Construction Pack

NUS22-1499

Laystall Street, Manchester, M1 2JZ

1 x 63mm water connection with 90 x manifold meters and a temporary meter

Prepared By: ART

Date: 25/02/2025

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Company No. 11423811

Project Specification

Installation of 1 x 63mm **barrier pipe** water connection from a 90mm main to supply 89 x apartments and 1 x landlord supply.

Also includes a 15mm temporary meter to connect site, prior to completion of the apartments.

Provision and installation of 90 x 15-20mm manifold water meters. Meters to be installed on manifolds on each floor.

NUS Contractor Responsibilities:

- Includes all off-site excavation, reinstatement and obtaining a permit to work in the highway.
- Installation of a temporary water meter.
- Installation of a permanent 63mm barrier pipe water connection with up to 2m of excavation.
- Supply and installation of 90 x 15-20mm manifold meters.

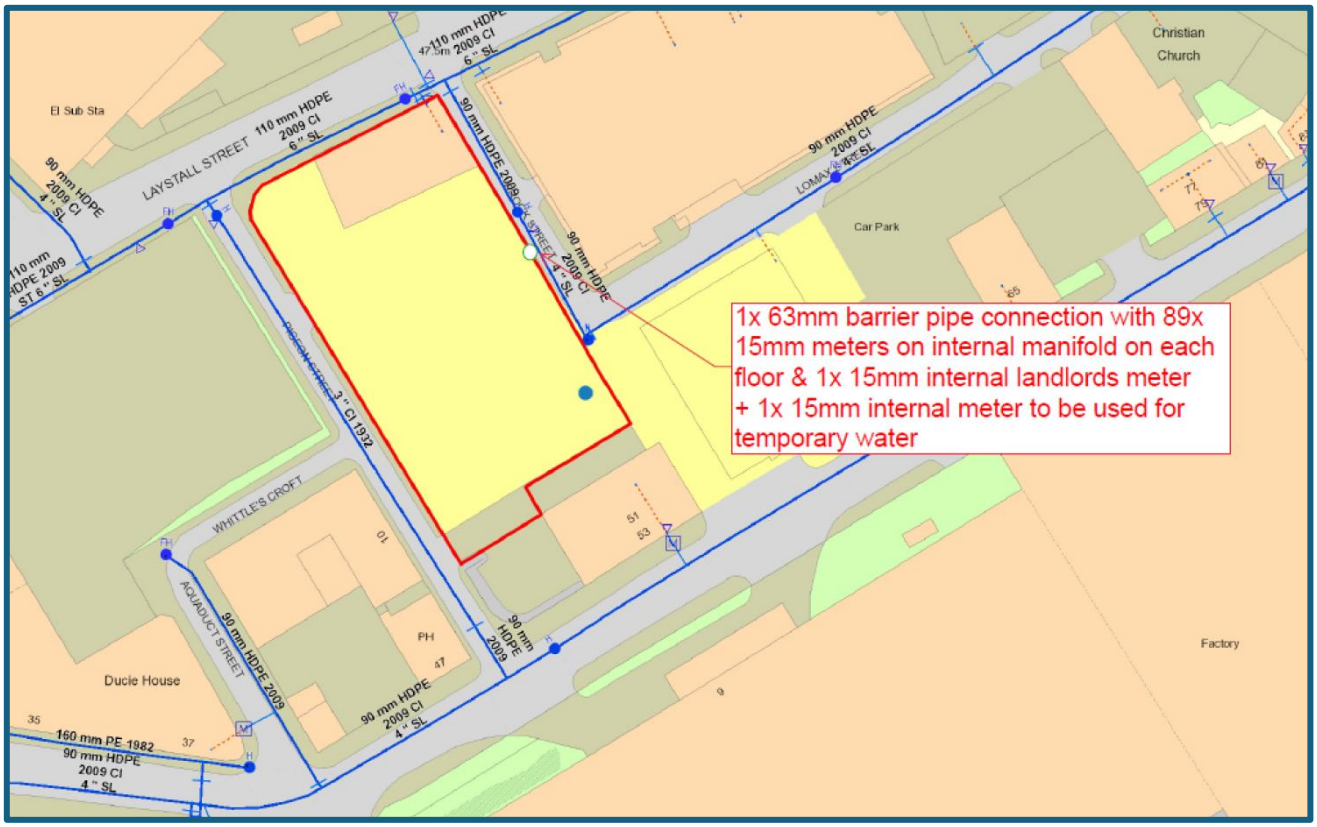
Customer Responsibilities:

