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Document name: 19310-EDGE-XX-XX-CO-C-0003_DRAINAGE VERIFICATION AND MAINTENANCE[P01]

01 October 2025

Sam Calverley

Persimmon Homes Lancashire
Persimmon House
Lancaster Business Park
Caton Road
Lancaster
LA1 3RQ

Dear Sam,

Re: 19310 – VERIFICATION REPORT & OPERATION AND MAINTENANCE PLAN FOR SURFACE WATER DRAINAGE SYSTEM

1. INTRODUCTION

This document has been prepared to discharge condition 11 of approval 3/2019/1104 relating to the verification of the sustainable drainage system (SuDS) and the provision of an Operation and Maintenance (O&M) Plan for the lifetime of the development.

The development comprises 58 residential dwellings with open space, drainage infrastructure, and associated highways on land off Hawthorne Farm, Hawthorne Place Clitheroe BB7 2HU.

The site is located on the northern border of the urban area of Clitheroe approximately 500m north of the town centre. The site is surrounded on its south, east and western borders by existing residential dwellings with greenfield agricultural farmland to the northern boundary.

The site area extends to 1.73 ha, roughly square in shape and was previously greenfield land.

2. OVERVIEW OF APPROVED SURFACE WATER DRAINAGE SCHEME

The approved scheme consists of 58 new high quality 2 storey family homes comprising a mix no. 2, 3 and 4 bed detached, semi-detached and terraced properties, maintaining the character of the local area.

The approved surface water drainage system comprises traditional gravity sewers which coalesce into a SUDs basin/ attenuation pond prior to discharge to an existing culverted watercourse. Surface water runoff is restricted by a flow control device, namely a hydrobrake vortex control.

The rate of runoff is proposed to mimic the predeveloped Greenfield QBAR rate.

Attenuation storage is provided within the SUDs basin/ attenuation pond which contains sufficient volume to hold all storms up to and including the critical 1 in 100 year plus an additional allowance for climate change and an uplift for urban creep.

The sites runoff will then discharge to an existing ordinary watercourse (which has been enhanced) within the site boundary. The SUDs basin also offers up water quality benefits prior to discharge to the watercourse.

A linear "cutoff" drain along the sites northern boundary is installed to reduce the risk of pluvial flooding from the northern field and a granular "French" drain along the western boundary low point of the site is installed to mitigate surface water and pluvial flood risk.

The proposals are in line with LLFA and national SUDs standards, flood risk mitigation, water quality improvement policies and have been approved by Lancashire County Council as LLFA.

The drainage proposals and flood risk mitigation measures are shown in EDGE documentation:

- 19310-EDGE-XX-XX-RP-C-0001_FLOOD RISK ASSESSMENT
- 19310-EDGE-XX-XX-DR-C-C2001_DRAINAGE LAYOUT

3. VERIFICATION OF CONSTRUCTION

The construction of the surface water system has been verified by a detailed as built topographical survey undertaken by RJP Surveying Consultants Ltd and a comprehensive CCTV survey by drain doctor. The survey shows the location of all drainage infrastructure installed on the site along with its line, dimension, and level along with a national grid coordinate system detailing the sites location. The CCTV survey shows the condition of all the infrastructure post construction to the satisfaction of the adopting body. The surveys can be found in appendix A.

Site images have been captured using drone footage and this can be found in appendix B.

On review of the as built topographical survey, in comparison to the approved drainage design, we can conclude that the surface water drainage infrastructure, flow control and attenuation basin are in accordance with what was proposed, subject to minor differences based on appropriate construction tolerances.

The largest variance between the constructed infrastructure and design, is the invert level of chamber SW6, which has been constructed 38mm lower than design. This does not pose a problem as the capacity of the pipe work is slightly increased because of the additional fall in the pipe's gradient.

The pond inlet invert level (at headwall SW8) is constructed 330mm above design level however incoming pipe gradient still maintains self-cleansing velocity. The base of the pond is at the designed level ensuring the full pond capacity / volume is available for storage.

The increase in Headwall SW8 invert level is a benefit as during storm conditions the upstream piped network is not surcharged as often as if constructed to design levels. This should have a positive impact on maintenance activities and their frequency.

4. LANDSCAPE AND ECOLOGICAL INTEGRATION

The landscape scheme has been designed to ensure the development has themes which accord with the local setting. New planting consists of trees, hedges, shrub planting, climbers, bulbs, and wildflower. New tree planting includes ornamental and native species to encourage wildlife and enhance biodiversity.

Heavy standard trees are used throughout the housing proposal, including within private front gardens.

Appendix E shows the site wide landscaping proposals, and the SUDs basin/ attenuation pond landscape comprises wildflower seeding, germinal WFG9 “wetland and pond areas” to be sown at 5g/m2.

Water quality benefits of the SUDs basin/ attenuation pond are evidenced in accordance with CIRIA C753 SUDs manual chapter 26. Table 26.1 lists design methods for water quality risk management.

The simple index approach has been used and an assessment of water quality hazard and mitigation in line with the simple index approach has been provided below:

Step 1

Allocate suitable pollution hazard indices: The land use for the residential site is a mix of residential roofs with a very low hazard level, individual property drives and low traffic roads with low hazard levels, as highlighted in Table 26.2 below:

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways ¹	High	0.8 ²	0.8 ²	0.9 ²

Step 2

Select SuDs with a total pollution mitigation index equal or exceeding the pollution hazard index. The table below shows the SuDs mitigation indices for each component:

TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters			
Type of SuDS component	Mitigation indices¹		
	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4 ²	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond ⁴	0.7 ³	0.7	0.5
Wetland	0.8 ³	0.8	0.8
Proprietary treatment systems ^{5,6}	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

In line with table 26.3 above the SuDs components with an equal or higher mitigation indices than the pollution hazard level includes detention basins/ ponds so the quality of the water entering the ordinary watercourse via the pond has been appropriately treated, mitigating the pollution hazard.

5. OPERATION AND MAINTENANCE (O&M) PLAN

This maintenance plan has been produced in accordance with the developments planning approval and is delivered alongside the sites proposed drainage strategy, shown in EDGE drawing 19310-EDGE-XX-XX-DR-C-C2001_DRAINAGE LAYOUT and as represented in the as built topographical survey PH255/AS rev B by RJP.

This document has been produced to ensure all parties involved in the ongoing operation and maintenance of the drainage infrastructure and SUDs systems understand their functionality as well as the maintenance requirements.

All required inspections and tasks listed in the Maintenance Specification section of this report should comply with all relevant health and safety legislation (Health and Safety at work regulations) including the development of risk assessments for working close to or in water.

This plan is provided to support the long-term performance of the infrastructure and SUDs system to meet the design criteria to which they have been designed. Furthermore, this plan will provide a basis for costing the long-term maintenance budget and provide a working document for use on site.

The proposed drainage infrastructure will, for the most part, be adopted by the public water authority, United Utilities via a section 104 agreement (approved under UU REF 4200029565), and will be under their management and inspection regime and maintenance responsibility.

EDGE drainage layout, 19310-EDGE-XX-XX-DR-C-C2001_DRAINAGE LAYOUT highlights, in blue, and brown, the drainage elements that are adopted by UU. This includes the flow control, inlet headwall, and outlet headwall. Easements for UU to access their assets are highlighted in yellow.

Highway gullies are under Lancashire County council highways departments maintenance regime.

The SUDs Pond, the culvert, cut off drain and filter/ French drain are private and under a management companies' inspection and maintenance regime and this plan encompasses the inspection and maintenance requirement for those elements.

The Maintenance Specification will provide a guide to the management company as to what the maintenance requirements for each drainage infrastructure component and SUDs system are and how to meet them efficiently. It will also detail the frequency of the required tasks whether that be planned maintenance or reactive repairs etc.

Preventative maintenance protects the investment of the drainage infrastructure. Furthermore, frequent, and thorough maintenance will prevent long term problems, costly repairs and ensure efficient and optimum working order of the drainage infrastructure and SUDs systems.

Each component of the foul and storm water sewer network should be inspected and cleaned dependent upon its maintenance needs. The cleaning and inspection program should include sewer cleaning, CCTV inspection of pipes, visual inspection of the manhole structure and flow channels and an evaluation of the manhole and pipe condition.

This maintenance program will help identify any required repairs and the assessments may help judge the future frequency of cleaning and inspections. Effective maintenance can have a significant impact on extending the effective life of the system.

Cleaning includes water jetting to remove silt build-up and other debris within the pipes. CCTV surveys of the sewers and manhole inspections will be required to ensure the infrastructure is performing efficiently.

CCTV surveillance of the sewers will be focused on indicating leaking pipe joints, obstructions, or any excessive deposits as well as other pipe defects.

The newly constructed drainage infrastructure have been fully inspected/ surveyed prior to hand over to the management company to ensure there are no construction defects, and they have been installed in accordance with the approved plans and specifications.

The inspections should ideally be carried out monthly (and no less than 3 monthly), at the same time as other routine maintenance activities.

A maintenance schedule is provided below along with an inspection checklist template.

SuDS Component	Function	Maintenance Task	Frequency	Notes / Guidance
Surface Water Sewers (Pipes & Manholes/Chambers)	Convey runoff between SuDS features and outfalls	<ul style="list-style-type: none"> Inspect manholes/chambers for silt/debris buildup Remove litter and debris Flush/jet pipes to clear sediment 	Inspection: Annually Maintenance: As required	Access must be maintained for jetting equipment; record all jetting/repairs.
Attenuation Pond / Basin	Temporary storage of runoff; gradual discharge to downstream system	<ul style="list-style-type: none"> Inspect pond for litter, debris, silt, and erosion Cut grass and manage vegetation Remove invasive species Check inlets/outlets for blockages De-silt when sediment >25% of design capacity 	Inspections: Monthly (growing season) + after heavy rainfall De-silting: Every 5-10 years (or as required)	Follow CIRIA SuDS Manual (C753); provide safe access for plant.
Culvert	Transfers water through site	<ul style="list-style-type: none"> Inspect headwalls, grilles, and inlets/outlets Clear debris, silt, and vegetation Inspect for structural damage or erosion Inspect manholes/chambers for silt/debris buildup Remove litter and debris Flush/jet pipes to clear sediment 	Inspections: 6-monthly + after storms Maintenance: As required	Ensure free flow maintained; report defects for engineering assessment.
French Drain (stone-filled trench)	Collects and conveys shallow groundwater/runoff into system	<ul style="list-style-type: none"> Inspect trench surface for ponding, silt, or clogging Check upstream and downstream connections Remove vegetation obstructing infiltration Replenish stone or re-excavate if system fails to infiltrate effectively 	Inspections: Annually Remediation: As required (typically 10-20 years lifespan)	Monitor performance; reference CIRIA guidance on permeable surfaces.
General Site Drainage System	Whole system performance	<ul style="list-style-type: none"> Walkover inspection of site Check overland flow routes remain unobstructed Ensure signage/markers of critical drainage assets remain in place 	Annually	Particularly important where SuDS features are integrated into landscaping.

INSPECTION CHECKLIST TEMPLATE – SURFACE WATER DRAINAGE SYSTEM

For routine inspections and maintenance recording

Site Name: _____

Planning Ref: _____

Date of Inspection: _____

Inspector Name / Organisation: _____

1. GENERAL SITE DRAINAGE

- Site walkover completed – no evidence of surface ponding or blockages.
- Overland flow routes clear of obstructions.
- Drainage asset signage/markers in place and visible

Action required? Yes / No

If yes, describe: _____

2. SURFACE WATER SEWERS (PIPES & MANHOLES/CHAMBERS)

- Manholes accessible and covers intact.
- No evidence of silt/debris build-up.
- Chambers free of litter or blockages.
- No structural damage observed.

