



CLEVER WORKS

CCTV DRAINAGE REPORT

2022 // PREPARED BY MIHAI ANTOCE

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INTRODUCTION



Dear reader,

This report is a sample following a real CCTV survey which we carried out. This sample only contains 1x sewer line & 1x manhole sheet. It has been designed to be simple, easy to read and quick to download.

We are not a drainage company. We are engineers working alongside plumbing & drainage experts to covert multiple requirements under one umbrella, by encompassing utility surveying, soil and site investigation, trenchless repairs, hydraulic design and drainage strategies.

We are on a mission to improve the lives of those around us, and this means helping our customers with creative and comprehensive solutions.

Every now and then, we even play our small part in helping our customers push the boundaries of engineering.

If you are developing a new-build, or simply improving an existing build, in any capacity, we can probably help.

Remember, decisions are only as good as the data behind them. The industry compliant inspection data we collect is detailed, and our factual reporting is recognised by the construction industry, local planning and flood authorities and water boards.

Sincerely
Mihai Antoce
Director
Clever Works Ltd

A handwritten signature in black ink, appearing to read 'Mihai Antoce'.



Constructionline

MANHOLE SHEET



Project ref	1001	Inspection date	01/03/22
Client	Sfyd Ltd		
Site address	The old Forge, Wenlock Rd, Lightwater, GU18 5RR		

CHAMBER

Chamber ref	MH1
Chamber invert level	1.77m
Chamber type	Manhole (demarcation)
Chamber function	Foul waste water
Chamber location	Front patio
Chamber ownership	Private (head of run)
Chamber dimensions	930mm W, 440mm L
Chamber construction	Engineering Brick
Chamber condition	Fair for age

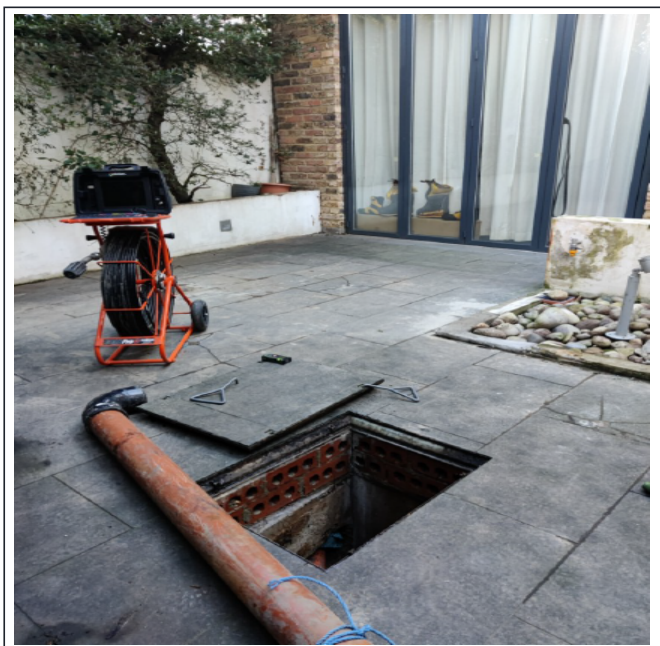
COVER

Cover condition	Good
Cover construction	Recessed
Cover dimension	675mm x 500mm
Cover duty	Heavy duty
	<input checked="" type="checkbox"/> hinged <input type="checkbox"/> locked

NOTES

- Previous records show this chamber was marked as UTL (unable to lift)
 - Chamber inspected as of 01/03/22

LOCATION PHOTO



CHAMBER PHOTO



Scoring Summary

Project Name

LT

Project Number

Project Date

Structural Defects

Grade 3: Best practice suggests consideration should be given to repairs in the medium term.

Grade 4: Best practice suggests consideration should be given to repairs to avoid a potential collapse.

Grade 5: Best practice suggests that this pipe is at risk of collapse at any time. Urgent consideration should be given to repairs to avoid total failure.

Section	PLR	Grade	Description
1	EOT (Pool)X	3	Multiple defects
6	SW1X	3	Multiple defects
7	F7X	3	Fracture, circumferential from 1 o'clock to 9 o'clock
8	F6X	4	Broken pipe from 12 o'clock to 4 o'clock
10	F4X	3	Multiple defects
12	F1X	4	Fracture, circumferential at joint from 9 o'clock to 3 o'clock
13	F1Z	3	Multiple defects

Service / Operational Condition

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

Grade 4: Best practice suggests consideration should be given to maintenance activity to avoid potential blockages.

