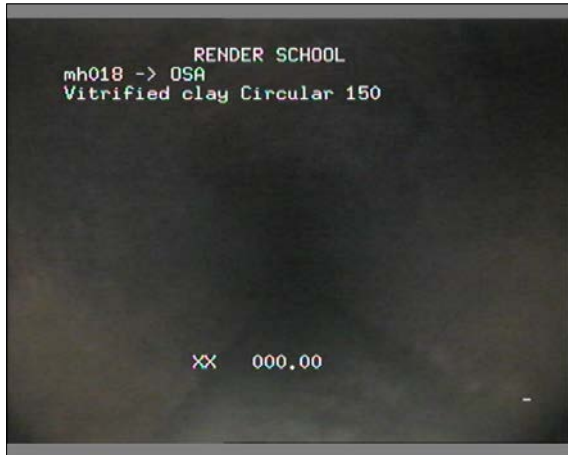


Photo: 55\_55\_209\_A.jpg  
0m, Start node type, manhole, reference number : mh018



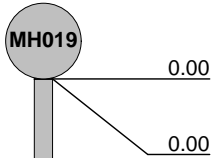
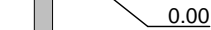
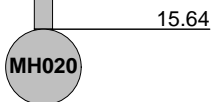
Photo: 55\_55\_210\_A.jpg  
30.76m, Finish node type, outfall reference number: OSA

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>55</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH019 (U/S) MH020</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>MH020</b> U/S Depth : D/S MH : <b>MH019</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Foul</b>  <b>Sample survey to determine asset condition</b> <b>15.64 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:135	Position	Observation	Photo
		Water level, 10% of the vertical dimension	
		Start node type, manhole, reference number : MH019	56_56_212_A.jpg
		Finish node type, outfall reference number: MH020	56_56_213_A.jpg

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



## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**13/12/2016**

 Section number :  
**55**

 PLR Suffix :  
**X**


Photo: 56\_56\_212\_A.jpg  
 0m, Start node type, manhole, reference number : MH019



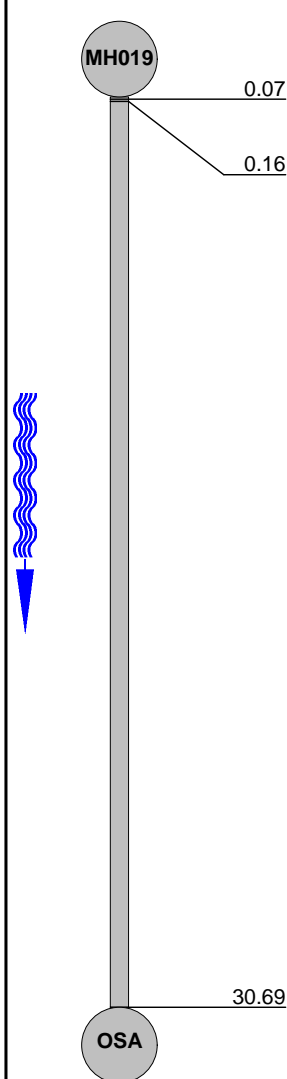
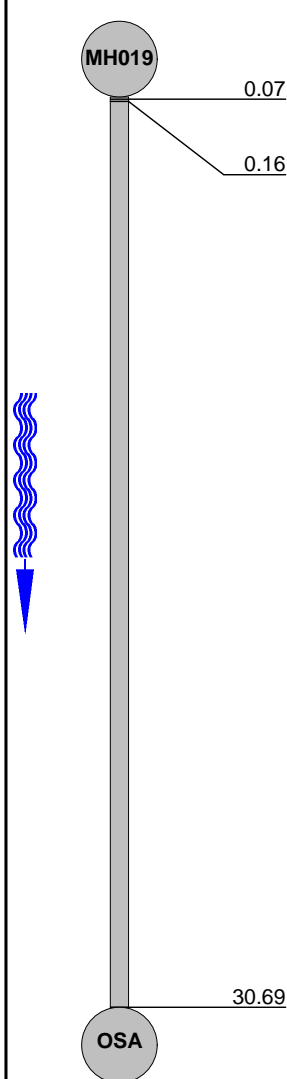
Photo: 56\_56\_213\_A.jpg  
 15.64m, Finish node type, outfall reference number: MH020

