



DRAINAGE SOLUTIONS LTD

CCTV Inspection Report

**HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE**

**16/10/2023**

**Approved By: S. OAKES**  
**Job Number: SK-S 161-2023**

**SK Drainage Solutions**

31 Adams Road, Workington, Cumbria, CA14 3YS  
Tel: 01900 268189  
office@skds.ltd

## Project Information

Job Number  
**SK-S 161-2023**

Surveyed by (Operator)  
**B.HUGHES**

Base Unit  
**VJ7B51U7GO**

Date  
**16/10/2023**

### Client Details:

THOMAS ARMSTRONG CONSTRUCTION LTD  
WORKINGTON ROAD  
FLIMBY  
MARYPORT  
CA15 8AY

Client Contact Name: IAN STOREY

### Site Details:

HARRAS DYKE FARM / WHITEHAVEN GOLF  
COURSE

Site Contact Name: IAN STOREY

### Contractor Details:

SK Drainage Solutions Ltd  
31 Adams Road  
Workington  
Cumbria  
CA14 3YS

Office Contact Name: S. OAKES  
Office Contact Number: 01900268189

### Purpose of Survey:

SURVEY REQUIRED FROM THE SITE TO THE POND AT THE GOLF COURSE

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# Report Summary

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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## Job Information

Total Distance Surveyed: **549.93 metres**  
 Engineer: **B.HUGHES**  
 Number of Surveys: **8**  
 Number of Surveys grade 4 or above: **0**

## Section 1 Overview (16/10/2023)

Manholes: **MH01 to MH01A**  
 Pipe Length: **25.32 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

## Section 2 Overview (16/10/2023)

Manholes: **MH01 to OUTFALL**  
 Pipe Length: **45.84 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **PVC**  
 Pipe Size: **450mm**  
 Use: **Surface water**

## Section 3 Overview (16/10/2023)

Manholes: **MH02 to MH01B**  
 Pipe Length: **208.13 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

## Section 4 Overview (16/10/2023)

Manholes: **MH02 to MH03**  
 Pipe Length: **24.26 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

## Section 5 Overview (16/10/2023)

Manholes: **MH03 to MH04**  
 Pipe Length: **14.89 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

# Report Summary

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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## Section 6 Overview (16/10/2023)

Manholes: **MH04 to MH05**  
 Pipe Length: **76.37 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

## Section 7 Overview (16/10/2023)

Manholes: **MH08 to MH07**  
 Pipe Length: **77.94 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

## Section 8 Overview (16/10/2023)

Manholes: **MH01A to MH01B**  
 Pipe Length: **77.18 metres**  
 Structural Grade: **0**  
 Service Grade: **0**  
 Material: **Concrete**  
 Pipe Size: **300mm**  
 Use: **Surface water**

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH01A X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>1</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH01</b> End Node <b>MH01A</b> Total length <b>25.32 metres</b>		

Scale **1:1.33**  
Direction **Upstream**

Start Node Ref:MH01 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH01	8663609	Comment / 0
0.00	WL	Water level 0% height/diameter	8663611	Comment / 0
				
25.32	SA	Survey abandoned - Remark: UNABLE TO PASS	8663759	Comment / 0

End Node Ref:MH01A | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH01



Water level 0% height/diameter



Survey abandoned - Remark: UNABLE TO PASS

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH01 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>2</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>450mm</b> Material <b>PVC</b> Category	Start Node <b>MH01</b> End Node <b>OUTFALL</b> Total length <b>45.84 metres</b>		

Scale **1:2.41**  
Direction **Downstream**

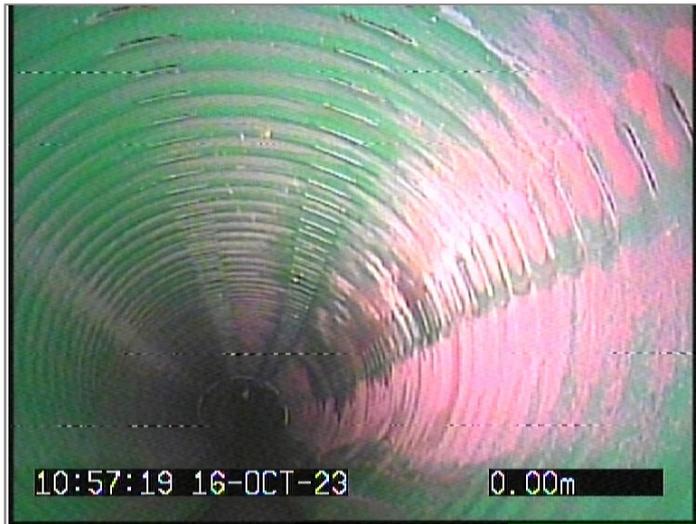
Start Node Ref:MH01 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH01	8663857	Comment / 0
0.00	WL	Water level 0% height/diameter	8663858	Comment / 0
				