Grade 5: Best practice suggests that this pipe is at a high risk of backing up or causing flooding.

Section	PLR	Grade	Description
1	EOT (Pool)X	4	Multiple defects
3	SWIC1X	5	Other obstacles from 3 o'clock to 9 o'clock, 50% cross-sectional area loss
6	SW1X	5	Multiple defects
8	F6X	5	Roots, mass, 55% cross-sectional area loss
10	F4X	3	Multiple defects
13	F1Z	5	Roots, mass at joint, 35% cross-sectional area loss

Abandoned Surveys

Section	PLR	Description
1	EOT (Pool)X	Survey abandoned
3	SWIC1X	Survey abandoned

Information

These scoring summaries are based on the SRM grading from the WRc.

Section Inspection - ██████████ - EOT (Pool)X

Item No. 1	Insp. No. 1	Date ██████	Time ██████	Client's Job Ref ██████	Weather No Rain Or Snow	Pre Cleaned Yes	PLR EOT (POOL)X
Operator MA		Vehicle Not Specified		Camera Solopro	Preset Length Not Specified	Legal Status Private Drain	Alternative ID 1

Town or Village: ██████	Inspection Direction: Upstream	Upstream Node: EOT (POOL)
Road: ██████████	Inspected Length: 23.42 m	Upstream Pipe Depth:
Location: Other location	Total Length: 25.00 m	Downstream Node: RE2
Surface Type: Grass	Joint Length:	Downstream Pipe Depth:
Use: Subsoil or field drainage	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 100 mm	
Flow Control: No flow control	Material: Vitrified clay	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Sample condition survey	Lining Material: No Lining	

Comments: **WEB PROJECT**
CLICK TO OPEN THIS SECTION

Recommendations: Groundworks taking place in adjacent area

Scale: 1:216	Position [m]	Code	Observation	MPEG	Photo	Grade
	Depth: m					
	RE2 0.00	RE	Start node, rodding eye, reference: RE2	00:00:00	1-1-1A	
	0.01	WL	Water level, 0% of the vertical dimension	00:00:01		
	0.75	FC	Fracture, circumferential from 7 o'clock to 1 o'clock	00:00:25	1-1-3A	3 / 2
	6.47	FC	Fracture, circumferential from 9 o'clock to 5 o'clock	00:10:53	1-1-4A	3 / 2
	12.80	JDM	Joint displaced, medium	00:10:31	1-1-5A	1 / 3
	14.50	JDM	Joint displaced, medium	00:10:25	1-1-6A	1 / 3
	15.20	JDM	Joint displaced, medium	00:10:24	1-1-7A	1 / 3
	15.59	JDL	Joint displaced, large	00:10:22	1-1-8A	1 / 4
	18.53	JDL	Joint displaced, large	00:10:10	1-1-9A	1 / 4
	19.62	JDL	Joint displaced, large	00:10:08	1-1-10A	1 / 4
	20.08	JDL	Joint displaced, large	00:02:31	1-1-11A	1 / 4
	21.00	MCZ	Pipe material changes to another material at this point: Appears to change to patch liner	00:02:46	1-1-12A	
	21.57	MCVC	Pipe material changes to vitrified clay at this point: 21.57	00:02:51	1-1-13A	
	23.42	SA	Survey abandoned: Camera unit goes underwater and loses vision	00:03:10	1-1-14A	
	25.00		End of pipe			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
9	40.0	75.2	91.0	3.0	9	5.0	23.1	28.0	5.0

Section Pictures - [REDACTED] - EOT (Pool)X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	EOT (POOL)X	[REDACTED]	



1-1-1A, 00:00:00, 0.00 m
Start node, rodding eye, reference: RE2



1-1-3A, 00:00:25, 0.75 m
Fracture, circumferential from 7 o'clock to 1 o'clock



1-1-4A, 00:10:53, 6.47 m
Fracture, circumferential from 9 o'clock to 5 o'clock



1-1-5A, 00:10:31, 12.80 m
Joint displaced, medium

Section Pictures - [REDACTED] - EOT (Pool)X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	EOT (POOL)X	[REDACTED]	



