

Meter Installation, Replacement & Repair

Yorkshire Water's Policy

July 2021



YorkshireWater

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1. Introduction

Since the retail market opened in April 2017, Non-Household Customers (customers) who are typically businesses, public sector organisations and charities, have been able to choose their water Retailer.

Retailers provide billing services for water and waste water, read meters and handle enquiries and complaints. Wholesalers (also known as water companies) look after the pipework and take care of the water supply and removal of waste water.

2. Aim

The aims of this policy are to:

- inform Retailers and Non-Household Customers of the process to follow in relation to the installation, replacement, or repair of a water meter.
- provide Retailers and Non-household customers with guidelines on Yorkshire Water's specifications for the design, installation, repair, or replacement of a meter.
- give Retailers and Non-household customers visibility of Yorkshire Water's Meter Service Products.
- ensure a consistent approach is followed within Yorkshire Water's operational area.

3. Principles

- 3.1 We do not allow the use of Accredited Entities for the installation, repair, or replacement of a meter in respect of the Wholesale-Retail Code Part 3: Operational Terms, Part B Metering.

- 3.2 We do not allow the use of Accredited Entities for the installation of meters at unmeasured premises in respect of the Wholesale-Retail Code Part 3: Operational Terms, Part H (Application for a Contribution Offer).
- 3.3 This policy applies to Non-Household water meters used for the billing of water, sewerage, and trade effluent charges and for leakage monitoring purposes.

4. Meter Ownership and Responsibility

4.1 Wholesaler responsibility

4.1.1 The water meter including chamber, cover and meter unions are the responsibility of Yorkshire Water and we are responsible for their installation and repair or replacement.

Asset	Location	Ownership and Responsibility of Asset
Water meter including meter unions, pipework and fittings within chamber, chamber, frame, and cover.	Public Highway	YW Wholesale
Water meter including meter unions, pipework and fittings within chamber, chamber, frame, and cover.	Within the boundary of the Eligible Premise	YW Wholesale
Water meter including meter unions only.	Inside a building	YW Wholesale

4.1.2 The sizing and location of the meter is Yorkshire Water's responsibility.

4.1.3 The water meter should only be removed or installed by Yorkshire Water (YW) and its Service Partners. Exceptions apply where accredited Self Lay Providers (SLP) are employed for new developments.

4.1.4 We will carry out metering work within **twenty-two (22)** business days per the Operational Terms, Part B Metering. There may however be instances where this is not possible due to factors outside our control e.g. Council and Highway restrictions or where the customer requests an alternative date.

4.1.5 We will update the Central Market Operating System (CMOS) within **five (5)** business days of any meter removal or installation.

- 4.1.6 Where we discover a faulty meter, we will notify the Retailer via a B/05W market form and request suitable site contact details to enable the meter exchange to be carried out.
- 4.1.7 Where a standard meter installation is not possible, we will provide a quote to the Retailer for a non-standard installation. This may be due to the following:
- excavation work is required on public footpaths or roads, or on land owned by third parties
 - work is required to gain access to the meter i.e. material stored on top of the chamber
 - there are Traffic Management restrictions
- 4.1.8 Where we carry out proactive meter replacement programmes we will provide advance notification to Retailers and will confirm the SPID's and meters which will be affected (Operational Terms, Part B Metering.)
- 4.1.9 Where we pilot the use of different types of meters to those listed in our Meter Service Products e.g. smart meters we will provide advance notification to Retailers and will confirm the SPID's and meters which will be affected (Operational Terms, Part B Metering.)