Action required? Yes / No

If yes, describe: _____

3. ATTENUATION POND / BASIN

- Inlet/outlet structures unobstructed.
- No excessive silt build-up (>25% capacity).
- Grass cut and vegetation managed.
- No evidence of erosion, scour, or burrowing animals.
- No invasive species present.

Action required? Yes / No

If yes, describe: _____

4. CULVERT

- Headwalls/grilles intact and unobstructed.
- No evidence of blockages or debris build-up.
- No scour, erosion, or damage to structure.
- Manholes accessible and covers intact.
- No evidence of silt/debris build-up.
- Chambers free of litter or blockages.
- No structural damage observed.

Action required? Yes / No

If yes, describe: _____

5. FRENCH DRAIN (STONE-FILLED TRENCH)

- Surface free from ponding or silt accumulation.
- Vegetation not obstructing infiltration.
- Connections upstream/downstream clear.

Action required? Yes / No

If yes, describe: _____

6. FOLLOW-UP ACTIONS & SIGN-OFF

Summary of issues identified:

Actions taken / recommended:

Inspector Signature: _____ Date: _____

6. CONCLUSIONS

Condition 11 of permission 3/2019/1104 states:

"11. No building hereby permitted shall be occupied until a Verification Report and Operation and Maintenance Plan for the lifetime of the development, pertaining to the surface water drainage system and prepared by a suitably competent person, has been submitted to and approved by the Local Planning Authority.

The Verification Report must demonstrate that the sustainable drainage system has been constructed as per the agreed scheme (or detail any minor variations), and contain information and evidence (including photographs) of details and locations (including national grid reference) of inlets, outlets and control structures; landscape plans; full as built drawings; information pertinent to the installation of those items identified on the critical drainage assets drawing; and, the submission of an final 'operation and maintenance manual' for the sustainable drainage scheme as constructed.

Details of appropriate operational, maintenance and access requirements for each sustainable drainage component are to be provided, with reference to published guidance, through an appropriate Operation and Maintenance Plan for the lifetime of the development as constructed. This shall include arrangements for adoption by an appropriate public body or statutory undertaker, and/or management and maintenance by a Management Company and any means of access for maintenance and easements, where applicable. Thereafter the drainage system shall be retained, managed and maintained in accordance with the approved details."

This verification report concludes that the surface water drainage system has been designed, installed, and operates in accordance with the approved specifications and relevant regulatory standards. All critical components are assessed for functionality, structural integrity, and compliance. The scheme ensures:

- That the system effectively manages surface water runoff by reducing the flow to greenfield rates using a hydrobrake flow control.
- The system mitigates risks of localized flooding by holding runoff volumes within a SUDs basin/attenuation pond and pluvial flood risk is mitigated via cutoff drains, overland flow routes, and French drains at boundaries.
- Water quality and environmental benefits are considered.

The findings demonstrate that the system is fully operational and capable of meeting its intended design performance under expected environmental conditions.

To ensure the long-term reliability and efficiency of the drainage infrastructure, an Operation and Maintenance (O&M) plan has been provided. This plan provides clear guidance on inspection routines, maintenance schedules, and response procedures, including regular clearance of debris, inspection of inlets and outlets, and timely repair of any structural or functional deficiencies.

Implementation of this plan will support consistent performance and reduce the likelihood of system failure or flood risk.

In conclusion, the verified system, supported by a robust O&M framework, offers a sustainable and resilient solution for surface water management. Continued adherence to the recommended monitoring and maintenance practices will safeguard the system's effectiveness, protect surrounding dwellings, and ensure compliance with environmental management obligations.

The drainage system is fully operational and capable of providing the design standard of protection and sustainability benefits for the lifetime of the development.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'R. Atherton', written in a cursive style.

Ryan Atherton
Team Leader – Civil

7. APPENDICES

- Appendix A: As-built drawings and CCTV survey.
- Appendix B: Drone footage.
- Appendix C: Site layout/ development proposals.
- Appendix D: Critical drainage assets information (Drainage layout).
- Appendix E: Landscape plans.



COORDINATED STATIONS

STATION	EASTING	NORTHING	LEVEL (m)
A	374219.913	442280.128	77.856
B	374304.950	442383.677	79.179
C	374354.825	442457.499	80.116

ABBREVIATIONS

AV	AIR VALVE/VENT	IC	INSPECT CHAMBER
BOL	BOLLARD	IL	INVERT LEVEL
BB	BELISHA BEACON	JKW	JAPANESE KNOTT WEED
BM	BENCH MARK	LH	LAMP HOLE
BL	BED LEVEL	LP	LAMP POST
BS	BUS STOP	NP	NAME PLATE
BT	BRITISH TELECOM	MH	MANHOLE
CL	COVER LEVEL	PS	POST/SIGN POST
DII	DILAPIDATED	PB	POST BOX
Dis	DISUSED	PX	UNKNOWN SERVICE
EL	ENKES LEVEL	RE	RODDING EYE
ELE	ELEC JUNCT. BOX	RL	RIDGE LEVEL
EP	ELECTRICITY POLE	RS	ROAD SIGN
FH	FIRE HYDRANT	ST	STOP TAP
FL	FLOOR LEVEL	TH	TRIAL HOLE
FOS	FULL OF SEDIMENT	TL	TRAFFIC LIGHT
FP	FLAG POLE	TP	TELEGRAPH POLE
G	GULLY	TV	CABLE TV BOX
GM	GAS METER	UH	UNABLE TO LIFT
GV	GAS VALVE	WM	WATER METER

SYMBOLS

	SURVEY STATION		TREE
	O\H ELEC CABLE		BENCH MARK
	O\H PHONE LINE		TRIAL PIT
	CANOPY/HEDGE		BOREHOLE

- NOTES
- A) ONLY MANHOLES AND SERVICES VISIBLE AT TIME OF SURVEY SHOWN
 - B) O/S USED AND ORIENTATED TO TRUE NORTH
 - C) LEVELS IN METRES RELATED TO G.P.S.
 - D) DRAINAGE INFORMATION TAKEN FROM LOCAL AUTHORITY RECORDS. INFORMATION MUST BE CHECKED PRIOR TO WORK COMMENCING

C	AS-BUILT UPDATED & DRAINAGE COMPLETE	AUG 2025
B	WALL LVL'S & AS-BUILT UPDATED	APRIL 2024
A	AS BUILT UPDATED	NOV 2023

Rev	Description	Date

PROPOSED DEVELOPMENT AT
HAWTHORNE PLACE, CLITHEROE

PERSIMMON HOMES

AS-BUILT SURVEY

PH255/AS	Drawn	S. FAIRHURST
	Date	AUGUST 2018
	Scale	1:500 @ A1

Surveying Consultants Ltd
LAND SURVEYORS & SITE ENGINEERS

AYREFIELD COTTAGE
AYREFIELD ROAD
ROBY MILL
UPHOLLAND
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WN8 0QP

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E-MAIL: mail@rjpsurveyors.co.uk

Project**Project Name:** 2023-06-20463 Persimmon Hawthorne Clitheroe**Project Date:** 17/07/2023**Inspection Standard:** MSCC5 Sewers & Drainage GB (SRM5 Scoring)

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Project Information

Project Name	Project Number	Project Date
2023-06-20463 Persimmon Hawthorne Clitheroe		17/07/2023

Client

Company: Persimmon Homes
Contact: Ian Sandiford
Department: Lancaster Business Park
Street: Caton Road
Town or City: Lancaster
Post Code: LA1 3RQ

**Site**

Company: Persimmon Homes
Department: The Hawthorns
Town or City: Clitheroe

Contractor

Company: DRAIN DOCTOR NW
Phone: 08000 266623



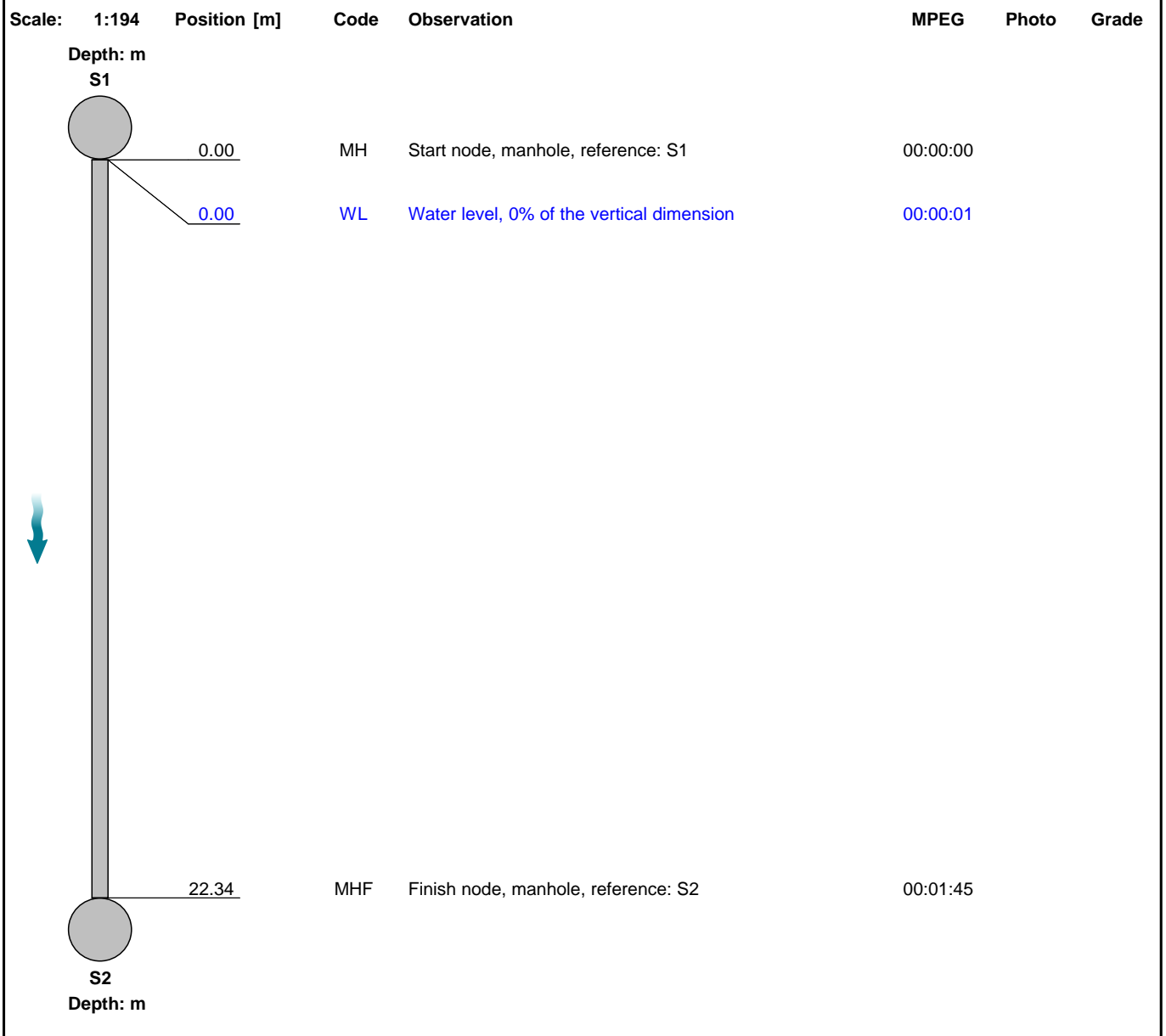
Section Inspection - 11/07/2023 - S1X

Item No. 1	Insp. No. 1	Date: 11/07/23	Time: 11:29	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S1X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S1
Road:	Inspected Length: 22.34 m	Upstream Pipe Depth:
Location:	Total Length: 22.34 m	Downstream Node: S2
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 225 mm	
Flow Control: No flow control	Material: Polyvinyl chloride	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:



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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

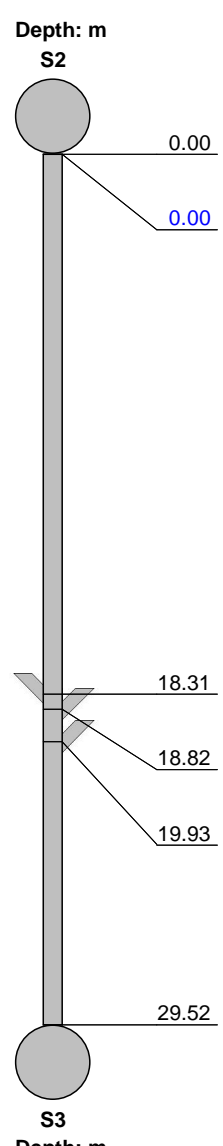
Section Inspection - 11/07/2023 - S2X

Item No. 2	Insp. No. 1	Date: 11/07/23	Time: 11:55	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S2X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S2
Road:	Inspected Length: 29.52 m	Upstream Pipe Depth:
Location:	Total Length: 29.52 m	Downstream Node: S3
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 300 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:256	Position [m]	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node, manhole, reference: S2	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension			
	18.31	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:57	S2X_ffbca 896-0bb1- 4b80-b5e5	
	18.82	CN	Connection other than junction at 11 o'clock, 150mm dia	00:00:58	S2X_8f0c8 1a6-8968- 4cf2-b07d-	
	19.93	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:02	S2X_0f3c6 b7a-adf1-4 4ce-ac15-	
	29.52	MHF	Finish node, manhole, reference: S3	00:01:26		

Construction Features

Miscellaneous Features

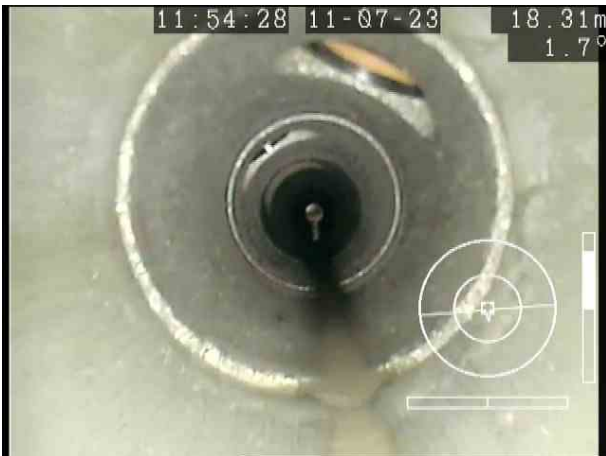
Structural Defects

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 11/07/2023 - S2X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
2	Downstream	S2X		



S2X_ffbca896-0bb1-4b80-b5e5-772db8491e15_20230717_12
 2915_899.jpg, 00:00:57, 18.31 m
 Connection other than junction at 01 o'clock, 150mm dia



S2X_8f0c81a6-8968-4cf2-b07d-1b411f1828a0_20230717_12
 2925_635.jpg, 00:00:58, 18.82 m
 Connection other than junction at 11 o'clock, 150mm dia



S2X_of3c6b7a-adf1-44ce-ac15-979ad2b0b05e_20230717_12
 2945_776.jpg, 00:01:02, 19.93 m
 Connection other than junction at 11 o'clock, 150mm dia

Section Inspection - 11/07/2023 - S3X

Item No. 3	Insp. No. 1	Date: 11/07/23	Time: 12:24	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S3X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S3
Road:	Inspected Length: 36.51 m	Upstream Pipe Depth:
Location:	Total Length: 36.51 m	Downstream Node: S4
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 300 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:317	Position [m]	Code	Observation	MPEG	Photo	Grade
<p>Depth: m S3</p>						
0.00	MH	Start node, manhole, reference: S3	00:00:00			
0.00	WL	Water level, 0% of the vertical dimension				
10.37	CN	Connection other than junction at 10 o'clock, 150mm dia	00:00:53	S3X_816e 11e9-31f4- 4a41-8603		
11.00	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:55	S3X_98c9 a4b4-a209- -4956-9b4		
23.55	CN	Connection other than junction at 02 o'clock, 150mm dia	00:01:20	S3X_ee44 44db-2ec5- -44ed-8ab		
24.40	CN	Connection other than junction at 10 o'clock, 150mm dia	00:01:22	S3X_c6c7f d8f-4725-4 563-99ff-8		
36.51	MHF	Finish node, manhole, reference: S4	00:01:49			
<p>S4 Depth: m</p>						

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 11/07/2023 - S3X

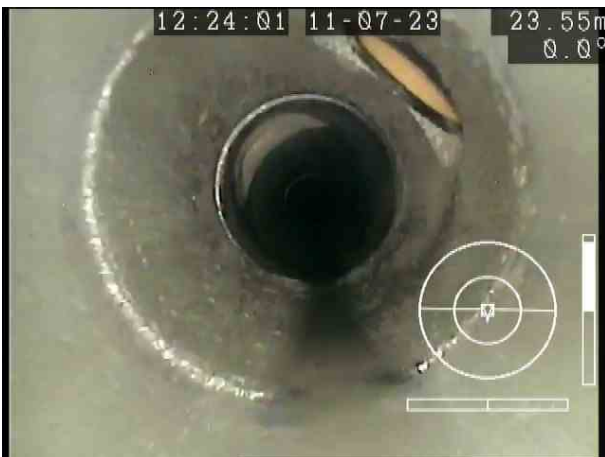
Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	S3X		



S3X_816e11e9-31f4-4a41-8603-53dc22ac2779_20230717_123231_169.jpg, 00:00:53, 10.37 m
Connection other than junction at 10 o'clock, 150mm dia



S3X_98c9a4b4-a209-4956-9b42-1767c74ca4a3_20230717_123240_424.jpg, 00:00:55, 11.00 m
Connection other than junction at 01 o'clock, 150mm dia



S3X_ee4444db-2ec5-44ed-8ab8-d22c893cef62_20230717_123258_625.jpg, 00:01:20, 23.55 m
Connection other than junction at 02 o'clock, 150mm dia



S3X_c6c7fd8f-4725-4563-99ff-85b4c7b35617_20230717_123310_143.jpg, 00:01:22, 24.40 m
Connection other than junction at 10 o'clock, 150mm dia

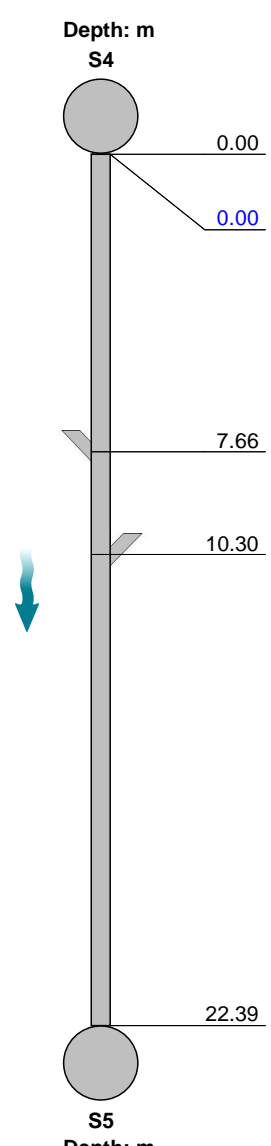
Section Inspection - 11/07/2023 - S4X

Item No. 4	Insp. No. 1	Date: 11/07/23	Time: 13:42	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S4X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S4
Road:	Inspected Length: 22.39 m	Upstream Pipe Depth:
Location:	Total Length: 22.39 m	Downstream Node: S5
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 375 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:194	Position [m]	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node, manhole, reference: S4	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension	00:00:00		
	7.66	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:29	S4X_6443 1a07-b02a -4f5f-9758-	
	10.30	CN	Connection other than junction at 10 o'clock, 150mm dia	00:00:36	S4X_3fdf9 f87-7101-4 f60-a99d-2	
	22.39	MHF	Finish node, manhole, reference: S5	00:01:06		

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

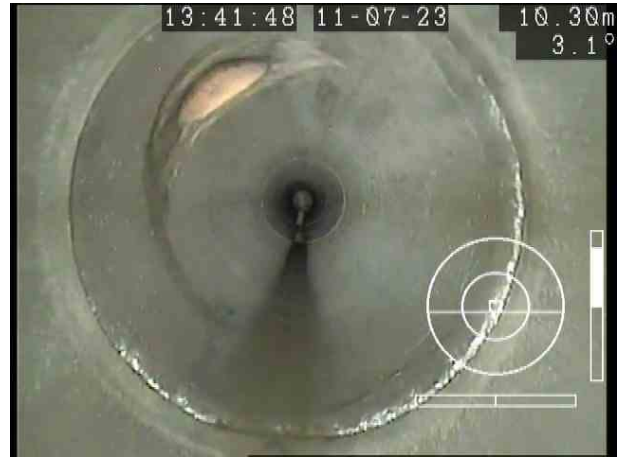
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 11/07/2023 - S4X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	S4X		



S4X_64431a07-b02a-4f5f-9758-9be73cdd54e8_20230717_123442_232.jpg, 00:00:29, 7.66 m
 Connection other than junction at 01 o'clock, 150mm dia



S4X_3fdf9f87-7101-4f60-a99d-2fdb90cd1ef5_20230717_123452_778.jpg, 00:00:36, 10.30 m
 Connection other than junction at 10 o'clock, 150mm dia

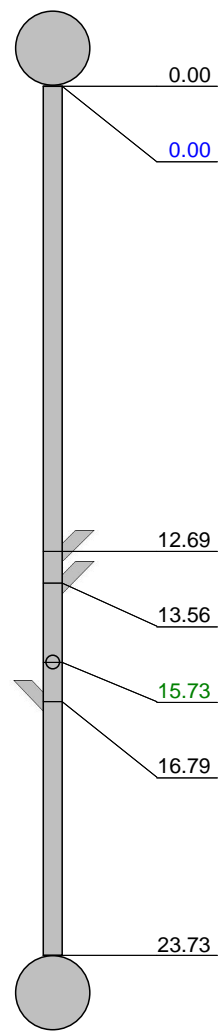
Section Inspection - 18/07/2023 - S15X

Item No. 5	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S15X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node:	S15
Road:	Inspected Length: 23.73 m	Upstream Pipe Depth:	
Location:	Total Length: 23.73 m	Downstream Node:	S5
Surface Type:	Joint Length:	Downstream Pipe Depth:	
Use: Surface water	Pipe Shape: Circular		
Type of Pipe: Gravity drain/sewer	Dia/Height: 375 mm		
Flow Control: No flow control	Material: Concrete		
Year Constructed: Not Specified	Lining Type: No Lining		
Inspection Purpose: Post completion condition survey	Lining Material: No Lining		

Comments:

Recommendations:

Scale: 1:206	Position [m]	Code	Observation	MPEG	Photo	Grade																																										
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <p>Depth: m</p> <p>S15</p>  <p>S5</p> <p>Depth: m</p> </div> <table border="1" style="margin-left: 10px;"> <tr> <td>0.00</td> <td>MH</td> <td>Start node, manhole, reference: S15</td> <td>00:00:00</td> <td></td> <td></td> </tr> <tr> <td>0.00</td> <td>WL</td> <td>Water level, 0% of the vertical dimension</td> <td>00:00:07</td> <td></td> <td></td> </tr> <tr> <td>12.69</td> <td>CN</td> <td>Connection other than junction at 10 o'clock, 150mm dia</td> <td>00:01:01</td> <td>S15X_3e7e19de-77be-4fa0-ac9</td> <td></td> </tr> <tr> <td>13.56</td> <td>CN</td> <td>Connection other than junction at 11 o'clock, 150mm dia</td> <td>00:01:03</td> <td>S15X_b453d0a2-4c1b-432a-ad</td> <td></td> </tr> <tr> <td>15.73</td> <td>CXI</td> <td>Connection defective, connecting pipe is intruding at 12 o'clock, 150mm dia, intrusion: 10%</td> <td>00:01:12</td> <td>S15X_83803eba-5f3c-427b-a5</td> <td>3</td> </tr> <tr> <td>16.79</td> <td>CN</td> <td>Connection other than junction at 01 o'clock, 150mm dia</td> <td>00:01:15</td> <td>S15X_3a217687-8e4a-422f-986</td> <td></td> </tr> <tr> <td>23.73</td> <td>MHF</td> <td>Finish node, manhole, reference: S5</td> <td>00:01:42</td> <td></td> <td></td> </tr> </table> </div>							0.00	MH	Start node, manhole, reference: S15	00:00:00			0.00	WL	Water level, 0% of the vertical dimension	00:00:07			12.69	CN	Connection other than junction at 10 o'clock, 150mm dia	00:01:01	S15X_3e7e19de-77be-4fa0-ac9		13.56	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:03	S15X_b453d0a2-4c1b-432a-ad		15.73	CXI	Connection defective, connecting pipe is intruding at 12 o'clock, 150mm dia, intrusion: 10%	00:01:12	S15X_83803eba-5f3c-427b-a5	3	16.79	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:15	S15X_3a217687-8e4a-422f-986		23.73	MHF	Finish node, manhole, reference: S5	00:01:42		
0.00	MH	Start node, manhole, reference: S15	00:00:00																																													
0.00	WL	Water level, 0% of the vertical dimension	00:00:07																																													
12.69	CN	Connection other than junction at 10 o'clock, 150mm dia	00:01:01	S15X_3e7e19de-77be-4fa0-ac9																																												
13.56	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:03	S15X_b453d0a2-4c1b-432a-ad																																												
15.73	CXI	Connection defective, connecting pipe is intruding at 12 o'clock, 150mm dia, intrusion: 10%	00:01:12	S15X_83803eba-5f3c-427b-a5	3																																											
16.79	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:15	S15X_3a217687-8e4a-422f-986																																												
23.73	MHF	Finish node, manhole, reference: S5	00:01:42																																													

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
0	0.0	0.0	0.0	1.0	1	2.0	0.1	2.0	3.0

Section Pictures - 18/07/2023 - S15X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
5	Downstream	S15X		



S15X_3e7e19de-77be-4fa0-ac92-c44a97039f94_20230719_083708_111.jpg, 00:01:01, 12.69 m
 Connection other than junction at 10 o'clock, 150mm dia



S15X_b453d0a2-4c1b-432a-ad0f-cc587732be68_20230719_083720_022.jpg, 00:01:03, 13.56 m
 Connection other than junction at 11 o'clock, 150mm dia



S15X_83803eba-5f3c-427b-a586-ab6f81f50a07_20230719_083737_463.jpg, 00:01:12, 15.73 m
 Connection defective, connecting pipe is intruding at 12 o'clock, 150mm dia, intrusion: 10%



S15X_3a217687-8e4a-422f-986b-ab51f2207361_20230719_083801_945.jpg, 00:01:15, 16.79 m
 Connection other than junction at 01 o'clock, 150mm dia

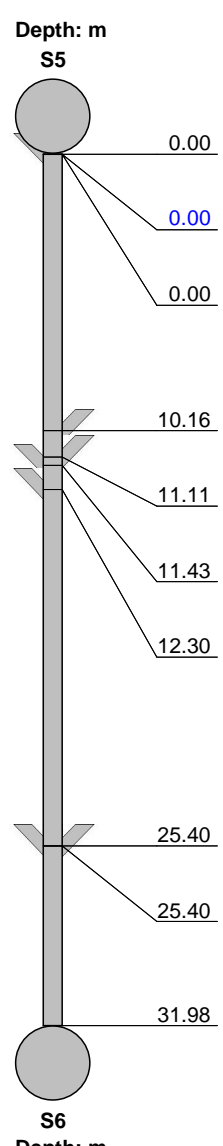
Section Inspection - 18/07/2023 - S5X

Item No. 6	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S5X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S5
Road:	Inspected Length: 31.98 m	Upstream Pipe Depth:
Location:	Total Length: 31.98 m	Downstream Node: S6
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 450 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:277	Position [m]	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node, manhole, reference: S5	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension			
	0.00	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:31		
	10.16	CN	Connection other than junction at 11 o'clock, 150mm dia	00:00:45	S5X_6948 2780-32c4 -47c2-a86	
	11.11	CN	Connection other than junction at 11 o'clock, 150mm dia	00:00:46	S5X_933e a363-1bea -4514-a18	
	11.43	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:49	S5X_464e 9282-bcda -4122-a6a	
	12.30	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:50	S5X_f910 e798-03df -476f-bd0b	
	25.40	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:31	S5X_aa5d b9e7-ef72- 4a2f-8741-	
	25.40	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:31	S5X_97b8 00b8-6e34 -46ba-a3b	
	31.98	MHF	Finish node, manhole, reference: S6	00:01:50		

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 18/07/2023 - S5X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
6	Downstream	S5X		



S5X_69482780-32c4-47c2-a862-55adb0e7964c_20230719_083845_973.jpg, 00:00:45, 10.16 m
Connection other than junction at 11 o'clock, 150mm dia



S5X_933ea363-1bea-4514-a186-d870029a2deb_20230719_083855_801.jpg, 00:00:46, 11.11 m
Connection other than junction at 11 o'clock, 150mm dia



S5X_464e9282-bcda-4122-a6a9-0c10dc12b58a_20230719_083904_800.jpg, 00:00:49, 11.43 m
Connection other than junction at 01 o'clock, 150mm dia



S5X_f910e798-03df-476f-bd0b-94fccaa5d9d2_20230719_083915_260.jpg, 00:00:50, 12.30 m
Connection other than junction at 01 o'clock, 150mm dia

Section Pictures - 18/07/2023 - S5X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
6	Downstream	S5X		



S5X_aa5db9e7-ef72-4a2f-8741-cb38c19b37ec_20230719_083947_037.jpg, 00:01:31, 25.40 m
 Connection other than junction at 01 o'clock, 150mm dia



S5X_97b800b8-6e34-46ba-a3b3-74080f5063b7_20230719_083955_518.jpg, 00:01:31, 25.40 m
 Connection other than junction at 11 o'clock, 150mm dia

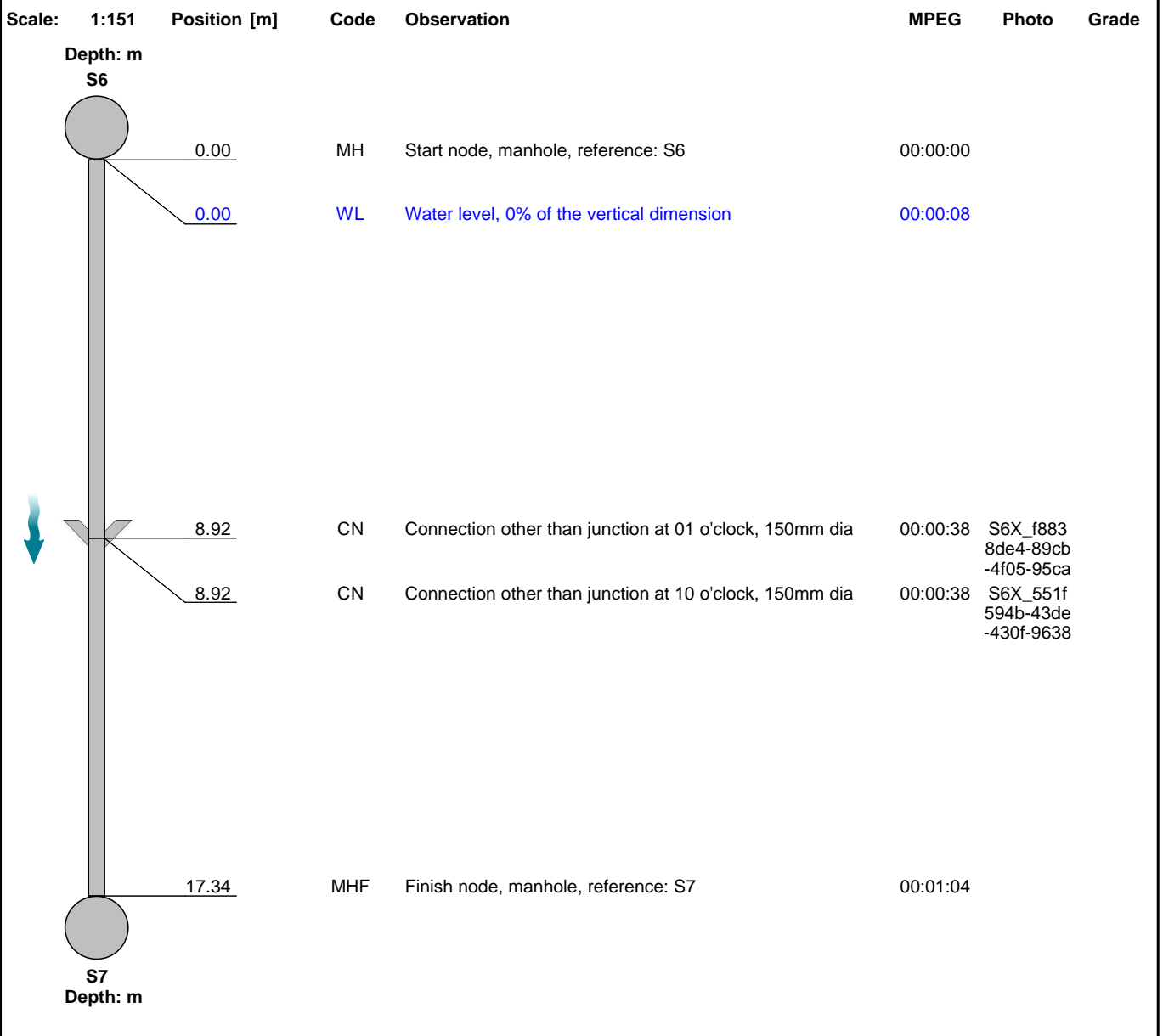
Section Inspection - 18/07/2023 - S6X

Item No. 7	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S6X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S6
Road:	Inspected Length: 17.34 m	Upstream Pipe Depth:
Location:	Total Length: 17.34 m	Downstream Node: S7
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 525 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:151	Position [m]	Code	Observation	MPEG	Photo	Grade
						
	0.00	MH	Start node, manhole, reference: S6	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension	00:00:08		
	8.92	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:38	S6X_f883 8de4-89cb -4f05-95ca	
	8.92	CN	Connection other than junction at 10 o'clock, 150mm dia	00:00:38	S6X_551f 594b-43de -430f-9638	
	17.34	MHF	Finish node, manhole, reference: S7	00:01:04		

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 18/07/2023 - S6X

Item No. 7	Inspection Direction Downstream	PLR S6X	Client's Job Ref	Contractor's Job Ref
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S6X_f8838de4-89cb-4f05-95ca-006372961c53_20230719_084033_836.jpg, 00:00:38, 8.92 m
Connection other than junction at 01 o'clock, 150mm dia