1-1-6A, 00:10:25, 14.50 m
Joint displaced, medium



1-1-7A, 00:10:24, 15.20 m
Joint displaced, medium



1-1-8A, 00:10:22, 15.59 m
Joint displaced, large



1-1-9A, 00:10:10, 18.53 m
Joint displaced, large

Section Pictures - [REDACTED] - EOT (Pool)X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	EOT (POOL)X	[REDACTED]	



1-1-10A, 00:10:08, 19.62 m
Joint displaced, large



1-1-11A, 00:02:31, 20.08 m
Joint displaced, large



1-1-12A, 00:02:46, 21.00 m
Pipe material changes to another material at this point, Appears to change to patch liner



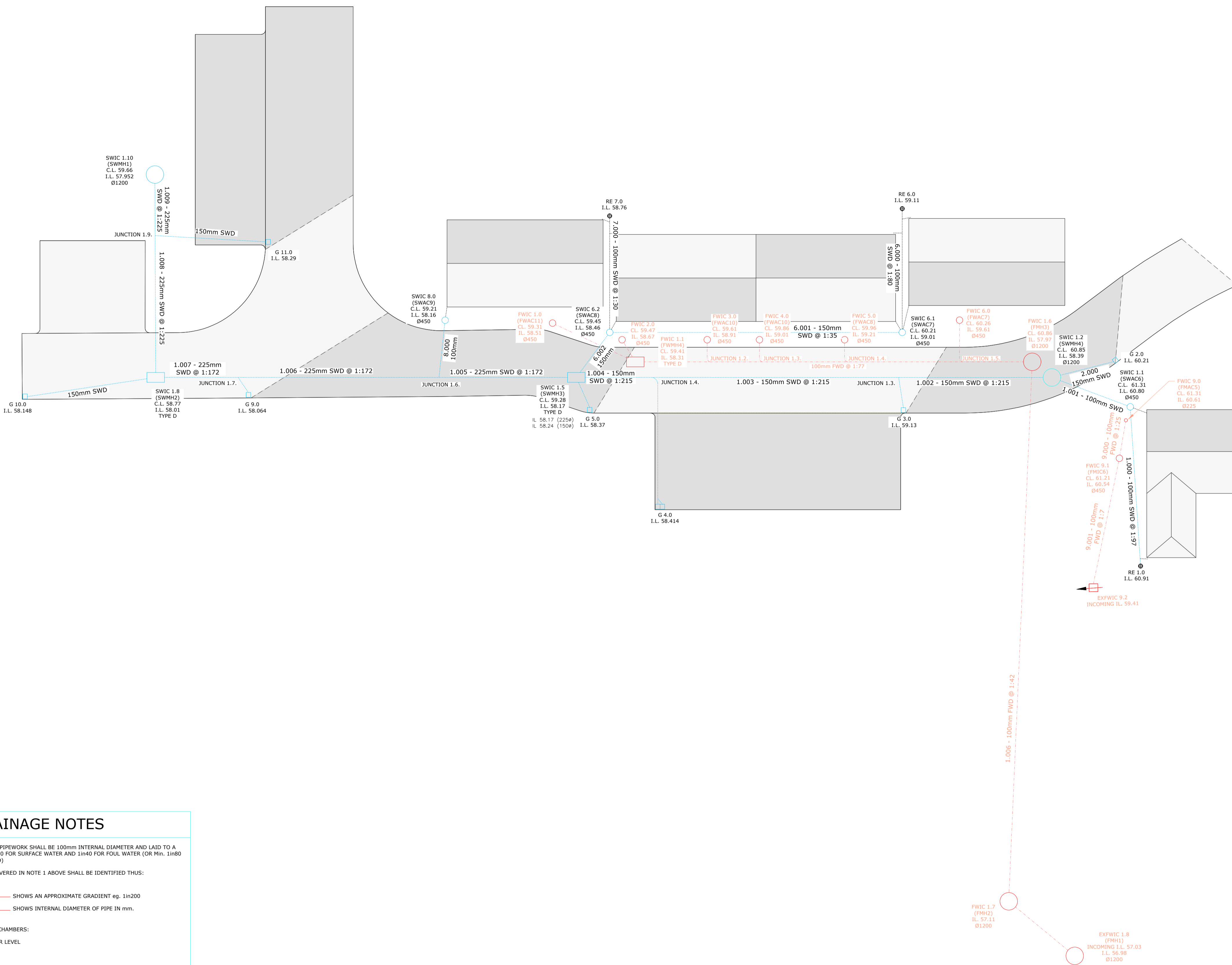
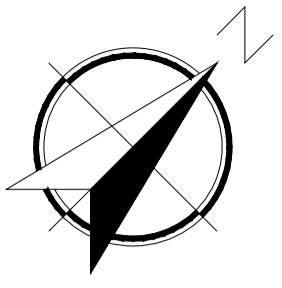
1-1-13A, 00:02:51, 21.57 m
Pipe material changes to vitrified clay at this point, 21.57