- It is the customer's responsibility to lay new, suitably sized supply pipe(s) from the site to the boundary of the public highway including onsite excavation / reinstatement and installation of a manifold if applicable.
- Before a date can be issued for connection site will need to pass a water regulations inspection. Should the inspection fail, there may be a fee payable for reinspection.
- If you are required to carry out chlorination and pressure testing (where pipework is 63mm or larger) please do not arrange this until a date has been issued for connection as the certificate may expire.
- For the connection to be made, the site, plot and service pipe must be accessible, with no scaffolding in the vicinity. If for any reason the connection cannot go ahead it may result in additional charges.

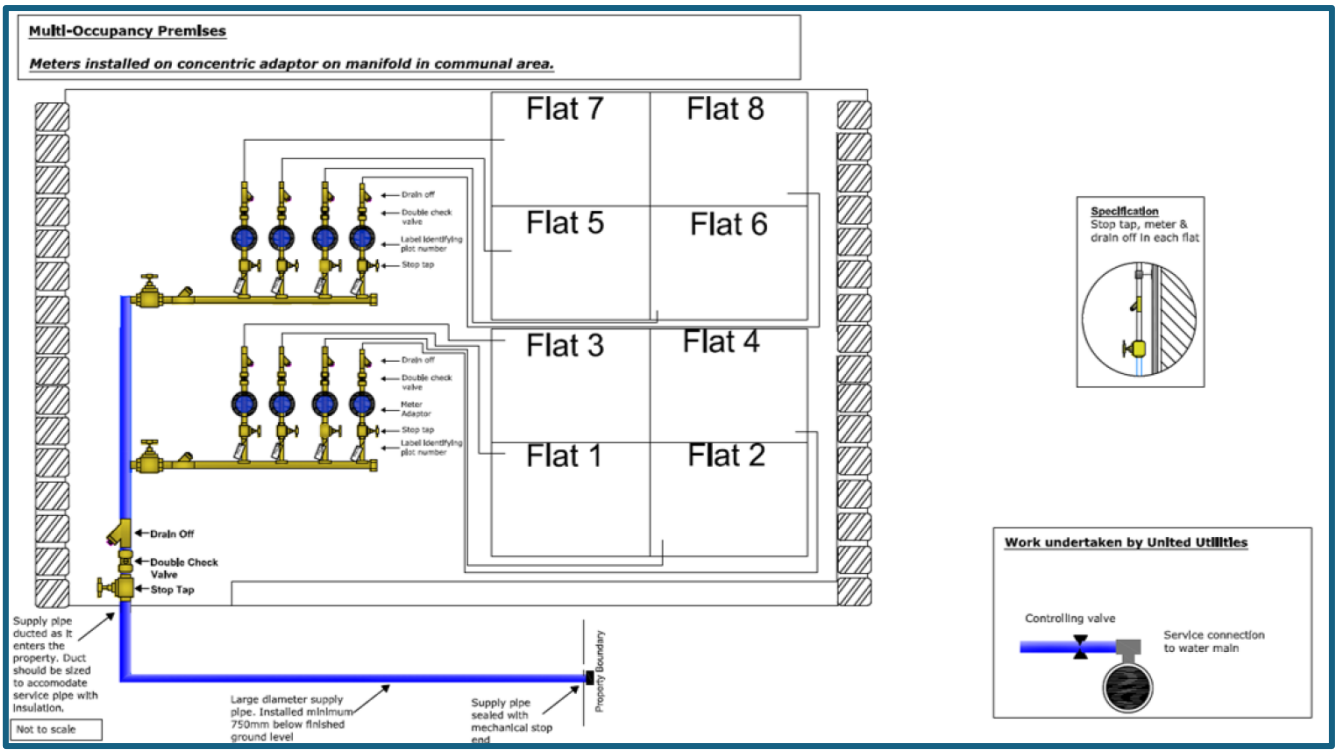
Please note that completion of the connection is subject to any traffic management restrictions imposed by local authorities, and this can typically take up to three months to arrange, following a successful inspection of the onsite pipework. So please allow for this when planning your development.

Please note if the connection is not completed by the 31st March there will be a variation to bring it in line with the new annual charging scheme.