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>56</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP</b> <b>WARRENDER SCHOOL</b> <b>Property with buildings</b> <b>MH019 (D/S) OSA</b>	Location details: Catchment: Pipe Shape : <b>Circular</b> Pipe Length	U/S MH : <b>MH019</b> U/S Depth : D/S MH : <b>OSA</b> D/S Depth :
Use: Year laid : Purpose : Total length :	<b>Foul</b>  <b>Sample survey to determine asset condition</b> <b>30.69 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm</b> <b>150 mm</b> <b>Vitrified clay</b>

Comment :

1:255	Position	Observation	Photo
		Start node type, manhole, reference number : MH019  Water level, 10% of the vertical dimension	57_57_214_A.jpg
		Finish node type, outfall reference number: OSA	57_57_216_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**13/12/2016**

 Section number :  
**56**

 PLR Suffix :  
**X**


Photo: 57\_57\_214\_A.jpg  
 0.07m, Start node type, manhole, reference number : MH019



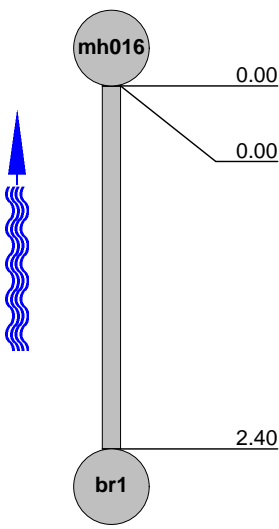
Photo: 57\_57\_216\_A.jpg  
 30.69m, Finish node type, outfall reference number: OSA

## Inspection report

Date : <b>13/12/2016</b>	Job number :	Section Type :	Operator : <b>STUART</b>	Section number : <b>57</b>	PLR SUFFIX: <b>X</b>
Weather <b>no rain or snow</b>	Vehicle :	Camera :	Preset :	Cleaned : <b>yes</b>	Type of Drain : <b>Gravity drain/sewer</b>

Place : Road : Location Inspection	<b>RUISLIP WARRENDER SCHOOL Property with buildings mh016 (U/S) br1</b>	Location details: Catchment: Pipe Shape : Pipe Length	<b>Circular</b>	U/S MH : U/S Depth : D/S MH : D/S Depth :	<b>br1 mh016</b>
Use: Year laid : Purpose : Total length :	<b>Foul  Sample survey to determine asset condition 2.40 m</b>	Pipe Width : Pipe Diameter : Pipe material : Lining :	<b>150 mm 150 mm Vitrified clay</b>		

Comment :

1:50	Position	Observation	Photo
		Water level, 0% of the vertical dimension	58_58_217_A.jpg
	0.00	Start node type, manhole, reference number : mh016	
	2.40	Finish node type, major connection without manhole reference number: br1	58_58_219_A.jpg

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

## Inspection pictures

 Place :  
**RUISLIP**

 Road :  
**WARRENDER SCHOOL**

 Date :  
**13/12/2016**

 Section number :  
**57**

 PLR Suffix :  
**X**


Photo: 58\_58\_217\_A.jpg  
 0m, Water level, 0% of the vertical dimension



Photo: 58\_58\_219\_A.jpg  
 2.4m, Finish node type, major connection without manhole  
 reference number: br1

## Report Information

This page can be edited to contain any information you feel is necessary.

A disclaimer.