Section Pictures - [REDACTED] - EOT (Pool)X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Upstream	EOT (POOL)X	[REDACTED]	



1-1-14A, 00:03:10, 23.42 m
Survey abandoned, Camera unit goes underwater and loses vision



GENERAL DRAINAGE NOTES

- UNLESS OTHERWISE SHOWN ALL PIPEWORK SHALL BE 100mm INTERNAL DIAMETER AND LAID TO A GRADIENT NOT FLATTER THAN 1in100 FOR SURFACE WATER AND 1in40 FOR FOUL WATER (OR Min. 1in80 WHERE Min. OF 1 WC IS CONNECTED)
- PIPEWORK OTHER THAN THAT COVERED IN NOTE 1 ABOVE SHALL BE IDENTIFIED THUS:
 1.006 - 225mm SWD @ 1:200

 SHOWS AN APPROXIMATE GRADIENT eg. 1in200
 SHOWS INTERNAL DIAMETER OF PIPE IN mm.
- AT MANHOLES AND INSPECTION CHAMBERS:
 - CL.12.345 = APPROXIMATE COVER LEVEL
 - I.L.9.876 = INVERT LEVEL
 - Ø1200 = INTERNAL DIAMETER

KEY

SURFACE WATER		FOUL WATER	
	SURFACE WATER DRAIN		FOUL WATER DRAIN
	Ø1200mm MANHOLE		Ø1200mm MANHOLE
	TYPE D INSPECTION CHAMBER		TYPE D INSPECTION CHAMBER
	Ø450mm INSPECTION CHAMBER		Ø450mm INSPECTION CHAMBER
	RAINWATER DOWNPIPE LOCATION		
	ROAD GULLY (150mmØ PIPEWORK)		

- NOTES:**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELATED ARCHITECTS AND SUB-CONTRACTORS DRAWINGS.
 - DO NOT SCALE FROM THIS DRAWING.
 - ALL DIMENSIONS SHOULD BE CHECKED ON SITE.
 - CLEVERWORKS SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
 - ANY UNIDENTIFIED HAZARDS DISCOVERED DURING THE PROGRESS OF WORKS ARE TO BE REPORTED IMMEDIATELY TO THE ENGINEER
 - ANY DRAWING ERRORS OR DIVERGENCES SHOULD BE BROUGHT TO THE ATTENTION OF KLEVERWORKS IMMEDIATELY.
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH HAYDN EVANS CONSULTING DRAWING NO. 113-042-03, 113-042-04 AND IS BASED ON EXTERNAL WORKS LAYOUT DWG. NO. 1922-01.

LEGEND:

FWIC	FOUL WATER INSPECTION CHAMBER
SWIC	SURFACE WATER INSPECTION CHAMBER
FWD	FOUL WATER DRAIN
SWD	SURFACE WATER DRAIN
IC	INSPECTION CHAMBER
CL	COVER LEVEL
IL	INVERT LEVEL

0	19.04.22	FIRST ISSUE	MA	CC
REV:	DATE:	DESCRIPTION:	DRAWN:	CHECKED:

FOR INFORMATION

T: 020 8123 6381
 contact@clever-works.co.uk
 www.clever-works.co.uk

CLIENT:
 PROJECT AND DRAWING TITLE:

SCALE:	PAPER SIZE:	DATE:	DRAWN:	CHECKED:
1:150	A1	19.04.22	MA	CC
DRAWING NO:	CWK-HEN-D-001-DHC			REVISION:
				0

CLEVER
WORKS

CONTACT US

020 8123 6381
07551 555 901

HELLO@CLEVER-WORKS.CO.UK
CLEVER-WORKS.CO.UK