Proposed Point of Connection



Meter Installation Specification



Water Installation Check List

Please be aware if your pipework is longer than 45m long or 63mm or above a chlorination and pressure test will be required. Please do not arrange this until NUS advise as the certificate may expire. Please ensure trench and pipework is left fully exposed until a successful inspection has been carried out. Should the inspection fail, there may be an additional fee payable before this can be rescheduled.

Have you laid the pipework in one continuous length up to the boundary ready for connection?	Yes	No
Is your pipework laid at least 2 metres from lamp posts, utility poles etc?	Yes	No
Is the correct pipe specification laid as per your quotation (**Barrier Pipe**)?	Yes	No
Has the pipework been laid at the minimum depth of 750mm in footway and 900mm in carriageway to the top of the pipe to meet NJUG guidelines?	Yes	No
Is the pipework ducted and insulated at 750mm upwards as it enters the property? The ends of the duct should be sealed to prevent ingress of gas, fluids or vermin.	Yes	No
Is the Trench free from debris and wide enough (350mm) to accommodate the pipework? If multiple utility services are sharing the same trench this must be taken into consideration.	Yes	No
Will the trench be lined and filled with fine granular backfill or selected soft earth free from rubble and waste? Please leave trench exposed until inspection has passed.	Yes	No
Have you got blue tracing mesh on site? The trench will need to be left open until the inspection has passed then the tracing mesh will be laid when backfilling at approx. 350mm below finished ground level.	Yes	No
Has the WRAS approved stop tap and drain off been fitted internally?	Yes	No
Has the WRAS approved check valve / back flow prevention device if the supply is commercial or on a manifold been fitted internally?	Yes	No
Is the mechanical cap / stop end fitted on the end of pipe at boundary to prevent contamination?	Yes	No
If there is more than one service have you clearly labelled each pipe with the correct plot number i.e. flat number on the manifold or at site boundary?	Yes	No
Has a meter adaptor been fitted on the manifold for each unit?	Yes	No
Does the installation comply with the Water Supply (Water Fittings) Regulations 1999?	Yes	No

Bill Payers Details (Required for usage to be billed correctly by the Network Owner once connections are completed)

Contact Name:			
Company Name:			
Contact Phone Number:			
Contact Email Address			
Full Billing Address & Post Code:			
Signed:		Date:	

Chlorination & Pressure Testing Guidance

Please do NOT arrange this until a connection date has been confirmed and the date is within 30 days

Hydrostatic Pressure Testing

Pressure testing your pipework

Under the current Water Supply (Water Fittings) Regulations 1999, local requirements and associated guidance, you are required to hydrostatically pressure test your underground pipe work prior to being connected to the mains network. Please read carefully and follow the requirements documented in the guidance publications listed below. Your new water supply pipe connection is subject to a successful hydrostatic pressure test and other conditions of supply being attained. Failure to follow procedure may result in a delayed connection and the retesting of your pipe(s) at your own expense.

What pipework needs pressure testing?

All underground incoming water supply pipes with an internal diameter of 50mm and above need to be satisfactorily pressure tested to the standard documented in the guidance publications set out below.

Important: It is your responsibility to ensure that your designated pressure testing company are familiar with both national and local testing requirements. We also strongly recommend providing them with a copy of these guidance notes.

Why do you need to carry out a hydrostatic pressure test on pipework 63mm (including fire mains) and above?

A hydrostatic pressure test is required to evidence that the newly installed system is secure and there are no risks of leakage or defective pipework when we connect your new supply. It is a requirement on the larger size connections because of the increased risk elements attributed to size and pressure. This is to protect your development in case anything isn't secured or connected as it should be.

When do you need to pressure test?

This needs to be completed before we carry out the connection and before you disinfect your pipework.

IMPORTANT: Receipt of certification required a minimum 14 days prior to connection.

What is required?

Testing of the new incoming service up to the first internal stop tap. Prior to the commencement of any test, the pipework shall be charged with wholesome water and ideally, all air removed. All testing methods should be completed in a manner that will not permit the contamination of the public water main with pressurised water.

Who should carry out the test?

Pressure testing should be carried out by a competent person who is familiar with the requirements set out in BS EN 805, WIS 4-01-03 and the Water Regulations Guide. Pressure testing operatives should be appropriately skilled, have undertaken Calm Network Training (refresher required) and hold a valid EUSR Water Hygiene Card.