Any terms and conditions

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LEGEND

	FOUL DRAINAGE
	SURFACE DRAINAGE
	COMBINED DRAINAGE
	ELECTRICITY
	ELECTRICITY HIGH VOLTAGE
	TRAFFIC SIGNALS
	OAD
	WATER
	CABLE TELEVISION
	CLOSE CIRCUIT TELEVISION
	COMMUNICATION
	BRITISH TELECOM
	COMPRESSED AIR
	OFFSET FILL-LINE
	DIL PIPE
	PIPE
	VENTILATION
	FUEL LINE
	VAPOUR RECOVERY
	GAUGE LINE
	TELEMETRY
	PIPE OFFSETS
	UNKNOWN
	OVERHEAD LINE
	HISTORICAL BY LAYER
	END OF TRACE
	DO NOT DRILL / BUNKED PIPES
	TANK - No Water Unknown
	Borehole / D/S
	Tree Pit Location
	Subsoil
	Concrete
	STANTON
	PUMP ISLAND

LEGEND

A/R	ASSUMED ROUTE	OSBM	ORDNANCE SURVEY BENCH MARK
BOLL	BOLLARD	PR	PIPE RISER
ILLU BOLL	ILLUMINIOUS BOLLARD	RR FENCE	RAIL FENCE
BH	BORERHOLE	RET WALL	RETAINING WALL
BTG	BRITISH TELECOM COVER	RS	ROAD SIGN
CBX	CONTROL BOX	RW	RAIN WATER PIPE
CF FENCE	CLOSED ROAD FENCE	S/A	SOAK AWAY
CR	CABLE RISER	SAP	SARLINO
DIV	DABLE VE	S/C	SECURITY CONNECTED
DP	DATCHIT	SEC FENCE	SECURITY FENCE
DN	CONCRETE	SEL	STOP LIGHT
DL	COVER LEVEL	ST	STOP TAP
D	DEPTH / DEEP	STN	STATION (DATUM POINT)
D/CHAN	DRAINAGE CHANNEL	SV	STOP VALVE
DP	DOWN PIPE	SVP	EDIL VENT PIPE
ED	ELECTRICITY COVER	TS	TEMPORARY BENCH MARK
EP	EARTH ROD	TOL	TREE CANOPY LEVEL
EDT	END OF TRACE	TR	TAKEN FROM RECORDS
FIL	FINISHED FLOOR LEVEL	TRR	THRESHOLD LEVEL
FIBED	FIBRE OPTIC	TL	TELEGRAPH POLE
PH	FLOWER BED	TRF	TRAFIC LIGHT
FS	FIRE SWITCH	TRP	TRIP
GV	GRASS VALVE	TRR	TRAMWAY POST & RAIL
G	GULLY	UTL	UNABLE TO LOCATE
DRUN	DRAIN RUN	UTR	UNABLE TO RAISE
HT	HEIGHT	UTS	UNABLE TO SURVEY
IC	INSPECTION COVER	UTT	UNABLE TO TRACE
IL	INVERT LEVEL	VP	VAPOUR RECOVERY
LP	LAMP POST	WD	WATER METER
MH	MANHOLE	WF	WATER FILLED CHAMBER
MTR	METER	WP	WASTE PIPE
MW	MOUNTING WELL	US	UNDERSIDE
OH	OVERHEAD	Ø	DIAMETER
DL/S	OFFSET GULLY		
OSA	OFF SURVEY AREA		

UTILITY NOTES

TOPOGRAPHICAL BASEPLAN HAS BEEN PROVIDED BY ARCADIS  
 ALL UTILITIES AND FEATURES SHOWN BY SVS HAVE BEEN ADDED TO BASEPLAN BY CREATING A SCALE HAND DRAWING ON SITE THEN TRANSFERRING TO CAD.  
 DUE TO POTENTIAL INACCURACIES THAT MAY ARISE FROM SUCH TECHNIQUES THE LOCATION OF ALL SVS DRAWN FEATURES MUST BE TREATED AS INDICATIVE AND ANY CRITICAL DIMENSIONS CONFIRMED ON SITE.