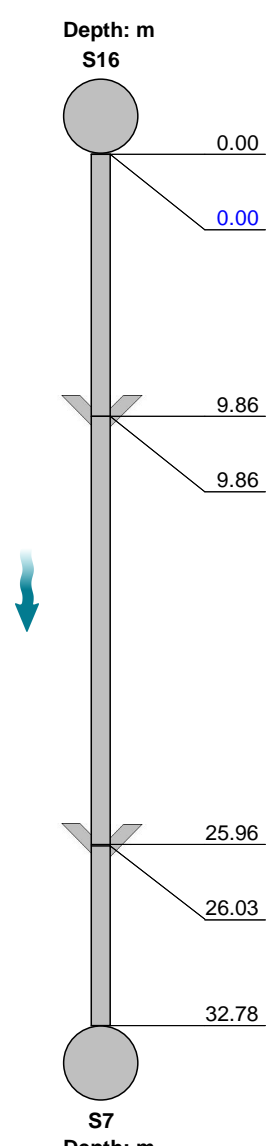
S6X_551f594b-43de-430f-9638-d64102814dd4_20230719_084042_289.jpg, 00:00:38, 8.92 m
Connection other than junction at 10 o'clock, 150mm dia

Section Inspection - 18/07/2023 - S16X

Item No. 8	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S16X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S16
Road:	Inspected Length: 32.78 m	Upstream Pipe Depth:
Location:	Total Length: 32.78 m	Downstream Node: S7
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 450 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:
Recommendations:

Scale: 1:284	Position [m]	Code	Observation	MPEG	Photo	Grade																																										
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <p>Depth: m</p> <p>S16</p>  <p>S7</p> <p>Depth: m</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">0.00</td> <td style="text-align: center;">MH</td> <td>Start node, manhole, reference: S16</td> <td style="text-align: center;">00:00:00</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">0.00</td> <td style="text-align: center;">WL</td> <td>Water level, 0% of the vertical dimension</td> <td style="text-align: center;">00:00:10</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">9.86</td> <td style="text-align: center;">CN</td> <td>Connection other than junction at 01 o'clock, 150mm dia</td> <td style="text-align: center;">00:00:42</td> <td>S16X_b40 6b9c5-526 6-463f-8d7</td> <td></td> </tr> <tr> <td style="text-align: center;">9.86</td> <td style="text-align: center;">CN</td> <td>Connection other than junction at 11 o'clock, 150mm dia</td> <td style="text-align: center;">00:00:42</td> <td>S16X_c7a 32aba-50f 1-48eb-b9</td> <td></td> </tr> <tr> <td style="text-align: center;">25.96</td> <td style="text-align: center;">CN</td> <td>Connection other than junction at 01 o'clock, 150mm dia</td> <td style="text-align: center;">00:01:33</td> <td>S16X_b6d adf70-05bf -4ba6-aeb</td> <td></td> </tr> <tr> <td style="text-align: center;">26.03</td> <td style="text-align: center;">CN</td> <td>Connection other than junction at 11 o'clock, 150mm dia</td> <td style="text-align: center;">00:01:34</td> <td>S16X_f20 7fe33-9c0 5-4af9-95d</td> <td></td> </tr> <tr> <td style="text-align: center;">32.78</td> <td style="text-align: center;">MHF</td> <td>Finish node, manhole, reference: S7</td> <td style="text-align: center;">00:01:55</td> <td></td> <td></td> </tr> </table> </div>							0.00	MH	Start node, manhole, reference: S16	00:00:00			0.00	WL	Water level, 0% of the vertical dimension	00:00:10			9.86	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:42	S16X_b40 6b9c5-526 6-463f-8d7		9.86	CN	Connection other than junction at 11 o'clock, 150mm dia	00:00:42	S16X_c7a 32aba-50f 1-48eb-b9		25.96	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:33	S16X_b6d adf70-05bf -4ba6-aeb		26.03	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:34	S16X_f20 7fe33-9c0 5-4af9-95d		32.78	MHF	Finish node, manhole, reference: S7	00:01:55		
0.00	MH	Start node, manhole, reference: S16	00:00:00																																													
0.00	WL	Water level, 0% of the vertical dimension	00:00:10																																													
9.86	CN	Connection other than junction at 01 o'clock, 150mm dia	00:00:42	S16X_b40 6b9c5-526 6-463f-8d7																																												
9.86	CN	Connection other than junction at 11 o'clock, 150mm dia	00:00:42	S16X_c7a 32aba-50f 1-48eb-b9																																												
25.96	CN	Connection other than junction at 01 o'clock, 150mm dia	00:01:33	S16X_b6d adf70-05bf -4ba6-aeb																																												
26.03	CN	Connection other than junction at 11 o'clock, 150mm dia	00:01:34	S16X_f20 7fe33-9c0 5-4af9-95d																																												
32.78	MHF	Finish node, manhole, reference: S7	00:01:55																																													

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 18/07/2023 - S16X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
8	Downstream	S16X		



S16X_b406b9c5-5266-463f-8d7f-39144229c92f_20230719_084132_259.jpg, 00:00:42, 9.86 m
 Connection other than junction at 01 o'clock, 150mm dia



S16X_c7a32aba-50f1-48eb-b9cd-40a971cfac98_20230719_084141_165.jpg, 00:00:42, 9.86 m
 Connection other than junction at 11 o'clock, 150mm dia



S16X_b6dadf70-05bf-4ba6-aeb6-a05bbb3c8f39_20230719_084200_104.jpg, 00:01:33, 25.96 m
 Connection other than junction at 01 o'clock, 150mm dia



S16X_f207fe33-9c05-4af9-95d4-4b80a2fbc68d_20230719_084225_257.jpg, 00:01:34, 26.03 m
 Connection other than junction at 11 o'clock, 150mm dia

Section Inspection - 18/07/2023 - S7X

Item No. 9	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S7X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: S7
Road:	Inspected Length: 5.05 m	Upstream Pipe Depth:
Location:	Total Length: 5.05 m	Downstream Node: S8
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 525 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:

Scale: 1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m S7	0.00	REM	General remark: DRAIN NOT INSTALLED	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension	00:00:10		
	2.83	WL	Water level, 50% of the vertical dimension	00:00:18		
	5.05	OCF	Finish node, other special chamber, reference: S8: Line boarded off	00:00:23		
S8 Depth: m						

Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

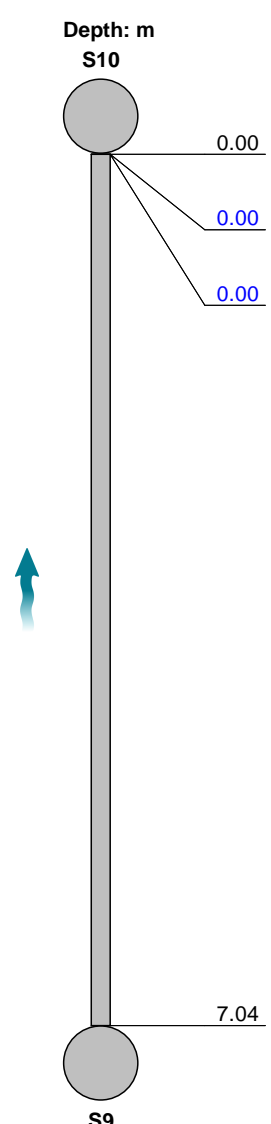
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 18/07/2023 - S9X

Item No. 10	Insp. No. 1	Date: 18/07/23	Time: 13:09	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR S9X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Upstream	Upstream Node: S9
Road:	Inspected Length: 7.04 m	Upstream Pipe Depth:
Location:	Total Length: 7.04 m	Downstream Node: S10
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Surface water	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 750 mm	
Flow Control: No flow control	Material: Concrete	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:
Recommendations:

Scale:	1:61	Position [m]	Code	Observation	MPEG	Photo	Grade																												
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> Depth: m S10  </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">0.00</td> <td style="width: 10%;">OF</td> <td style="width: 40%;">Start node, outfall, reference: S10</td> <td style="width: 10%;">00:00:00</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="color: blue;">0.00</td> <td style="color: blue;">WL</td> <td style="color: blue;">Water level, 0% of the vertical dimension</td> <td style="color: blue;">00:00:01</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="color: blue;">0.00</td> <td style="color: blue;">WL</td> <td style="color: blue;">Water level, 0% of the vertical dimension</td> <td style="color: blue;">00:00:03</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="width: 15%;">7.04</td> <td style="width: 10%;">MHF</td> <td style="width: 40%;">Finish node, manhole, reference: S9: blocked off with timber</td> <td style="width: 10%;">00:00:36</td> <td style="width: 10%;">S9X_ec43</td> <td style="width: 10%;">1df6-983c-</td> <td style="width: 5%;">4457-a810</td> </tr> </table> </div>								0.00	OF	Start node, outfall, reference: S10	00:00:00				0.00	WL	Water level, 0% of the vertical dimension	00:00:01				0.00	WL	Water level, 0% of the vertical dimension	00:00:03				7.04	MHF	Finish node, manhole, reference: S9: blocked off with timber	00:00:36	S9X_ec43	1df6-983c-	4457-a810
0.00	OF	Start node, outfall, reference: S10	00:00:00																																
0.00	WL	Water level, 0% of the vertical dimension	00:00:01																																
0.00	WL	Water level, 0% of the vertical dimension	00:00:03																																
7.04	MHF	Finish node, manhole, reference: S9: blocked off with timber	00:00:36	S9X_ec43	1df6-983c-	4457-a810																													
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																										
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0																										

Section Pictures - 18/07/2023 - S9X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
10	Upstream	S9X		



S9X_ec431df6-983c-4457-a810-7f7f1c669aa2_20230719_083516_692.jpg, 00:00:36, 7.04 m
Finish node, manhole, reference: S9, blocked off with timber

Section Pictures - 18/07/2023 - S10X

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
11	Upstream	S10X		



S10X_26fa98fc-5ad2-4dcf-b9d7-36a9c5c48fa0_20230719_083612_351.jpg, 00:00:46, 11.50 m
 Connection other than junction at 10 o'clock, 150mm dia



S10X_42a1f004-fcdd-4655-b05e-65b8c754aea6_20230719_083623_583.jpg, 00:00:48, 11.87 m
 Connection other than junction at 09 o'clock, 150mm dia