Hydrostatic Pressure Tests

Type 2 Pressure Decay Test – WIS 4-01-03

The industry standard for hydrostatic pressure testing is set out in Water UK's WIS 4-01-03 ''Specification for hydrostatic pressure testing of polyethylene and polyethylene barrier water supply pipelines and sewer rising mains. This document replaces IGN 4-01-03.

This is a logarithmic test, whereby the system test pressure is determined by the PN rating of the pipe. During the test period, the data logging system will record creep (pipe expansion) and pressure decay. This information will be fed into a mathematical equation and then analysed to determine leakage and a pass or fail result certificated.

Guidance & Legislative Publications

Pressure testing of water supply pipes must only be carried out using the methodology set out in the publications listed below:

WIS 4-01-03 – Specification for hydrostatic pressure testing of polyethylene and polyethylene barrier water supply pipelines and sewer rising mains.

BS EN 805-4:2010 – Code of practice detailing the requirements for systems and components outside buildings

Water Supply (Water Fittings) Regulations 1999 (Schedule 2, Section 4 – G12.3 R12.3)

System Test Pressure (STP)

Testing operatives can test to any industry recognised standard for water service pipes. Comprehensive details can be found documented in any associated guidance/standard/legislative publication e.g. WIS 4-01-03, BS EN 805 (subscription only) and the Water Supply (Water Fittings) Regulations 1999.

Note: The process and STP for testing must align with the test being conducted as requirements differ between standards.

- *Water Supply (Water Fittings) Regulations 1999*

  12.—(1) The water system shall be capable of withstanding an internal water pressure not less than 1.5 times the maximum pressure to which the installation or relevant part is designed to be subjected in operation ("the test pressure").

  A system test pressure of 10 bar, which the Network Owner recognises as the standard for good working practice (> 1.5 times the operating pressure of the mains network), meets the statutory minimum requirements set out in Schedule 2 Section 4 -G12.3 R12.3 of the Water Supply (Water Fittings) Regulations 1999.

- *WIS 4-01-03*

  System test pressure (STP) varies using the testing criteria conforming to the Water Industry Standard (WIS) as it is determined by the design pressure of the pipe. See Table 1 on page 12 of the WIS-4-01-03 document.

  IMPORTANT: A Type 2 test is most commonly used for testing mains. When testing service pipes, please exercise caution and ensure the system test pressure does not exceed the design pressure of the lowest rated fitting.

- *Important Supplementary information*

A 10 bar test for 1 hour or any other time period is not an acceptable test for pipes containing plastic. This is a Type 1 test specifically designed for testing pipes made from rigid materials (ductile iron, stainless steel etc) only.

Pressure testing operatives should follow the testing guidance for pipes containing plastic set out in the publications listed above. Pneumatic testing (air test) is also not an acceptable form of pressure testing pipework.

Hydrostatic pressure tests that are not documented in any industry recognised publications will not be accepted by the Network Owner.

Note: Unsatisfactory pressure tests that result in any additional work/revisits may incur additional costs to the applicant.

Example certificate for a Type 2 hydrostatic pressure test

Information required on a Type 2 test certificate:

- The name, company and contact details of the person carrying out the test
- All details of the materials, dimensions, length and PN rating of the pipe
- The System Test Pressure (STP)
- Standard of procedure
- Details of the date and start /end time of the test and its location
- Differences in elevation
- A description of the type of pressure and flow meter, together with details of their maximum range, precision and calibration history
- The pump volume flow rate at rated speed, or the logged data from the flow meter
- All the recorded measurements of the pressure and water flow during the pressure rise phase
- The pressure decay data
- Details of any analysis carried out in accordance with the methods described in the IGN

Example certificate for Test A

Information required on Test A (drop test) certification:

- The name, company and contact details of the person carrying out the test
- Site location
- Pipe material, diameter, length and PN rating
- Standard of procedure
- Type of test
- System test pressure (STP)
- Start time / end time of the test
- Summary of testing procedure
- Signed and witnessed

Note: The certification for Test B will be identical with the exception of the summary of the testing procedure which differs from Test A.

Hydrostatic Pressure Test Certificate

Site Address: Gringotts, Privet Drive, Liverpool, L1 0RP

Material: PE

Length: 150 metres

Diameter: 90mm

PN rating: 10

Standard of procedure: The Water Regulations Guide

Type of test: Test A (Drop test)

System test pressure: 10 bar

Start time of test: 10:00

End time of test: 12:00

Summary of the Test A hydrostatic pressure test

System test pressure maintained @10 bar for 30 minutes.
System test pressure reduced to one third of the initial system test pressure for 90 minutes.
No pressure drop and no visible sign of leakage.