REV	DATE	DESCRIPTION
1	19-12-16	CCTV INFORMATION

**SURVEYS**  
 SITE VISION SURVEYS LIMITED  
 UTILITY | TOPOGRAPHICAL | MAPPING  
 T: 01788 575036 W: SVSLTD.NET

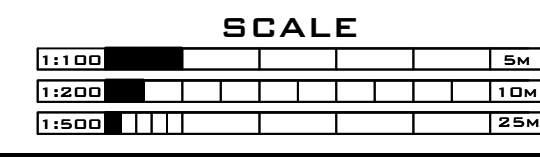
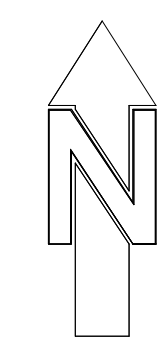
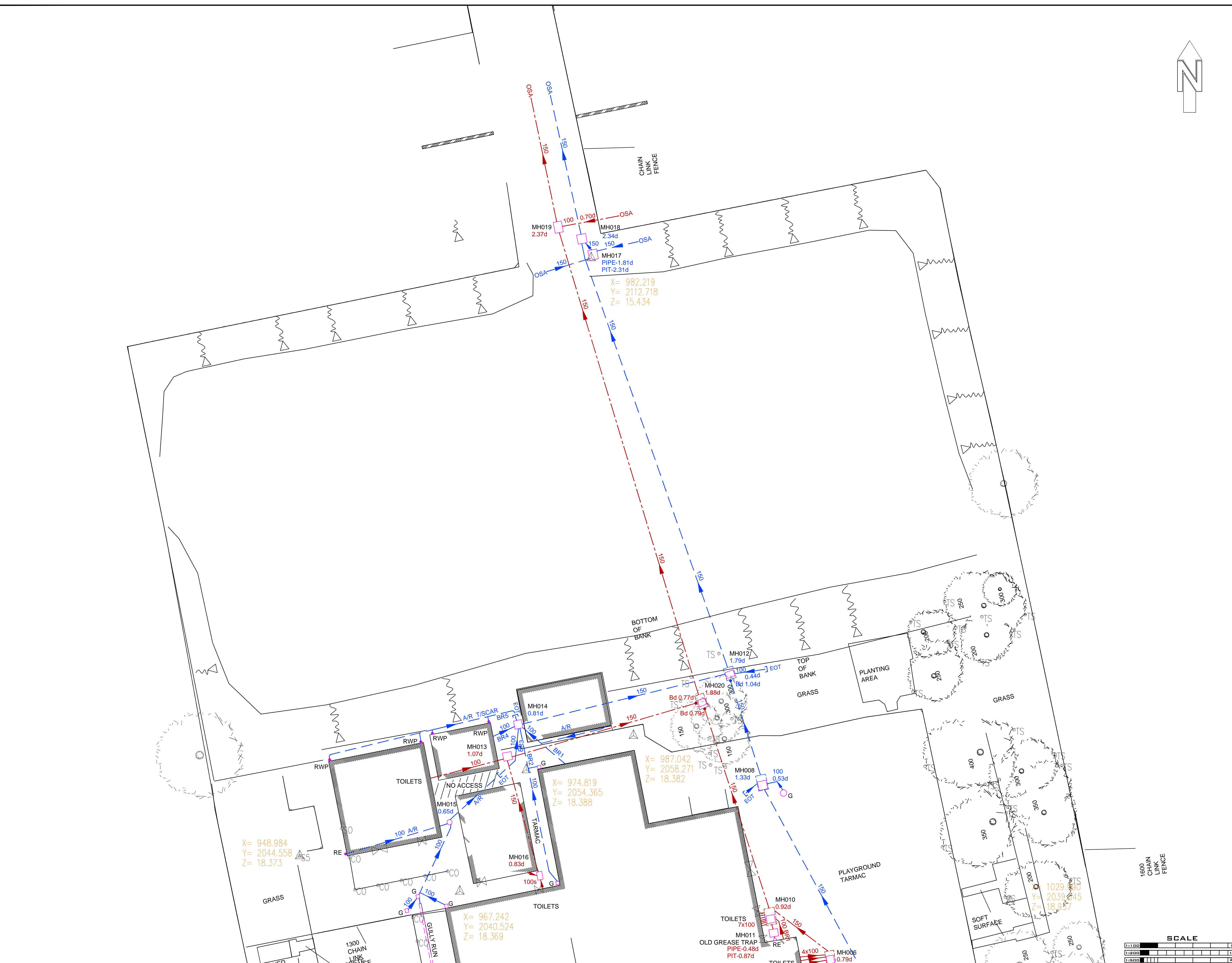
CLIENT: **ARCADIS** | Design & Consultancy for utility and civil assets