4.2 Retailer responsibility

- 4.2.1 Retailers are responsible for reading meters and must ensure that their meter reading service providers avoid damaging the meter, meter chamber or meter cover (lid). They are responsible for the costs of any damage that they (or their employees or agents) cause and will be recharged accordingly.
- 4.2.2 Retailers should submit a B/01 market form to request the installation of a meter and should indicate the proposed model of meter chosen from our Meter Service Products (See Appendix A). Whilst YW will endeavour to install the requested meter it may not be possible due to technical specification, but we will advise accordingly

- 4.2.3 Retailers shall be bound by our decision regarding the most technically appropriate and cost effective solution for meter installation, repair, or replacement.
- 4.2.4 Retailers should notify us as soon as reasonably practicable that a meter is faulty by submitting a B/05 market form. This includes the following:
- damaged meter/smashed dials/ meter stopped;
 - condensation;
 - leaking meter;
 - meter slowed;
 - meter buried;
 - chamber needs cleaning out to allow reading.
- 4.2.5 Retailers should submit B/07 market form to request a change in size or location of the meter or to request a meter exchange of a non loggable meter < 15 years old. (Further details can be found in our Data Logging Policy).
- 4.2.6 Retailers should provide suitable site contact details on the market form to enable metering work to be carried out. Where we have requested such details from the Retailer these should be provided within **five (5)** business days.

4.3 Non-household Customer responsibility

- 4.3.1 Customers should contact their Retailer if they believe there is an issue with the meter or if they require a meter installation at an unmetered premises.
- 4.3.2 Customers are responsible for the correct design, installation and maintenance of pipework and internal plumbing within the boundary of the Eligible Premises, to which Yorkshire Water's meter may be connected.
- 4.3.3 Customers are responsible for all water passing through the meter including any water run to waste e.g. due to leaks or misuse.

- 4.3.4 Customers must ensure that reasonable access is provided to the meter or any associated out-reader at all times, for the purposes of reading or maintaining the meter.
- 4.3.5 Customers must avoid damaging the meter, meter chamber or meter cover (lid). They are responsible for the costs of any damage that they (or their employees or agents) cause and will be recharged accordingly. It is an offence to tamper with a meter, or allow others to do so, in order to prevent it from recording correctly. (Water Industry Act 1991)
- 4.3.6 For the Health & Safety of meter readers, customers must prevent the ingress of any waste or hazardous material into the meter chamber and arrange the removal of any such waste that enters the meter chamber.
- 4.3.7 Customers should provide accurate consumption data and future demand requirements, where known, to allow accurate meter sizing.
- 4.3.8 Customers should inform their Retailer if their water usage has significantly reduced since the meter was fitted as a smaller meter may be required.
- 4.3.9 Customers who require a larger supply should apply direct to Yorkshire Water Developer Services:
<https://www.yorkshirewater.com/developers/water/services/>
and complete a Commercial or Mixed Development Application Form.
- 4.3.10 Customers using water for non-domestic purposes should have a storage tank which can hold the quantity of water that is likely to be needed in any continuous 8-hour period per our Terms & Conditions of Metered supply.

5. Meter Service Products

- 5.1 We will publish details of the types of meters we install, including their technical characteristics, and we will keep this up to date. This will include meters suitable for accurately recording a customer's water consumption across a range of flow rates (Operational Terms, Part B Metering). See Appendix A.
- 5.2 We will seek the views of Retailers from time to time, but at least once each year when creating or updating our Meter Service Products. (Operational Terms Part B Metering).
- 5.3 We will consider requests from a Retailer to supply particular functionality in our meters when reviewing our Meter Service Products.
- 5.4 We will consider meters that are compatible with the fitting of data logging devices. Please see our Data Logging Policy.

6. Meter Design Standards

6.1 Meter Specification

- 6.1.1 We install three types of cold water meters, as defined within our Meter Service Products:
- Single Jet Meters;
 - Volumetric Meters;
 - Turbine Meters.
- 6.1.2 The type of meter chosen will accurately account for the total water use of the property serviced, as defined in the Measuring Instruments (Amendment) Regulations 2010.
- 6.1.3 The meter will be new and be procured from our Framework Supplier(s) for Meters. Used or reconditioned meters should not be installed.