45.84	OFF	Finish node type, outfall, reference OUTFALL	8663942	Comment / 0

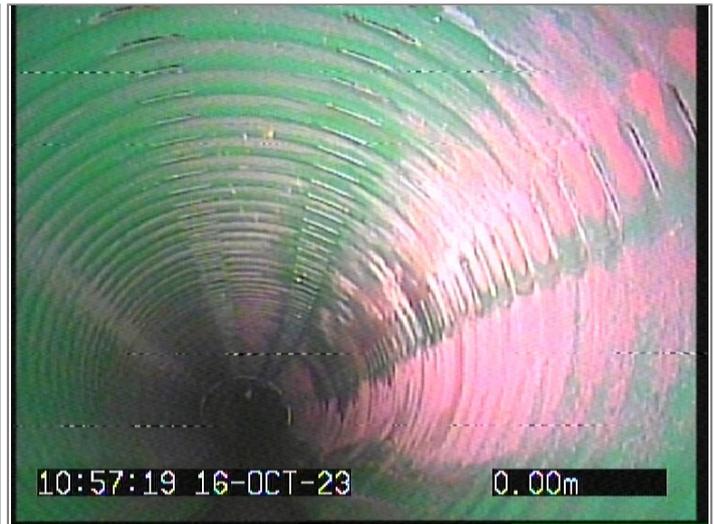
End Node Ref:OUTFALL | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH01



Water level 0% height/diameter



Finish node type, outfall, reference OUTFALL

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH02 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>3</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH02</b> End Node <b>MH01B</b> Total length <b>208.13 metres</b>		

Scale **1:10.93**  
Direction **Downstream**

Start Node Ref:MH02 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH02	8664218	Comment / 0
0.00	WL	Water level 5% height/diameter	8664220	Comment / 0
				
208.13	MHF	Finish node type, manhole, reference MH01A	8664821	Comment / 0

End Node Ref:MH01B | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH02



Water level 5% height/diameter



Finish node type, manhole, reference MH01A

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH03 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>4</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH02</b> End Node <b>MH03</b> Total length <b>24.26 metres</b>		

Scale **1:1.27**  
Direction **Upstream**

Start Node Ref:MH02 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH02	8665567	Comment / 0
0.00	WL	Water level 10% height/diameter	8665568	Comment / 0
				