SITE LOCATION:  
**WARRENDER PRIMARY SCHOOL  
 OLD HATCH MANOR  
 RUISLIP**

DRAINAGE SURVEY

SURVEYED BY: **JS** DRAWN BY: **AW** APPROVED BY: **PC**

DRAWING NO: **1116-ARC-9960** SURVEY DATE: **21-11-16**  
 SCALE: **1:200 @A1** SHEET NO: **1 OF 2** REV: **1**



DISCLAIMER: THE LOCATION OF UNDER GROUND SERVICES SHOWN ON THIS DRAWING HAS BEEN DETERMINED USING ELECTRO-MAGNETIC (AND/OR GROUND PROBING RADAR, WHERE REQUESTED) TECHNIQUES AND VISUAL OBSERVATIONS. THE LIMITATIONS OF THIS DRAWING SHOULD BE REALISED AND NO GUARANTEE CAN BE GIVEN THAT ALL SERVICES HAVE BEEN IDENTIFIED. THIS DRAWING MAY NOT INCLUDE THE LOCATION OF ALL PUBLIC SERVICES THAT MAY CROSS THE SITE AND THEREFORE THE RELEVANT SERVICE DRAWINGS SHOULD BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY AND USED IN CONJUNCTION WITH THIS DRAWING. ADDITIONAL SERVICES, STRUCTURES OR OTHER BELOW GROUND OBSTRUCTIONS NOT INDICATED ON THIS DRAWING MAY BE PRESENT ON SITE. REFERENCE SHOULD BE MADE TO HISTORICAL PLANS AND AS BUILT DRAWINGS. EXCAVATIONS IN THE VICINITY OF SERVICES SHOULD BE CARRIED OUT WITH DUE DILIGENCE REF: HSG47 DOCUMENT "AVOIDING DANGERS FROM UNDERGROUND SERVICES". LOCATION ACCURACY IS DETERMINED BY REFERRING TO MANUFACTURERS GUIDELINES FOR THE SYSTEMS DEPLOYED. REFERENCE SHOULD BE MADE TO THE LATEST VERSION OF SVS LTD SITE PROCEDURES DOCUMENT FOR UTILITY LOCATION SURVEYS.



	FOUL DRAINAGE
	SURFACE DRAINAGE
	COMBINED DRAINAGE
	ELECTRICITY
	ELECTRICITY HIGH VOLTAGE
	TRAFFIC SIGNALS
	GAZ
	WATER
	CABLE TELEVISION
	CLOSE CIRCUIT TELEVISION
	COMMUNICATION
	BRITISH TELECOM
	COMPRESSED AIR
	OFFSET FILL-LINE
	DIL PIPE
	PIPE
	VENTILATION
	FUEL LINE
	VAPOUR RECOVERY
	GAUGE LINE
	TELEMETRY
	PIPE OFFICIS
	UNKNOWN
	OVERHEAD LINE
	HISTORICAL BY LAYER
	END OF TRACE
	Do Not Dig / Buried Pipes
	TANK - No Water Unknown
	Station
	Top PI Location
	Subsoil
	Concrete
	PUMP ISLAND