- 6.1.4 Replacement registers will be new. We will not install used or reconditioned registers. (See Appendix A)
- 6.1.5 All new meter installations should be fitted with an Automated Meter Reading Unit (AMR). An additional clearance of at least 50mm above the top of the meter must be available to accommodate the unit. (See Appendix B).
- 6.1.6 The meter and register should be compatible with common automatic meter reading (AMR/AMI) systems and data-logging equipment used by YW.
- 6.1.7 The meter should have a direct reading facility with a sealed encoder.
- 6.1.8 The meter register should record consumption in cubic metres (m³) and should be not be obscured.
- 6.1.9 The meter should be located so it is fully accessible at all times.
- 6.1.10 We will consider requests to attach devices such as data loggers and optical readers to our meters. Please see our Data Logging Policy.

6.2 Meter Selection

- 6.2.1 A meter will be chosen from our Meter Service Products using the technical characteristics to select an appropriate meter size. The following meter characteristics are provided for each meter listed:
- Nominal flow
 - Minimum flow rate
 - Maximum flow rate
- 6.2.2 Our preferred choice of meter is mechanical, however, under certain operating conditions it may be necessary to use an electromagnetic meter and this will be agreed prior to installation.

- 6.2.3 Meters not listed in our Meter Service Products should not be installed.
- 6.2.4 We will ensure that the meter selected will accurately record consumption for the expected range of flow and any future flow changes, where known.
- 6.2.5 If a mechanical meter is used, the meter configuration should include an uninterrupted straight pipe run of a length 10 times the pipe diameter upstream and 5 times the pipe diameter downstream, to ensure accurate meter operation.
- 6.2.6 The minimum operating upstream pressures combined with the head losses through any bypass pipe work, strainer, valves, and the meter should be taken into account at the design stage to ensure they remain within acceptable limits.

6.3 Meter Layout

- 6.3.1 Our preference is that the meter is installed in-line to prevent it being bypassed, causing loss of revenue. For larger meters we may decide to install the meter on a bypass.
- 6.3.2 An inline meter should be fitted with isolation valve(s) to allow for maintenance. Where a bypass is used, this should include an isolation valve.
- 6.3.3 All isolating valves should be located in such a position as to ensure ease of access for both operation and maintenance.
- 6.3.4 All isolating valves and fittings should be equal to the diameter of the pipework and a distance of at least 3 pipe diameters upstream and downstream of the meter.
- 6.3.5 Where a strainer is required, it should be installed 0.4m upstream of the meter, in accordance with the manufacturer's guidelines, and be the same size as the pipework so the strainer cannot adversely affect the accuracy of the meter. This may

require additional isolation valves to be installed to allow removal of the strainer.

- 6.3.6 The design and location of the meter, chamber and any associated fittings should take into account the requirement to undertake maintenance and repair work in a safe manner at any time of the day or night, and where feasible, ensure that operational tasks requiring access to the meter can be carried out safely by one person with minimal lifting and traffic management.
- 6.3.7 All external meters 15mm in diameter should be installed in a boundary box.
- 6.3.8 All external meters 20mm to 39mm in diameter should be installed in chambers that have a clear opening with minimum dimensions of 600mm x 450mm and a maximum depth from ground level to the top of a meter of 900mm.
- 6.3.9 All external meters 40mm in diameter or larger should be installed in chambers that have a clear opening with minimum dimensions of 900mm x 600mm and a maximum depth from ground level to the top of a meter of 900mm.
- 6.3.10 Yorkshire Water will decide when to install an out-reader, remote from the meter, in a separate chamber or above ground kiosk. The design of the separate chamber or kiosk must be such that it provides for electrical connection between the meter and out-reader.
- 6.3.11 Where there is no alternative but to site a meter within a carriageway, a chamber with a clear opening of 230mm x 380mm and a maximum/ minimum depth of 500mm/ 400mm deep should be provided for the housing of an out-reader. This chamber should be located within an adjacent footpath or verge. A duct with an internal diameter of at least 50mm should be installed between the out-reader chamber and meter chamber.

6.3.12 The chamber cover should be selected based on the loading it will be subjected to as defined in BS EN124. Where feasible the type of cover chosen should be suitable for removal by one person i.e. Class A & B rating or slide out cover.

6.3.13 Acceptable meter location and layout arrangements can be found in Appendices B and C.

6.4 Meter Location

6.4.1 An external meter should be installed within 500mm of the property boundary. (See Appendix B)

6.4.2 An internal meter should be installed as close as possible to the internal face of the building, as the supply pipe enters the property.