24.26	MHF	Finish node type, manhole, reference MH03	8665577	Comment / 0

End Node Ref:MH03 | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH02



Water level 10% height/diameter



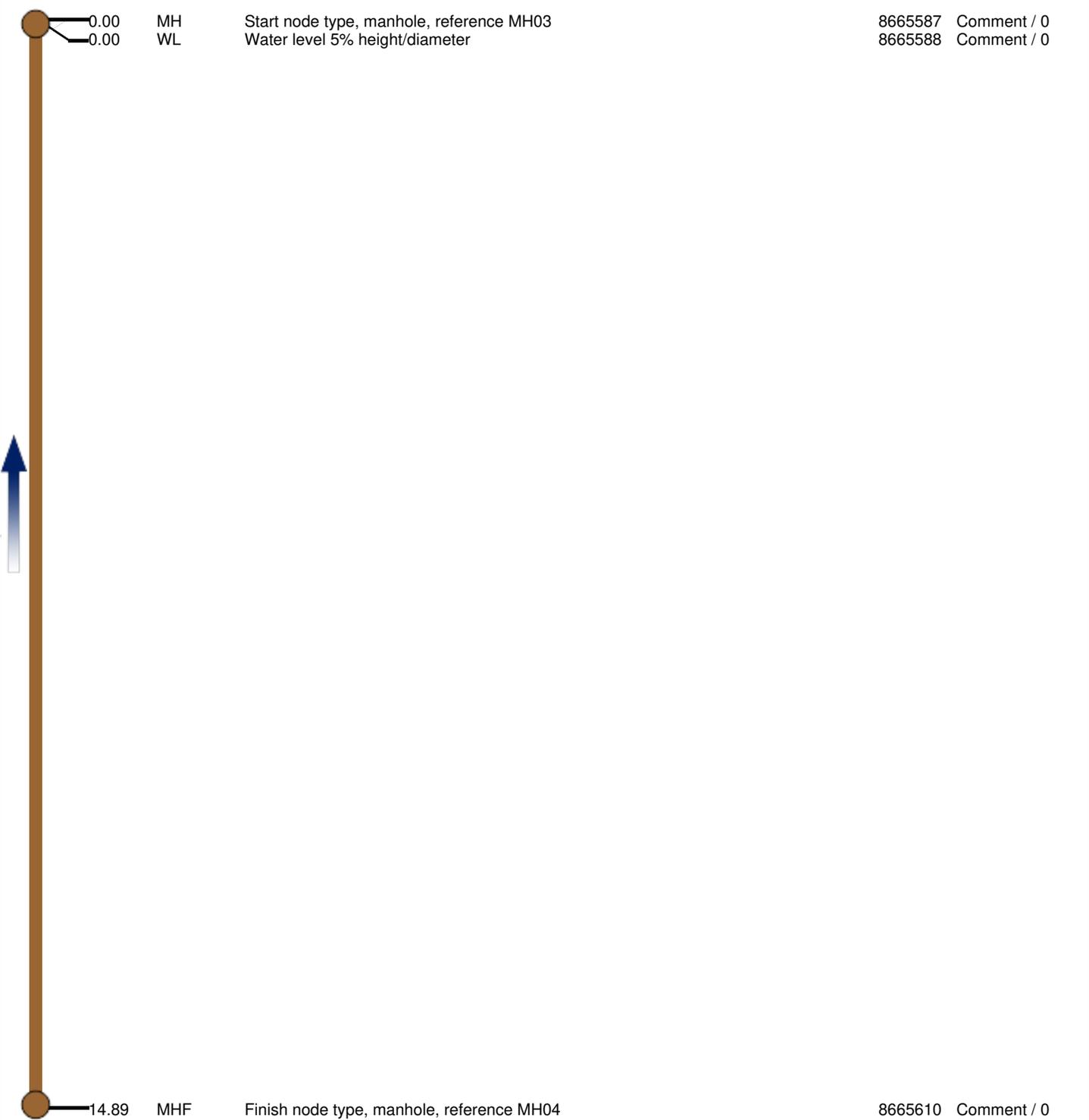
Finish node type, manhole, reference MH03

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH04 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>5</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH03</b> End Node <b>MH04</b> Total length <b>14.89 metres</b>		

Scale **1:0.78**  
Direction **Upstream**

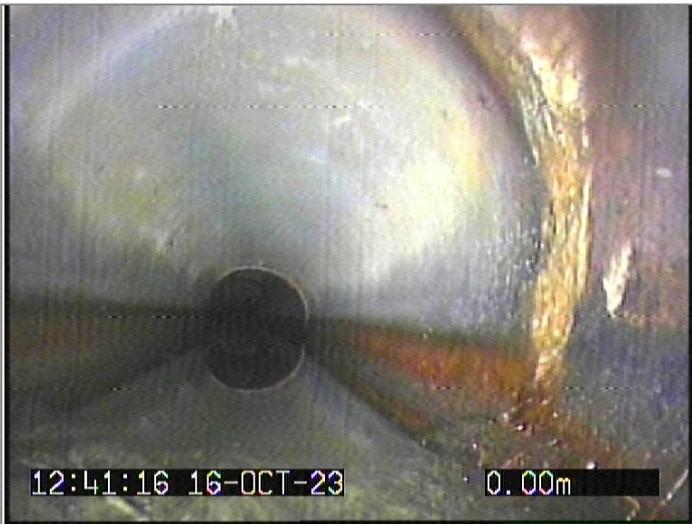
Start Node Ref:MH03 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH03	8665587	Comment / 0
0.00	WL	Water level 5% height/diameter	8665588	Comment / 0
				
14.89	MHF	Finish node type, manhole, reference MH04	8665610	Comment / 0

End Node Ref:MH04 | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH03



Water level 5% height/diameter



Finish node type, manhole, reference MH04

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH05 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>6</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH04</b> End Node <b>MH05</b> Total length <b>76.37 metres</b>		

Scale **1:4.01**  
Direction **Upstream**

Start Node Ref:MH04 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH04	8666404	Comment / 0
0.00	WL	Water level 20% height/diameter	8666409	Comment / 0
				
76.37	MHF	Finish node type, manhole, reference MH05	8666492	Comment / 0

End Node Ref:MH05 | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH04



Water level 20% height/diameter



Finish node type, manhole, reference MH05

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH08 X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>7</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH08</b> End Node <b>MH07</b> Total length <b>77.94 metres</b>		