Confirmation that pipe was securely capped and watertight after testing: YES/NO

Engineer's name: Irwin Fletcher

Signed..... Date of successful pressure test.....

Witnessed.....

Unit 7,
Cahill Industrial Estate,
Southport, PR9 1UG
Tel: 01704 9999999

Acme Trading
Technical Compliance Services

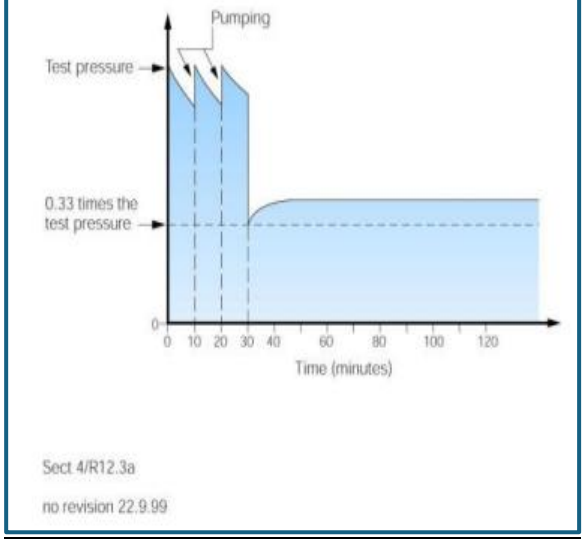
Test A and Test B hydrostatic pressure testing procedures

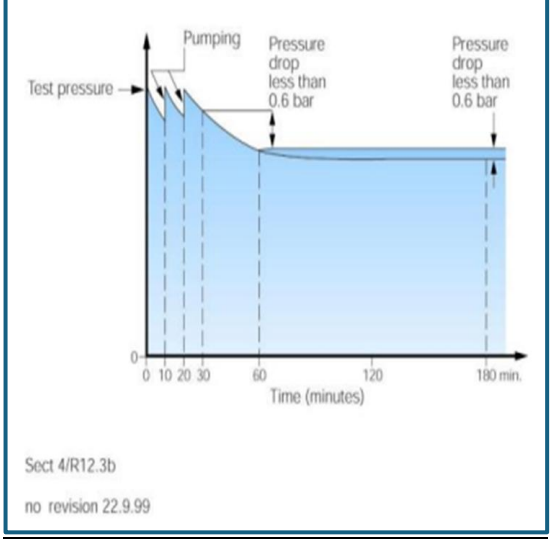
Schedule 2 – Section 4 – G12.3 of the Water Supply (Water Fittings) Regulations 1999.

Test A	Test B
I. The whole system is subjected to the test pressure by pumping for 30minutes, after which the test continues for 90 minutes without further pumping; II. The pressure is reduced to one third of the test pressure after 30 minutes; III. The pressure does not drop below one third of the test pressure over the following 90 minutes; and IV. There is no visible leakage throughout the test.	I. The whole system is subjected to the test pressure by pumping for 30 minutes, after which the pressure is noted and the test continues for 150 minutes without further pumping; II. The drop in pressure is less than 0.6 bar (60kPa) after the following 30 minutes, or 0.8 bar (80kPa) after the following 150 minutes; and III. There is no visible leakage throughout the test.

Link for pressure testing requirements:
https://www.waterregsuk.co.uk/guidance/installation/pipework/pipework-pressure-testing/

Graphs detailing Test A and Test B as shown in the Water Regulations Guide





Disinfection of Water Supply Pipes

Under the current Water Supply (Water Fittings) Regulations 1999, local requirements and associated guidance, you are required to disinfect your underground pipe work prior to being connected to the mains network. Please read carefully and follow the requirements documented in the guidance publications listed below.

Your new water supply pipe connection is subject to a successful disinfection, satisfactory sample results where applicable and other conditions of supply being attained. Failure to follow procedure may result in a delayed connection, the re-disinfection of your pipe(s) and resampling, where applicable, at your own expense.

What pipework needs pressure disinfecting prior to connection?