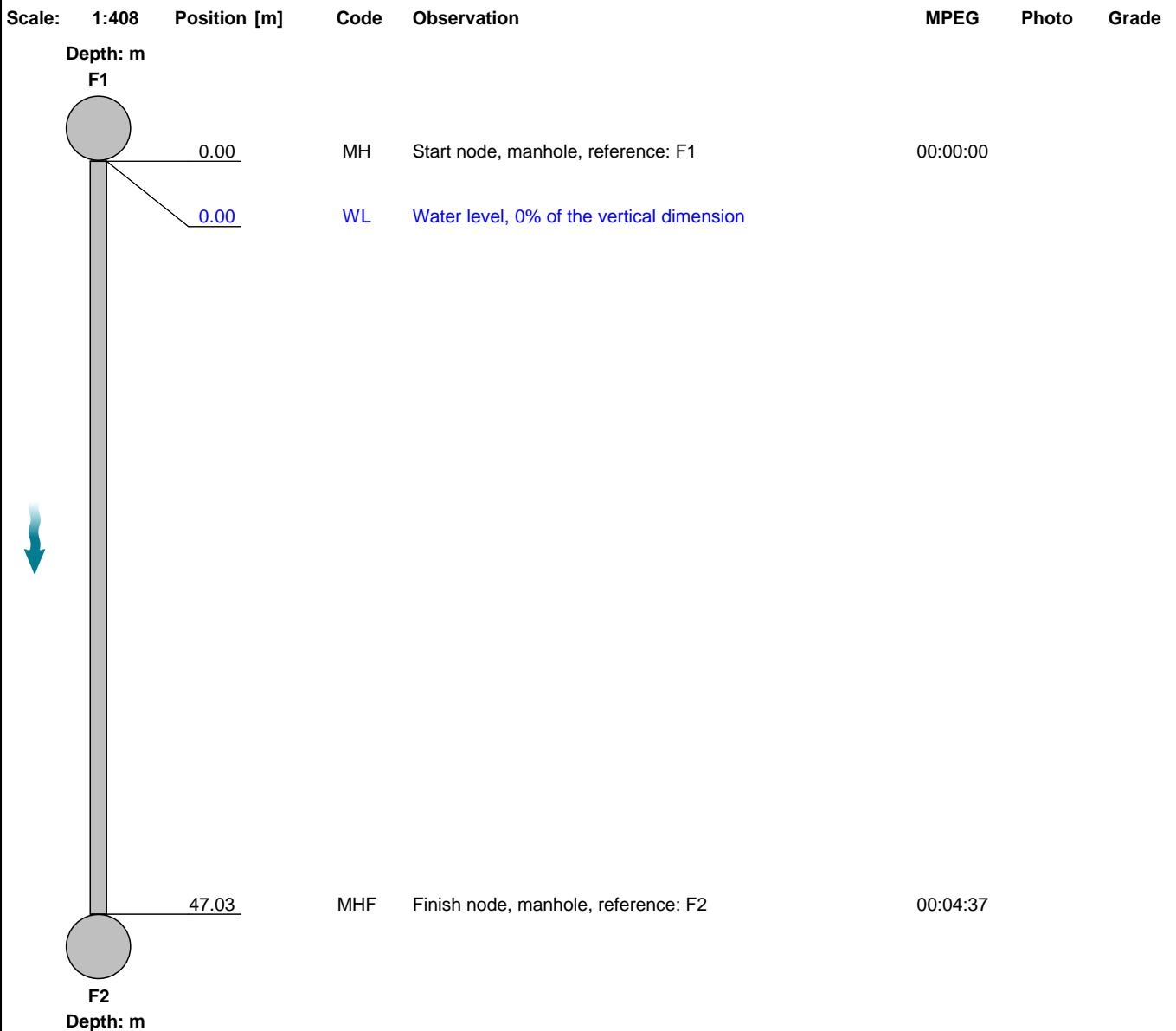
Section Inspection - 18/07/2023 - F1X

Item No. 12	Insp. No. 1	Date: 18/07/23	Time: 13:11	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR F1X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: F1
Road:	Inspected Length: 47.03 m	Upstream Pipe Depth:
Location:	Total Length: 47.03 m	Downstream Node: F2
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Foul	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 150 mm	
Flow Control: No flow control	Material: Polyvinyl chloride	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:



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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

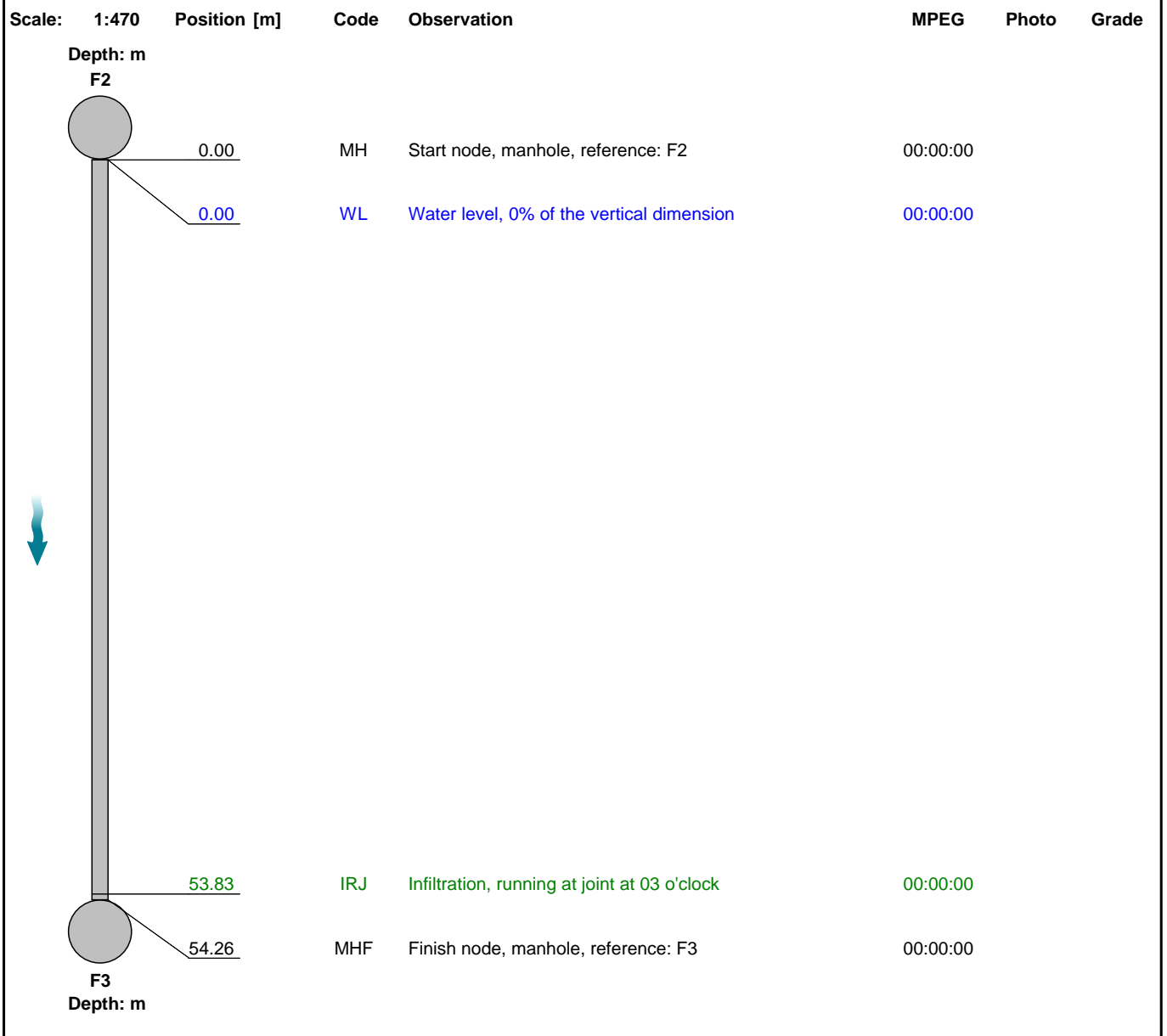
Section Inspection - 18/07/2023 - F2X

Item No. 13	Insp. No. 1	Date: 18/07/23	Time: 13:11	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR F2X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Inspection Direction: Downstream	Upstream Node: F2
Road:	Inspected Length: 54.26 m	Upstream Pipe Depth:
Location:	Total Length: 54.26 m	Downstream Node: F3
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Foul	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 150 mm	
Flow Control: No flow control	Material: Polyvinyl chloride	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:

Recommendations:



Construction Features

Miscellaneous Features

Structural Defects

Service & Operational Observations

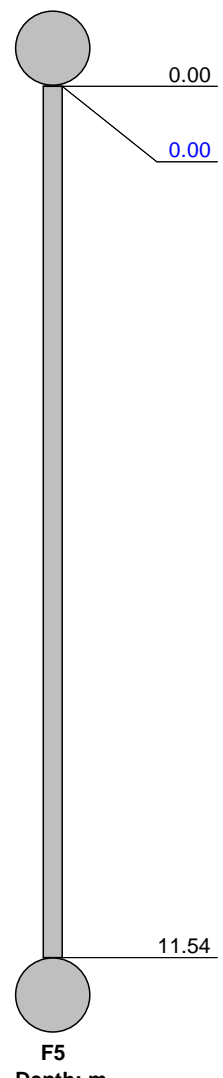
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 18/07/2023 - F4X

Item No. 14	Insp. No. 1	Date: 18/07/23	Time: 13:10	Client's Job Ref Not Specified	Weather Not Specified	Pre Cleaned Yes	PLR F4X
Operator Not Specified		Vehicle Not Specified		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

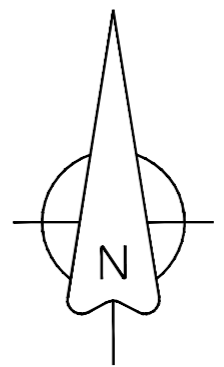
Town or Village:	Inspection Direction: Downstream	Upstream Node: F4
Road:	Inspected Length: 11.54 m	Upstream Pipe Depth:
Location:	Total Length: 11.54 m	Downstream Node: F5
Surface Type:	Joint Length:	Downstream Pipe Depth:
Use: Foul	Pipe Shape: Circular	
Type of Pipe: Gravity drain/sewer	Dia/Height: 150 mm	
Flow Control: No flow control	Material: Polyvinyl chloride	
Year Constructed: Not Specified	Lining Type: No Lining	
Inspection Purpose: Post completion condition survey	Lining Material: No Lining	

Comments:
Recommendations:

Scale:	1:100	Position [m]	Code	Observation	MPEG	Photo	Grade																					
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>Depth: m</p> <p>F4</p>  </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">0.00</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">MH</td> <td style="width: 40%;">Start node, manhole, reference: F4</td> <td style="width: 10%; text-align: center;">00:00:00</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">0.00</td> <td></td> <td style="text-align: center;">WL</td> <td>Water level, 0% of the vertical dimension</td> <td style="text-align: center;">00:00:14</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">11.54</td> <td></td> <td style="text-align: center;">MHF</td> <td>Finish node, manhole, reference: F5: Backdrop</td> <td style="text-align: center;">00:01:14</td> <td></td> <td></td> </tr> </table> </div>								0.00		MH	Start node, manhole, reference: F4	00:00:00			0.00		WL	Water level, 0% of the vertical dimension	00:00:14			11.54		MHF	Finish node, manhole, reference: F5: Backdrop	00:01:14		
0.00		MH	Start node, manhole, reference: F4	00:00:00																								
0.00		WL	Water level, 0% of the vertical dimension	00:00:14																								
11.54		MHF	Finish node, manhole, reference: F5: Backdrop	00:01:14																								

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
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



- KEY**
- open market housing for over 55's, AD Part M4 (2) compliant
 - rented affordable bungalows for over 55's, AD Part M4 (2) compliant
 - rented affordable housing
 - intermediate affordable housing
 - bin collection point
- BCP

The location of the affordable housing on this plan is indicative only and both the location and number of affordable housing plots may be subject to change.

existing gas main & associated easement
 existing FW drain & associated easement

Sunnymede Cottage

landscaped buffer strip

attenuation pond

existing play area

P	04.10.24	Affordable housing caveat note added to key.	TC
N	09.07.24	Fence positions amended to rear gardens of plots 45, 46 and 57.	TC
M	29.04.24	Plots 55-57 parking spaces moved west, end of shared access driveway and plot 57 bin run repositioned to suit. Boundaries to gardens of plots 57 & 46 moved in from site boundary. Handing of plot 46 bin run swapped to other side of plot and shared access added between plots 46 & 47. Shared access extended in front of plot 46.	TC
T	07.12.23	Trees and hedges removed at rear boundary of plots 17-19. Plot 18 paving run in rear garden extended to title boundary. Shared access at boundary of plot 19 moved tight to title boundary.	TC
S	12.04.23	Key amended to show rented affordable bungalows for over 55s as AD Part M4(2) compliant	TC
R	22.07.22	Parking to plot 17 pushed back towards fence, RO plot 1 garage amended & turning head extended	RO
Q	14.04.22	Patio sizes amended	RO
P	16.03.22	Plots 1-6 rear boundaries amended - buffer strip removed from the gardens	RO
O	22.02.22	Bin collection point updated to plots 40-42	RO
N	11.02.22	Parking allocation added	RO
M	09.02.22	Boundary lines amended to plots 1-6 & patio area added to each plot	RO
L	22.11.21	Amended to have footpath to the full length of the rear of each property	RO
K	13.09.21	Plot 40 handing changed to As	RO
J	04.01.21	Junctions amended from angular splays to radii.	SDH
H	12.11.20	Layout amended to accommodate 6x3 bungalows on Western boundary; reduced to 57 dwellings.	SDH
G	14.08.20	Layout amended to accommodate 6x3 integral garage house types - Delamare, Burnham & Marston. House type Buttermere, Grasmere, Hornsea, Belmont & Tiverton removed.	SDH
F	01.04.20	Open watercourse removed.	SDH
E	28.01.20	NW turning head amended to accommodate larger refuse vehicle; bin collection points identified; attenuation pond location shown.	SDH
D	02.12.19	Plot 48 & 49 amended to M4(i) type; drive lengths increased; turning head radii increased.	SDH
C	06.11.19	Plot 33 handed; plot 52 corrected to non-corner Coniston.	SDH
B	28.08.19	Layout revised to client comments	WCD
A	14.08.19	Layout revised to accommodate additional land to NE corner.	SDH