Scale **1:4.09**  
Direction **Downstream**

Start Node Ref:MH08 | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH08	8667618	Comment / 0
0.00	WL	Water level 5% height/diameter	8667619	Comment / 0
				
73.87	WL (S1)	Water level 40% height/diameter, Start	8743045	Comment / 0
75.70	WL (F1)	Water level 40% height/diameter, Finished	8743046	Comment / 0
75.70	CUW (S2)	Loss of vision, camera under water, Start	8743047	Comment / 0
77.83	CUW (F2)	Loss of vision, camera under water, Finished	8743048	Comment / 0
77.94	SA	Survey abandoned - Remark: CAMERA UNDER WATER LOSS OF VISION CAMERA NOT MOVING	8667620	Comment / 0

End Node Ref:MH07 | I/L : metres

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH08, Water level 5% height/diameter, Water level 40% height/diameter, Start



Water level 40% height/diameter, Finished



Loss of vision, camera under water, Start



Loss of vision, camera under water, Finished



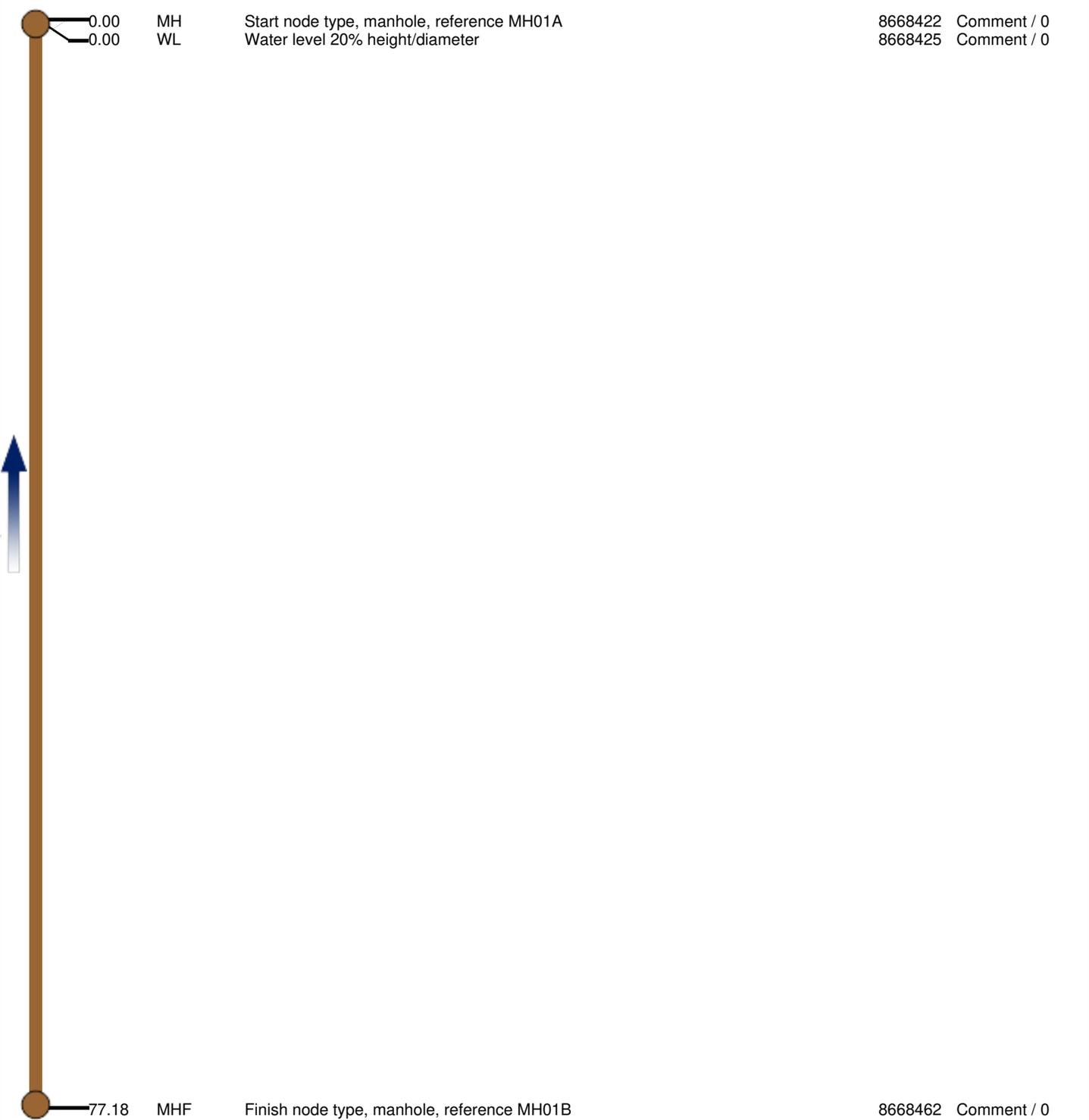
Survey abandoned - Remark: CAMERA UNDER WATER LOSS OF VISION CAMERA NOT MOVING