In order to safeguard water quality and reduce the risk of contamination, The Network Owner requires the disinfection, also known as chlorination, of all water supply pipe connections (including fire supplies) with a 63mm outside diameter and above, prior to connection to the mains network.

The pipework should be disinfected from the point of connection to the first internal stop tap. Upon completion of works, a **disinfection certificate** will be issued. This should be forwarded to the Network Owner, ideally 10 days prior to your connection date, as they cannot authorise a connection without it. Certificates are valid for 30 days from the date of disinfection.

For 90mm (outside diameter) connections and above, in addition to disinfection and certification, we also require samples (in particular see UK TGN02 and UK TGN03) to be taken post disinfection and sent for microbiological analysis to a UKAS accredited lab.

A certificate showing the results of the analysis will be issued and should be forwarded to the Network Owner, together with the disinfection certificate prior to your planned start date.

A list of accredited laboratories can be obtained at www.ukas.com

IMPORTANT: It is your responsibility to ensure that your designated disinfection company are familiar with both national and local disinfection requirements. Operatives should be suitably trained in the disinfection process and all aspects of disinfection specific risk awareness. We also strongly recommend providing them with a copy of these guidance notes.

Other circumstances where disinfection may be a requirement of connection: Pipework that has previously been connected to any other supply other than the Network Owner's mains network e.g. spring, borehole other water source. The water supply pipe has not been in use i.e. installed and left for a prolonged period of time. Risk assessment required If it is known/suspected that contaminants have entered the pipework during installation or there is concern due to the proximity of pipework to floodwater, sewage etc.
Note: *List not exhaustive*

Guidance publications:

Disinfection of water supply pipes must only be carried out using the methodology set out in the publications listed below:

- **BS EN 806-5:2012** – Code of practice detailing specific requirements and gives recommendations for the operation and maintenance of potable water installations within buildings and for pipework outside buildings but within the premises in accordance with **BS EN 806-1 BS**

- **8558:2015** – Provides complementary guidance to BS EN 806 and offers detailed information on the design, installation, testing, operation and maintenance of domestic water services

- **PD 855468:2015** – Improved guide to the flushing and disinfection of services supplying water for domestic use within buildings and their curtilage

- **UUCESWI – Issue 7: 2018** – United Utilities' standard specification for civil engineering **Water Supply (Water Fittings) Regulations 1999** (Schedule 2, Section 4 – G13 R13)

Disinfecting agent

The preferred disinfecting agent is *Sodium Hypochlorite*

IMPORTANT: The use of any other agent should be agreed in advance and the relevant certification should be provided confirming its approval under Regulation 31 of the Water Supply (Water Quality) Regulations 2016 (as amended), together with the concentration levels required for safe and effective use and the guidance that supports this.

Only those chemicals listed in the current Drinking Water Inspectorate's List of Substances and Products approved under Regulation 31 of the Water Supply (Water Quality) Regulations 2020 are acceptable for use with water supply pipe installations. It is essential that manufacturer's instructions are followed in respect of the concentration levels of disinfecting agents in order to avoid damage to materials or coatings within the water system.

When do you need to disinfect your water supply pipe?

The disinfection of your water supply pipe should be completed after pressure testing and within 30 days of your connection being made.

*** **We strongly advise against disinfection until you are in receipt of your planned connection date.** ***

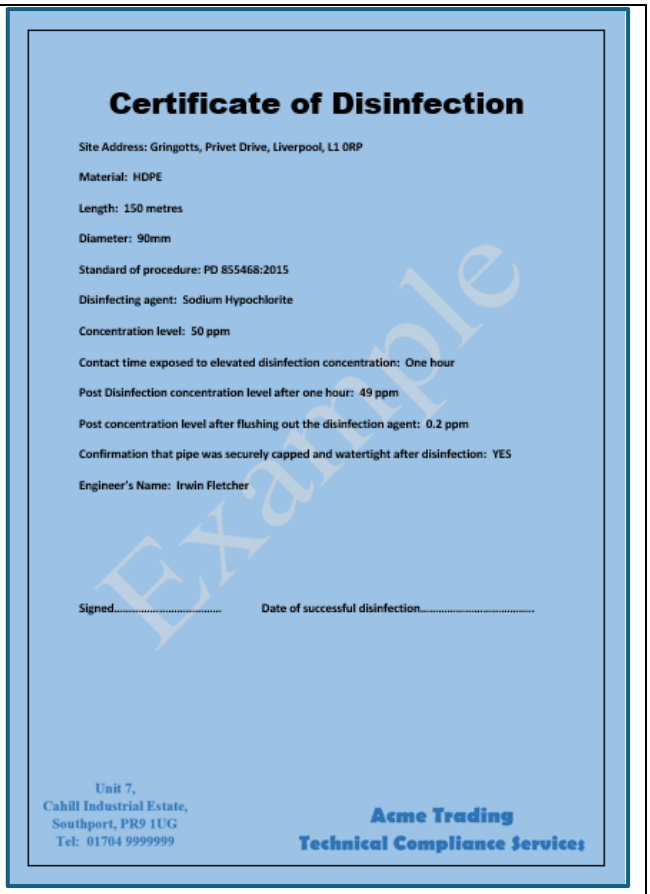
NOTE: Disinfection Certificates are valid for 30 days before the Network Owner makes the connection