A/R	ASSUMED ROUTE	OSBM	ORDNANCE SURVEY BENCH MARK
BOLL	BOLLARD	PR	PIPE RISER
BOLL	ILLUMINIOUS BOLLARD	RF	POST & RAIL FENCE
BH	BORERHOLE	RET WALL	RETAINING WALL
BT	BRITISH TELECOM COVER	RS	ROAD SIGN
CBX	CENTRAL BOX	RW	RAIN WATER PIPE
CF	CONCRETE FENCE	S/A	SOAK AWAY
CR	CABLE RISER	SAP	SARUNG
CP	CABLE PIT	S/C	SOUND CONNECTED
CP	CATCHPIT	SEC FENCE	SECURITY FENCE
CS	CONCRETE	SEL	SEAL
DL	COVER LEVEL	SL	SPOT LIGHT
ED	DEPTH / DEEP	SP	STOP TAP
ED	DRAINAGE CHANNEL	ST	STATION (DATUM POINT)
ED	DOWN PIPE	SV	STOP VALVE
ED	EARTH ROD	SVP	SDIL VENT PIPE
EP	ELECTRICITY COVER	TM	TEMPORARY BENCH MARK
EDT	ELECTRICITY POLE	TOL	TREE CANOPY LEVEL
EDT	END OF TRACE	TR	TOP OF WALL LEVEL
FIL	FINISHED FLOOR LEVEL	TR	TAKEN FROM RECORDS
FIBED	FLOWER BED	TR	TRAFFIC LIGHT
PH	PIPE HEAD	TR	TELEGRAPH POLE
FS	FIRE SWITCH	TR	TRAM POST & RAIL
GV	BAR VALVE	TR	UNABLE TO LOCATE
G	GULLY	TR	UNABLE TO RAISE
G	GULLY RUN	TR	UNABLE TO SURVEY
GRUN	GULLY RUN	TR	UNABLE TO TRACE
HT	HEIGHT	TR	VAPOUR RECOVERY
IC	INSPECTION COVER	UT	UNABLE TO TRACE
IL	INVERT LEVEL	UT	UNABLE TO TRACE
LP	LAMP POST	UT	UNABLE TO TRACE
MH	MANHOLE	VP	VENT PIPE
MNR	MARKER	WM	WATER METER
MTR	METER	WD	WASH DUT
NW	NON-RETURNING WELL	WF	WATER FILLED CHAMBER
OH	OVERHEAD	WP	WASTE PIPE
DL	OFFSET GULLY	US	UNDERSIDE
OSA	OFF SET AREA	S	QUARTER

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REV	DATE	DESCRIPTION
1	19-12-16	CCTV INFORMATION

**SURVEYS**  
 SITE VISION SURVEYS LIMITED  
 UTILITY | TOPOGRAPHICAL | MAPPING  
 T: 01788 575036 W: SVSLTD.NET

CLIENT: **ARCADIS** Design & Consultancy for natural and built assets

SITE LOCATION:  
**WARRENDER PRIMARY SCHOOL  
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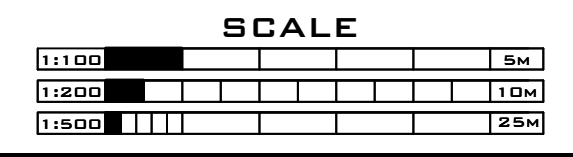
DRAINAGE SURVEY