# CCTV Inspection Report

Surveyed by (Operator) <b>B.HUGHES</b>	Job Number <b>SK-S 161-2023</b>	Pipe Length Reference(PLR) <b>MH01B X</b>	Date <b>16/10/2023</b>	Pre Cleaned <b>Not Cleaned</b>
Weather <b>1 - Dry</b>	Customer Present	Service Grade/Structural Grade <b>0/0</b>	Base Unit <b>VJ7B51U7GO</b>	Section Number <b>8</b>
Road <b>HARRAS DYKE FARM / WHITEHAVEN GOLF COURSE</b>		Division		
Place		District		
Location		Location Details		
Purpose Duty <b>Surface water</b> Catchment	Shape/Size <b>300mm</b> Material <b>Concrete</b> Category	Start Node <b>MH01A</b> End Node <b>MH01B</b> Total length <b>77.18 metres</b>		

Scale **1:4.05**  
Direction **Upstream**

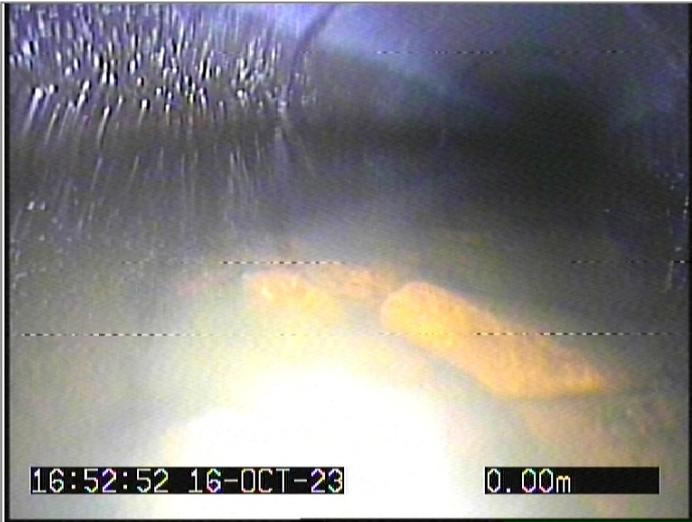
Start Node Ref:MH01A | I/L : metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH01A	8668422	Comment / 0
0.00	WL	Water level 20% height/diameter	8668425	Comment / 0
				
77.18	MHF	Finish node type, manhole, reference MH01B	8668462	Comment / 0

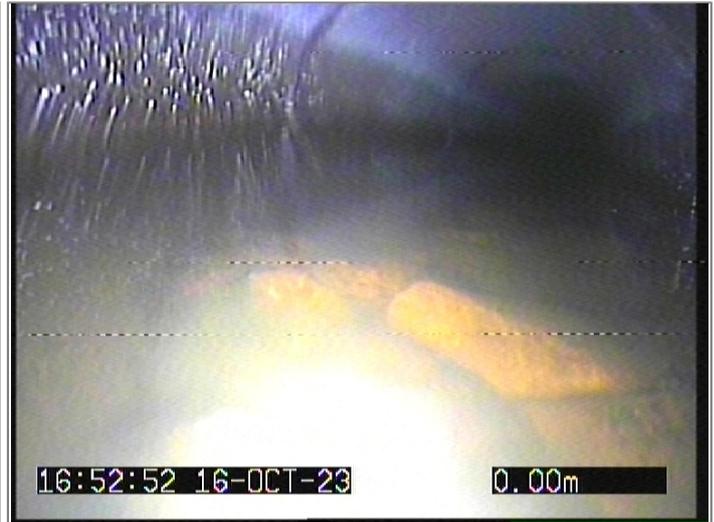
End Node Ref:MH01B | I/L : metres

# CCTV Inspection Photos

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
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Start node type, manhole, reference MH01A