MIX SCHEDULE

SITE AREA	Acres	Gross	4.275
		Net	3.674
	Hectares	Gross	1.730
		Net	1.487
	P.O.S. & Buffer Non Dev	Acres	0.315
		Acres	0.286

Private

HOUSE TYPE	SQ.FT	NO	TOTAL SQ.FT
Danbury E	811	2	1622
Danbury M	811	1	811
Danbury S	811	2	1622
Delamare S	993	6	5958
Delamare	993	4	3972
Lockwood Cr	999	2	1998
Burnham	1115	10	11150
Coniston	1222	3	3666
Marston	1230	5	6150
Holywell	1414	5	7070
TOTAL		40	44019

Affordable

HOUSE TYPE	SQ.FT	NO	TOTAL SQ.FT
Heartwood S	541	4	2164
Barton E	761	6	4566
Barton M	761	3	2283
Barton S	761	4	3044
TOTAL		17	12057

TOTAL	57	56076
--------------	-----------	--------------

FOOTAGE (NET)	Per Acre	15,263
	Per Hectare	37,716
UNITS (NET)	Per Acre	16
	Per Hectare	38

Development	Hawthorne Farm		
Location	Clitheroe		
Marketing Name			
Drawing Title	Planning Layout		
Drawing Number	HTF.PLO1		
Revision	P	Scale @ A2	1:500
Drawn By	SDH	Date Started	Oct 2018
Checked by		Date	

Persimmon Homes Lancashire
 Persimmon House, Lancaster Business Park, Colton Road, Lancaster, LA13RQ
 Tel: 01524 542 000 Fax: 01524 542 001 Web: www.persimmonhomes.com



DO NOT SCALE
 ALL COORDINATES RELATED TO LOCAL GRID LOCATED TO OS NG BY BEST FIT TO DETAIL. EXTRACTED FROM OS DIGITAL DATA.
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- Landscape planning key:**
- Site Boundary
 - Existing trees to be retained and protected during the works.
 - Proposed ornamental planting on 400mm depth of topsoil with 75mm bark mulch.
 - Proposed native tree planting, tree pit and stake as detailed in the specification.
 - Small ornamental tree/ large shrub planting, tree pit and stake as detailed in the specification.
 - Proposed mixed native hedgerow planted in a double staggered row at 0.4m centres and 0.3m offset. Bare root transplants with 60cm tubex shelter guards.
 - Proposed single species hedgerow in a double staggered row or single row using container stock.
 - Front gardens to be turfed on 150mm topsoil.
 - Public open space to be sown with GerminAberSustain mix, or similar approved, to be sown at a rate of 40g/m2 on 150mm topsoil.
 - Wildflower seeding, GerminWFG20 Eco Species Rich Lawn, to the public open space to be sown at 10g/m2.
 - Wildflower seeding, GerminWFG9 Wetland and Pond Areas, to the existing water course to public open space to be sown at 5g/m2.
 - Native tree / shrub planting woodland to be planted as 60-80cm whip planting at 0.7m centres, for additional wildlife habitat.
 - Cheshire Pink Gravel 20mm to be laid to a depth of 3-4cm.
 - Approximate locations of rootbarrier (for the sides and bottom of the trenches for perimeter hedging), confirmed by Engineer.
 - Approximate locations of Green Blue Urban GRN20 plastic open reinforcing mesh, 20mm aperture. Only required on side of hedge trenches next to drainage system, confirmed by Engineer.

Sunnymede Cottage

attenuation pond

Refer to Dwg No. P.1239.24.05 Rev B for cross section B-B1

Refer to Dwg No. P.1239.24.04 Rev A for cross section A-A1

L	Minor amendments	18/10/24
K	Minor amendments	09/10/24
J	Minor amendments	24/09/24
I	Minor amendments	31/07/24
H	Minor amendments	21/05/24
G	Minor amendments	29/09/22
F	Minor amendments	24/03/22
E	Minor amendments	28/02/22
D	Updated to layout "...Standard 11.10.21"	13/10/21
C	Updated to layout "Planning Layout J"	16/06/21
B	Updated to layout "Planning Layout H"	25/11/20
A	Updated to layout "Planning Layout G"	07/09/20
REV	DESCRIPTION	DATE

ASCERTA
 LANDSCAPE | TREES | ECOLOGY
 t: 0845 463 4404
 e: info@landscapetreecology.com
 www.landscapetreecology.com

CLIENT: Persimmon Homes
 PROJECT: Land off Hawthorne Place, Clitheroe
 DRAWING TITLE: Planting Plan (Sheet 1 of 2)
 SCALE: 1:200 @ A0
 DRAWN BY: AM
 CHECKED BY: AM
 DATE: 23/06/2020
 P: 1239.19.03

LANDSCAPE AND MAINTENANCE SPECIFICATION

All operations to comply with appropriate British Standards unless otherwise stated on drawings or in the specification.

GENERAL TREATMENT OF PLANTING AREAS

Ensure that planting areas are protected from consolidation by heavy construction plant.

For work near a retained tree: Refer to BS 5837 *Trees in relation to design, demolition & construction - Recommendations*- Section 9 (Appendix C).

Damage to Plants to be Retained: If a plant is to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense. "Damaged" means:

- The destruction of a plant the breaking of branches or roots
- The debarking of trunks or limbs
- The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water
- The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

1) GROUND PREPARATION AND SOIL SPECIFICATION

Subsoil:
Before receiving topsoil, subsoil shall be loosened using appropriate equipment to a depth of 300mm. This shall be done when the subsoil is dry so as to encourage soil shattering. All stones and other objects larger than 50mm shall be removed from the prepared surface. The loosened subsoil shall be roughly levelled so that an even depth of topsoil can be achieved.

Topsoil (To Comply with British Standard 3882:2015 - Specification for Topsoil):

Imported topsoil shall be Multipurpose Grade as described in BS 3882:2015 and suitable for sustaining plant life. Stockpiling of soil shall be avoided whenever possible to minimise loss of physical quality, diffusion of oxygen and biological activity.

Any stockpiling shall not exceed 1.5 metres high and shall be sited so as to avoid risk of muddy water run-off into a watercourse, not exceeding 1.5 metres high.

The site of the stockpile will be prepared in advance by grading, removing rubbish and ensuring no fuel or chemicals were previously stored in area.

Topsoil shall be lightly consolidated in layers not exceeding 150mm using track laying machinery.

Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e.

During or shortly after heavy precipitation

When soil is in a waterlogged condition

When the ground is frozen or covered by snow

When there are pools of water on the ground's surface.

Topsoil shall be laid to the following minimum depths:

150mm below new grass areas

300mm to rear gardens

400mm beneath new shrub areas.

Finished levels, after settlement, shall be as follows:

25mm above adjacent paving from new grassed areas and non-mulched shrub beds

75mm below adjacent paving and grass for mulched planting beds.

150mm below damp proof courses.

2) GROUND CONDITIONING

40 litres of compost to be incorporated into the top 200mm of each square metre of topsoil for all ornamental shrub beds.

3) PLANT AND PLANTING SPECIFICATION

All plant stock, plant handling and planting to be undertaken in accordance with the following British Standard Specifications and Code of Practice:

BS 8945:2014 'Trees' from nursery to independence in the landscape

BS 3936: Part 1 1992 Nursery stock (Specification for trees and shrubs)

BS 3936: Part 4 1984 Nursery stock (Specification for forest trees)

BS 3936: Part 9 1987 Nursery stock (Specification for bulbs, corms and tubers)

BS 3936: Part 10 1990 Nursery stock (Specification for ground cover plants)

BS 4428: 1989 Recommendations for general landscaping operations.

BS 4043: 1989 Recommendations for transplanting root-balled trees, (withdrawn)

The Code of Practice for Plant Handling 1985. (Horticultural Trades Association).

Plant Stock:

Plant stock to be supplied in accordance with the size and description specified ion the plant schedule and position indicated on the most current revision of the planting plan.

Plant stock shall be healthy, vigorous, free from pests and diseases and suitably hardened off for the proposed situation of planting and lifted at a time in accordance with good nursery practice. Stock shall have well-formed fibrous root system and be free from perennial weeds. The form of trees shall be in accordance with BS 3936: Part 1:1992, section 7, *Form of Trees*.

Plant Handling:

All plant materials shall be lifted, bundled, labelled, packaged, transported, temporarily stored and planted in accordance with the procedures and methods illustrated in the publication, *"Plant Handling"* (Horticultural; Trades Association) and relevant sections of BS 4043: 1989 *Transplanting Root-Balled Trees*.

Tree Planting:

Trees to be pit planted following supplier recommendations. Minimum pit size: Leader with laterals tree 700 x 700 x 700mm / Heavy standard tree 1000 x 1000 x 750mm.

Pits to be prepared to base and sides of pit to be further scarified

Deciduous specimen trees to be double staked using two stakes (75mm dia.), driven into ground 300mm below bottom of pit. Base of pit to be filled with 200mm of 3:1 mix of approved topsoil / compost.

Trees to be centrally located and stem placed in an upright position. Pit to be backfilled with a 3:1 mix of an approved topsoil / compost. Backfill firmly to 50mm above previous ground level to allow for settlement.

Stakes to be saw leave 600mm above soil level.

Water each tree in same day of planting, amount of water dependant on root size and soil conditions.

All works shall be carried out to the minimum standard according to BS 3936: 1992 Part 1 Nursery Stock. Specification for Trees and Shrubs. BS 4043: 1989 Recommendations for transplanting root-balled trees.

Staking:

Stake all deciduous specimen trees with double short stakes, feathered trees with low single stake. Stakes to be round timber with chamfered tops. Position stake close to tree on windward side and drive vertically at least 400mm into bottom of pit before planting. Backfilling: consolidate material around stake. Height of stakes: cut to approximately one third of the tree height above ground level, taking care not to damage the bark. Ties: Hessian. Tying: secure tree firmly but not rigidly to stake with at least 2 ties within 25mm of top of stake.

Mulch:

All shrub beds shall be spread with a medium grade bark mulch to a settled depth of 75mm. Mulch to be free from fines, weeds, disease and contaminants.

Ornamental shrub planting:

To be set out carefully and evenly over indicated areas. Remove plants from pots and plastic containers, plant and water in thoroughly. Shrubs shall be individually pit planted in prepared pits sized to accommodate full spread of roots. Plants shall be evenly spaced over the planting area. Firm backfill by treading, ensuring the ground is not overly compacted and that the plant is positioned upright.

Native tree / shrub planting

Bare root stock shall be planted between November and March/April. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species.