Example certificate

Certificates can be generated in any format, providing details of the disinfection procedure and the results are satisfactorily documented.

Information required on a disinfection certificate:

- Site address
- Size length and diameter of pipe
- Standard of procedure i.e. guidance document referred to e.g. PD 855468
- Disinfecting agent
- Concentration level of disinfectant
- Contact time exposed to elevated disinfection concentration
- Post disinfection concentration level after flushing out the disinfection agent
- Confirmation that pipe was securely capped and watertight after disinfection
- Engineer's name
- Signed and date of successful disinfection



Certificate of Disinfection

Site Address: Gringotts, Privet Drive, Liverpool, L1 0RP

Material: HDPE

Length: 150 metres

Diameter: 90mm

Standard of procedure: PD 855468:2015

Disinfecting agent: Sodium Hypochlorite

Concentration level: 50 ppm

Contact time exposed to elevated disinfection concentration: One hour

Post Disinfection concentration level after one hour: 49 ppm

Post concentration level after flushing out the disinfection agent: 0.2 ppm

Confirmation that pipe was securely capped and watertight after disinfection: YES

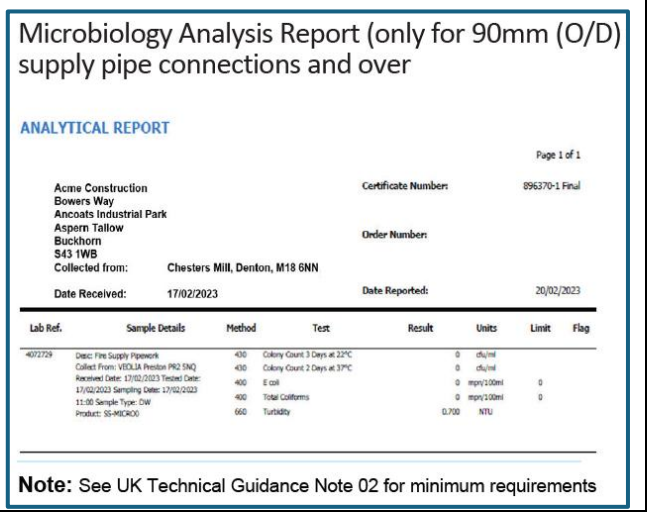
Engineer's Name: Irwin Fletcher

Signed..... Date of successful disinfection.....

Example

Unit 7,
Cahill Industrial Estate,
Southport, PR9 1UG
Tel: 01704 9999999

Acme Trading
Technical Compliance Services



Microbiology Analysis Report (only for 90mm (O/D) supply pipe connections and over

ANALYTICAL REPORT

Page 1 of 1

Acme Construction
Bowers Way
Ancoats Industrial Park
Aspern Tallow
Buckhorn
S43 1WB

Certificate Number: 896370-1 Final

Order Number:

Collected from: Chesters Mill, Denton, M18 6NN

Date Received: 17/02/2023

Date Reported: 20/02/2023

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4072729	Desc: Fire Supply Pipework Collect From: VEOLIA Preston PR2 5NQ Received Date: 17/02/2023 Tested Date: 17/02/2023 Sampling Date: 17/02/2023 11:00 Sample Type: DW Product: SS-MICRO0	430	Colony Count 3 Days at 22°C	0	cfu/ml		
		430	Colony Count 2 Days at 37°C	0	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	Total Coliforms	0	mpn/100ml	0	
		660	Turbidity	0.700	NTU		

Note: See UK Technical Guidance Note 02 for minimum requirements