SURVEYED BY: JS	DRAWN BY: AW	APPROVED BY: PC
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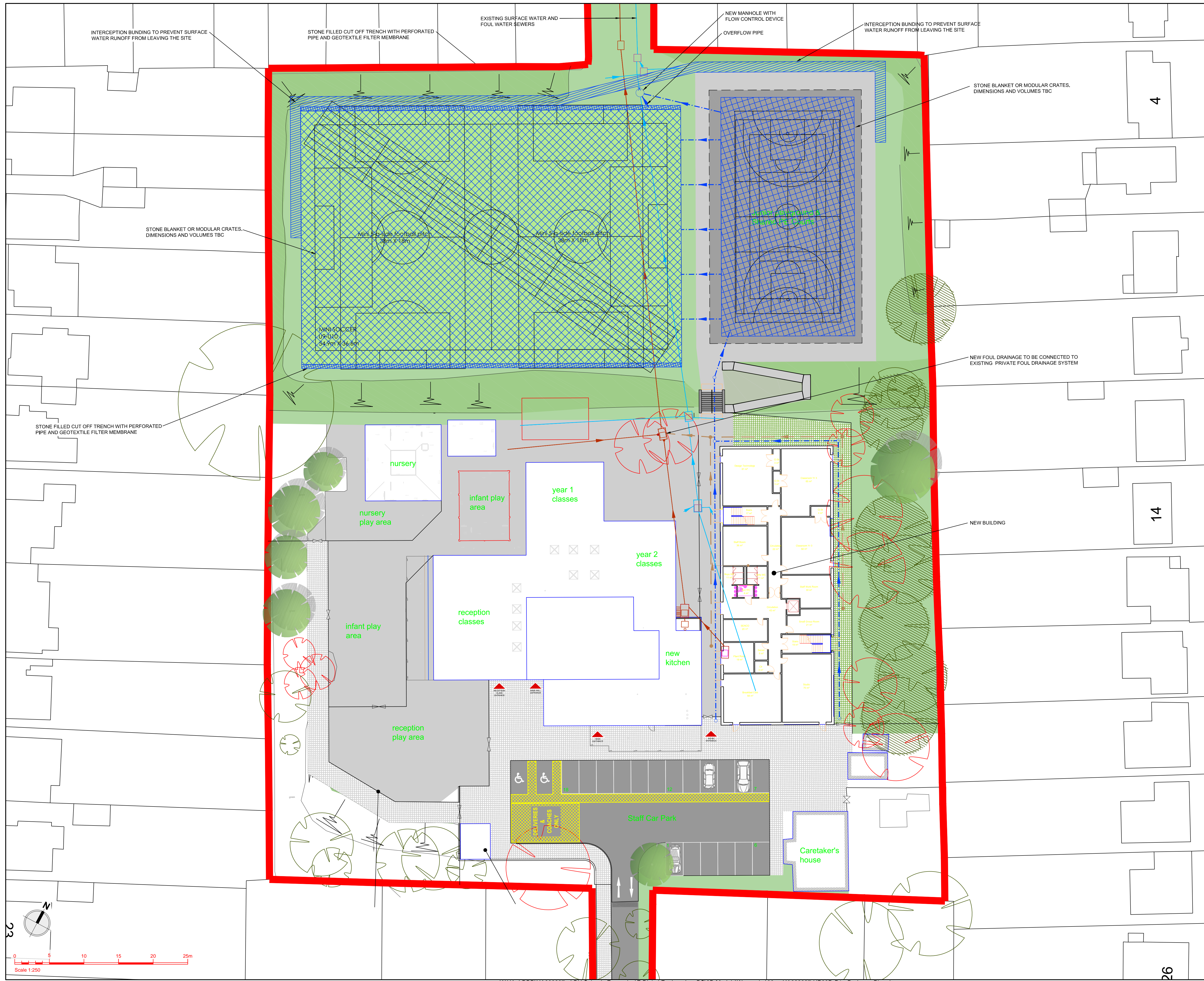
DRAWING NO: 116-ARC-9960	SURVEY DATE: 21-11-16
SCALE: 1:200 @A1	SHEET NO: 2 OF 2