Plants shall be evenly spaced over the planting area. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Undertake formative pruning if necessary.

New formal hedges

Consistent in species, cultivar and clone to ensure a uniform hedge. Tips of leading branches of the Cherry laurel 'Rotundifolia' with wilted leaves should be cut as the plant is being planted in the ground.

Cherry Laurel 'Rotundifolia' hedges in front gardens to be planted in a previous prepared planting trench 300mm deep and 0.6 metre wide unless stated by section drawing or statement. 100g per sq/m of blood fish and bone fertilizer should be sprinkled along the base of the trench just before each plant is healed into place with a topsoil mix. The trench is to be backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of minimum 50mm. Container plant stock to be planted centrally in a single row at 250mm spacings (4 per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back hedges in front gardens to a height of 1 metre.

Cherry Laurel 'Rotundifolia' hedge along the southern boundary that is to be a landscape buffer to be planted in a previously prepared planting trench 300mm deep and up to 1 metre wide. Bare root stock shall be planted between November and March/April. 100g per sq/m of blood fish and bone fertilizer should be sprinkled along the base of the trench just before the plants are individually healed into place with a topsoil mix. The trench is to be backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 75mm. Bareroot plant stock to be planted in a double row in the centre of the plant bed, 330mm between plants and 300mm between rows (6 no. plants per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back the sides only of the landscape buffer and allow the top of the hedge to grow up to 5m high before the top is cut back.

Cherry Laurel 'Rotundifolia' hedges running along sections of the eastern boundary are to act as screening for residents to the east. Planted in a previously prepared trench 1000mm wide and 1000mm deep enclosed by ReRoot 1000 - Ribbed Root Barrier (or similar approved) along the sides of the trench and Terram 1000 Permeable geotextile membrane or similar approved. A 200mm depth stone channel with be at the bottom of the trench comprising of gravel with two perforated pipes, then 300mm depth of subsoil and 450mm depth of topsoil with compost (1 in 3 mixture) or as stated. Container stock (20 litre pots) to be used with 100g per sq/m of blood fish and bone fertilizer should be sprinkled along the base of the topsoil layer just before the plants are individually planted into place with the topsoil mix. Backfill topsoil firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 50mm. 20L container stock to be planted in a single row in the centre of the plant bed, planted at 2 plants per linear metre. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back the sides only of the landscape buffer and allow the top of the hedge to grow up to 8m high.

New mixed native hedges - Double staggered row

Bare root stock shall be planted between November and March/April. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species.

To be planted in a previous prepared planting bed 1metre wide. Planted to be centrally in a double row, 400mm between plants and 300mm between rows. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems.

Prune back to a height of 2 metres.

Turfed Areas:

To be specified and laid in accordance with BS. 3936:1998 Recommendations for turf for general purposes. Turf to be Lindum Festival Turf (or similar approved). Hardwearing with a dense sward containing a mixture of 25% perennial ryegrass, 55% fescues and 20% smooth stalked meadow grass. This mix is easy to maintain and will recover well from general wear.

Turf to be laid in suitable weather conditions on a prepared bed with no weeds and a suitable slow release fertiliser applied to bed prior to laying. Turf to be watered regularly until it is well established.

Rear gardens:

Subsoil to be prepared to a depth of 300mm as per ground preparation and soil specification.

Topsoil to be supplied as per ground preparation and soil specification to a depth of 300mm, after gentle compaction and to be left bare in rear gardens.

Grass Seeding:

Seed mix shall be Germinal AberSustain mix, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Levels to be graded to form finished levels as indicated in section, 'Topsoil'.

Roll, fertilise at 50gms/sq m, 10-14 days prior to seeding, sow at rate of 40g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm.

Wildflower Seeding:

Seed mix shall be Germinal WFG20 Eco Species Rich Lawn, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 10 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 40 - 70mm.

Wildflower Seeding:

Seed mix shall be Germinal WFG9 Wetland and Pond Areas, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 40 - 70mm.

Weeding:

A plant that roots directly from its base and has shallow roots is to be removed by hand, by removing the main root system.

A weed that grows from a clumped, fibrous root system is to be removed using the crowning method, by cutting the roots from the crown of the weed.

A large weed infestation is to be removed by spraying an approved chemical directly onto the target infestation.

A plant being a tree or a vine is to be removed using the cut and paint method, by cutting the base of the stem close to the ground and immediately applying herbicide to the cut.

4) MAINTENANCE AND MANAGEMENT

Plant stock and soft landscaped areas shall be maintained for a period of five years via the developers' agent or appointed Management Company during which time the following operations shall be carried out:

Regular visits:

Monthly maintenance visits to include the following operations:

- Hand weed planting beds
- Remove litter
- Sweep mulch spillage
- Re-firm plant stock as necessary
- Adjust stakes and ties as necessary
- Prune plant stock as required to encourage good form
- Check all plant stock and report signs of pests, disease, death and damage

Mulch:

Top up mulch levels (using matching material) surrounding trees and within beds to 75mm at the end of the maintenance period.

Watering:

Plant stock to receive the following quantities of water each month, depending on soil conditions and weather conditions:

Heavy Standard trees: 35 litres each month between April and September

Leader with lateral trees: 25 litres each month between April and September

Shrubs and transplants: 5 litres/plant on three occasions throughout growing season.

Watering to be undertaken during the first 24 months as needed to maintain plant health.

Grass cutting:

Grass shall be cut throughout the growing season to maintain a sward of approximately 38mm. Shall be edged, watered as necessary and clippings removed.

Wildflower cutting:

Wildflower areas shall be cut 2 times a year during the late spring and after the flower season (September / October) to maintain a sward of approximately 40-70mm. The clippings shall be left in situ for 3 days to allow seed drop, then removed to prevent nutrient build up.

Landscape buffer new tree/shrub planting:

Weed control by hand to ensure planting area is weed free. Check stakes and guards are in place and replace where necessary. Replace dead / dying stock in winter.

Plant replacements:

All dead, dying and vandalised plant stock shall be replaced, at the landscape contractor's expense, at the end of each growing season throughout the maintenance period.

Plant Schedule							
Trees							
Number	Abbreviation	Species	Specification	Pot Size	Grth	Height	
3 -	ALN GLU	Alnus glutinosa	3x; Heavy Standard; clear stem minimum 200cm; 5 breaks; RB		12-14cm	350-425cm	
4 -	BET PEN	Betula pendula	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm	
5 -	COT COR	Cotoneaster cornubia	Branched; clear stem 125-150cm; 3 breaks	35L	8-10cm	350-400cm	
5 -	LIGLU	Ligustrum lucidum	Heavy Standard; bushy head; clear stem 150-175cm	50L	12-14cm	250-300cm	
5 -	MAG GAL	Magnolia 'Galaxy'	Leader with laterals	25L		175-200cm	
1 -	MAL TSC	Malus tschonoskii	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm	
2 -	PIN SYL	Pinus sylvestris	Leader with Laterals: 4x; RB			200-250cm	
1 -	PRU PAD	Prunus padus	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm	
3 -	SOR AUC	Sorbus aucuparia	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm	
Total :29 -							
Shrubs							
Number	Abbreviation	Species	Specification	Pot Size	Density	Area	
38 -	CHO PEA	Choisya 'Aztec Pearl'	Bushy: 6 brks: C	5L	2/m ²	17.0971m ²	
34 -	COR ELE	Cornus alba 'Elegantissima'	Branched: 4 brks: C	5L	2/m ²	16.1624m ²	
40 -	ERI PIN	Erica carnea 'Springwood Pink'	Bushy: C	3L	5/m ²	7.5406m ²	
22 -	EUO GAI	Euonymus fortunei 'Emerald Gaiety'	Bushy: 9 brks: C	5-7.5L	2/m ²	9.8824m ²	
72 -	EUO QUE	Euonymus fortunei 'Silver Queen'	Bushy: 7 brks: C	5L	3/m ²	22.4198m ²	
35 -	HEB WIN	Hebe 'Mrs Winder'	Bushy: 5 brks: C	5L	2/m ²	15.2711m ²	
47 -	HEB GEM	Hebe 'White Gem'	Bushy: 7 brks: C	5-7.5L	2/m ²	21.4412m ²	
70 -	POT ELI	Potentilla fruticosa 'Elizabeth'	Bushy: 5 brks: C	5-7.5L	2/m ²	32.4994m ²	
32 -	SAN CHA	Santolina chamaeoparissus	Bushy: 8 brks: C	5L	2/m ²	14.5901m ²	
75 -	SKI RUB	Skimmia japonica 'Rubella'	Bushy: 4 brks: C	5L	3/m ²	23.8986m ²	
66 -	SKI GRE	Skimmia x confusa 'Kew Green'	Bushy: 4 brks: C	5L	3/m ²	21.0282m ²	
36 -	SPI WAT	Spiraea japonica 'Anthony Waterer'	Branched: 7 brks: C	5-7.5L	2/m ²	16.6307m ²	
37 -	SPI PRI	Spiraea japonica 'Little Princess'	Bushy: 7 brks: C	5L	2/m ²	17.6794m ²	
Total :604 -						Total :236.141m ²	
Formal Hedge							
Number	Abbreviation	Species	Specification	Height	Pot Size	Density	Length
430 -	PRULARO	Prunus laurocerasus 'Rotundifolia'	Bushy: 7 brks: RB	80-100cm		0.33Ctr	Double Staggered at 0.3m offset 70.7864m
726 -	PRU ROT	Prunus laurocerasus 'Rotundifolia'	Bushy: 2 brks: C	40-60cm	2L	0.25Ctr	178.3349m
34 -	PIR	Prunus laurocerasus 'Rotundifolia'	Bushy: 8 brks: C	175-200cm	20L	2/m	16.5091m
Total :1190 -							Total :265.6304m
Native Hedging Mix (Hawthorn)							
Number	Abbreviation	Species	Specification	Height	Pot Size	Density	Length
89 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.4Ctr	Double Staggered at 0.3m offset 17.1056m
473 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		0.4Ctr	Double Staggered at 0.3m offset 94.0805m
133 -	ILE AQU	Ilex aquifolium	Bushy: 3 brks	40-60cm	3L	0.4Ctr	Double Staggered at 0.3m offset 25.6583m
89 -	PRU AVI	Prunus avium	1+1: Transplant - seed raised: B	60-80cm		0.4Ctr	Double Staggered at 0.3m offset 17.1056m
89 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.4Ctr	Double Staggered at 0.3m offset 17.1056m
Total :873 -							Total :171.0556m
Mixed scrub							
Number	Abbreviation	Species	Specification	Height	Pot Size	Density	
13 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr	
21 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		0.7Ctr	
9 -	ILE AQU	Ilex aquifolium	Bushy: 3 brks	40-60cm	3L	0.7Ctr	
5 -	PRU PAD	Prunus padus	1+1: Transplant - seed raised: B	80-100cm		0.7Ctr	
13 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	60-80cm		0.7Ctr	
9 -	ROS ARV	Rosa arvensis	1+0: Seedlings: Branched: 2 brks: B	50-60cm		0.7Ctr	
9 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr	
5 -	SAMB NIG	Sambucus nigra	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr	
5 -	VIB OPU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr	
Total :89 -							



Acer campestre



Alnus glutinosa



Betula pendula



Cotoneaster cornubia



Ligustrum lucidum



Pinus sylvestris



Magnolia 'Galaxy'



Prunus padus



Sorbus aucuparia



Malus tschonoskii

DO NOT SCALE
ALL COORDINATES RELATED TO LOCAL GRID
LOCATED TO OS NG BY BEST FIT TO DETAIL
EXTRACTED FROM OS DIGITAL DATA.
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REV	DESCRIPTION	DATE
L	Minor amendments	