Water level 20% height/diameter



Finish node type, manhole, reference MH01B

## Structural Defects (SRM 4)

Job Number <b>SK-S 161-2023</b>				Surveyed by (Operator) <b>B.HUGHES</b>			Base Unit <b>VJ7B51U7GO</b>			Date <b>16/10/2023</b>			
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	MH01A X	U	S	300	16/10/2023	Concrete	25.32 metres	25.32		0	1	0	0
2	MH01 X	D	S	450	16/10/2023	PVC	45.84 metres	45.84		0	1	0	0
3	MH02 X	D	S	300	16/10/2023	Concrete	208.13 metres	208.13		0	1	0	0
4	MH03 X	U	S	300	16/10/2023	Concrete	24.26 metres	24.26		0	1	0	0
5	MH04 X	U	S	300	16/10/2023	Concrete	14.89 metres	14.89		0	1	0	0
6	MH05 X	U	S	300	16/10/2023	Concrete	76.37 metres	76.37		0	1	0	0
7	MH08 X	D	S	300	16/10/2023	Concrete	77.94 metres	77.94		0	1	0	0
8	MH01B X	U	S	300	16/10/2023	Concrete	77.18 metres	77.18		0	1	0	0

## Service Defects (SRM 4)

Job Number <b>SK-S 161-2023</b>				Surveyed by (Operator) <b>B.HUGHES</b>			Base Unit <b>VJ7B51U7GO</b>			Date <b>16/10/2023</b>			
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	MH01A X	U	S	300	16/10/2023	Concrete	25.32 metres	25.32		0	1	0	0
2	MH01 X	D	S	450	16/10/2023	PVC	45.84 metres	45.84		0	1	0	0
3	MH02 X	D	S	300	16/10/2023	Concrete	208.13 metres	208.13		0	1	0	0
4	MH03 X	U	S	300	16/10/2023	Concrete	24.26 metres	24.26		0	1	0	0
5	MH04 X	U	S	300	16/10/2023	Concrete	14.89 metres	14.89		0	1	0	0
6	MH05 X	U	S	300	16/10/2023	Concrete	76.37 metres	76.37		0	1	0	0
7	MH08 X	D	S	300	16/10/2023	Concrete	77.94 metres	77.94		0	1	0	0
8	MH01B X	U	S	300	16/10/2023	Concrete	77.18 metres	77.18		0	1	0	0

## Defect Grade Descriptions

Job Number <b>SK-S 161-2023</b>	Surveyed by (Operator) <b>B.HUGHES</b>	Base Unit <b>VJ7B51U7GO</b>	Date <b>16/10/2023</b>
<p><b>1: Occurences without damage. For example, laterals, joints,etc.</b></p> <p><b>NO DEFECTS WERE DETECTED.</b></p>			
<p><b>2: Constructional deficiencies or occurences with insignificant influence to tightness, hydraulic or static pressure or pipe: Eg. wide joints, badly torched intakes, minor deformation of plastic pipes, minor erosions etc.</b></p> <p><b>REHABILITATION CAN BE SCHEDULED LONG-TERM.</b></p>			
<p><b>3: Constructional deficiencies diminishing static, hydraulic and tightness: Eg. untorched intakes, cracks, minor drainage obstructions such as calcite build ups, protruding laterals, minor damages to pipe wall, individual root penetrations, corroded pipe walls etc.</b></p> <p><b>REHABILITATION IS NECESSARY MEDIUM-TERM WITHIN 3 TO 5 YEARS.</b></p>			
<p><b>4: Constructional damages with insufficient static safety, hydraulic or tightness: Eg. axial/radial pipe bursts, pipe deformations, visually noticeable infiltration/exfiltration, cavities, in pipe-wall, severe protruding, laterals severe root penetrations, severe corrosion of pipe wall etc.</b></p> <p><b>REHABILITATION PROCEDURE IS URGENT AND HAS TO BE COMPLETED WITHIN 1 TO 2 YEARS. NECESSITY FOR EMERGENCY OPERATIONS HAS TO BE EXAMINED.</b></p>			
<p><b>5: Pipe is already or will shortly be impermeable: Eg. collapsed pipe, deeply rooted pipe or other drainage obstructions. Pipe loses water or danger of backwater in basements etc.</b></p> <p><b>REHABILITATION IS URGENT AND SHORT-TERM. IN ORDER TO PREVENT FURTHER DAMAGE, NECESSARY TEMPORARY SPOT REPAIR HAS TO BE CONDUCTED ON EMERGENCY LEVEL.</b></p>			