DISCLAIMER: THE LOCATION OF UNDER GROUND SERVICES SHOWN ON THIS DRAWING HAS BEEN DETERMINED USING ELECTRO-MAGNETIC (AND/OR GROUND PROBING RADAR, WHERE REQUESTED) TECHNIQUES AND VISUAL OBSERVATIONS. THE LIMITATIONS OF THIS DRAWING SHOULD BE REALISED AND NO GUARANTEE CAN BE GIVEN THAT ALL SERVICES HAVE BEEN IDENTIFIED. THIS DRAWING MAY NOT INCLUDE THE LOCATION OF ALL PUBLIC SERVICES THAT MAY CROSS THE SITE AND THEREFORE THE RELEVANT SERVICE DRAWINGS SHOULD BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY AND USED IN CONJUNCTION WITH THIS DRAWING. ADDITIONAL SERVICES, STRUCTURES OR OTHER BELOW GROUND OBSTRUCTIONS NOT INDICATED ON THIS DRAWING MAY BE PRESENT ON SITE. REFERENCE SHOULD BE MADE TO HISTORICAL PLANS AND AS BUILT DRAWINGS. EXCAVATIONS IN THE VICINITY OF SERVICES SHOULD BE CARRIED OUT WITH DUE DILIGENCE REF: HSG47 DOCUMENT "AVOIDING DANGERS FROM UNDERGROUND SERVICES". LOCATION ACCURACY IS DETERMINED BY REFERRING TO MANUFACTURERS GUIDELINES FOR THE SYSTEMS DEPLOYED. REFERENCE SHOULD BE MADE TO THE LATEST VERSION OF SVS LTD SITE PROCEDURES DOCUMENT FOR UTILITY LOCATION SURVEYS.







- NOTES:**
1. THIS DRAWING IS TO BE USED FOR THE PURPOSE INTENDED ONLY.
  2. DO NOT SCALE FROM THIS DRAWING.
  3. DRAWING TO BE READ IN CONJUNCTION WITH WATERCO FRA AND DRAINAGE STRATEGY, OCTOBER 2016.
  4. DRAWING TO BE READ IN CONJUNCTION WITH LATEST ARCHITECTS PLAN.
  5. ALL PIPES SIZES, LEVELS AND STORAGE VOLUMES TO BE VALIDATED DURING DETAILED DESIGN.
  6. COVER TO PIPES TO BE MINIMUM 0.6M IN FOOTWAYS, 0.9M IN LANDSCAPED AREAS AND 1.2M IN HIGHWAYS AND PARKING AREAS.
  7. ALL SVP AND RWP LOCATIONS ARE TO BE CONFIRMED BY THE M&E ENGINEER/ARCHITECT PRIOR TO DETAILED DESIGN.
  8. ALL DRAINAGE TO BE IN ACCORDANCE WITH BUILDING REGULATIONS 2010, APPROVED DOCUMENT PART H.
  9. ALL ADOPTED DRAINAGE TO BE IN ACCORDANCE WITH SEWERS FOR ADOPTION 7TH EDITION.

- LEGEND**
- PROPOSED FOUL WATER SEWER
  - - - - - PROPOSED SURFACE WATER SEWER
  - - - - - EXISTING SURFACE SEWER
  - - - - - EXISTING FOUL SEWER

THIS DRAWING IS FOR INFORMATION ONLY AND IS UNVERIFIED.  
NOT TO BE USED FOR PRICING

Rev	Date	Description	Drawn	Check	Approv
P3	01FEB17	NOTES AMENDED/ADDED			TB
P2	27JAN17	NOTES AMENDED/ADDED			TB
P1	13JAN17	PRELIMINARY ISSUE			TB

**Client**  
London Borough of Hillingdon Council

**PROJECT:**  
Extra Form of Entry Expansions

**Site**  
Warrender Primary School

**Client**  
London Borough of Hillingdon Council

**Phone**  
Fax  
www.hillingdon.gov.uk

**ARCADIS** Design & Consultancy for natural and built assets

Registered office: Arcadis House, 34 York Way, London, N1 9AB  
Coordinating office: The Surrey Research Park, 10 Medaware Road, Guildford GU2 7AR  
Tel: 44 (0)1483 803 000  
www.arcadis.com

**TITLE:**  
WARRENDER PROPOSED DRAINAGE STRATEGY

Designed	M. JOHNSON	Signed	DATE	13JAN17
Drawn	T. BAKER	Signed	DATE	13JAN17
Checked		Signed	DATE	13JAN17
Approved		Signed	DATE	13JAN17
Scale:	1:250	Datum:	AOD	
Original Size:	A1	Grid:	OS	
Suitability Code:	A	Project Number:	UA008678	

Suitability Description:  
**FOR CONSTRUCTION**

Drawing Number:	UA008937-UP33-P1	Revision:	P3
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