6.4.3 Unless authorised by Yorkshire Water all below ground meter installations should be sited in either a grass verge or footway at a location that offers the greatest protection and minimum risk to the operator.

6.4.4 The meter should be installed upstream of any branch off connections.

6.4.5 An internal meter or meter register should not be installed at a height greater than 1.5 metres above floor level.

6.4.6 Adequate insulation for the meter and pipework should be fitted where there is a possibility of the meter or pipework freezing.

6.5 Meter Installation

6.5.1 The meter should be stored and installed according to manufacturer's guidelines.

6.5.2 The meter, fittings and pipework should be disinfected prior to installation.

6.5.3 Yorkshire Water is responsible for undertaking the isolation and re-commissioning of the water supply at the boundary of the property.

6.5.4 All internal meters should be installed in a lockable meter box, where feasible, and comply with the Water Supply (Water Fitting) Regulations 1999.

6.5.5 All meters should be installed centrally within the chamber, meter box or kiosk.

6.6 Commissioning the Meter

6.6.1 Yorkshire Water is responsible for the commissioning and testing of the meter, which should include, but is not limited to, the following:

- re-commissioning of the water supply
- recharge of the pipework which will involve bleeding air from the customer's system slowly to avoid damage
- a visual check of the pipework and meter for signs of leakage, once the pipework is fully recharged
- checks to ensure the meter is recording.

6.7 Meter data

6.7.1 When a meter or register is installed or replaced, we will update CMOS with details of the meter installation within **five (5)** business days:

- Supply point identification (SPID)
- Unique meter serial number
- Meter location
- Meter size and type
- Date of meter installation or exchange
- Opening reading on the meter
- Final reading on the old meter

7. Private Meters

- 7.1 Trade effluent meters, borehole meters, river abstraction meters are private meters, and these are the customers responsibility to install and replace. (Please see our Trade Effluent Meter & Sampling Equipment Policy)
- 7.2 Customers can install an additional private sub meter at their own expense. This must be a minimum of 10 pipe diameters downstream of YW's meter.

8. Charges

- 8.1 Any charges related to the services outlined in this document can be found in the latest published Yorkshire Water Wholesale Charges Scheme (Non-Primary Charges Section G: Metering Services).
- <https://www.yorkshirewater.com/business/wholesale-charges/>

9. References

- The Wholesale-Retail Code Part 3: Operational Terms, Part B Metering.
- YW Meter Accuracy Test Policy
- YW Data Logging Policy
- YW Terms & Conditions of Metered Supply
- YW Leaks on Customer Supplies Policy
- The Competition Act 1998
- The Weights and Measures Act 1985
- New Roads and Street Works Act 1991
- The Water Industry Act 1991, 2014
- The Water Supply (Water Fittings) Regulations 1999 (all meters, pipework and fittings should be Water Regulations Advisory Scheme (WRAS) approved)
- The Measuring Instrument Regulations 2016
- Water Regulations Advisory Scheme (WRAS)
- Civil Engineering Specification for the Water Industry (CESWI) (latest version)
- BS EN 124:2015 Gully tops and manhole tops for vehicular and pedestrian areas
- BS EN ISO 4064:2014 Water meters for cold potable water and hot water. Metrological and technical requirements.

10. Contact details

YW Wholesale Service Desk between 08:00 to 18:00 Monday to Friday - 0344 902 0228.

11. Review date/ version control

Document Control

Document Control Ref:	YW MP-002
Document Custodian:	Wholesale Market Services Team
Review Period:	Annually

Document Approval

NHH Customer Manager Document Owner (Author)	Head of Wholesale Market Services Document Approval Manager
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Document Revision History

Version	Date	Amendment Details
1	Mar-17	New policy
2	Jul-21	Refreshed in line with policy best practice Removed meter accuracy testing and fire-fighting sections which have been produced as standalone policies Included Meter Service products

12. Appendix A – Meter Service Products

Procured from YW's Framework Supplier(s) for Meters

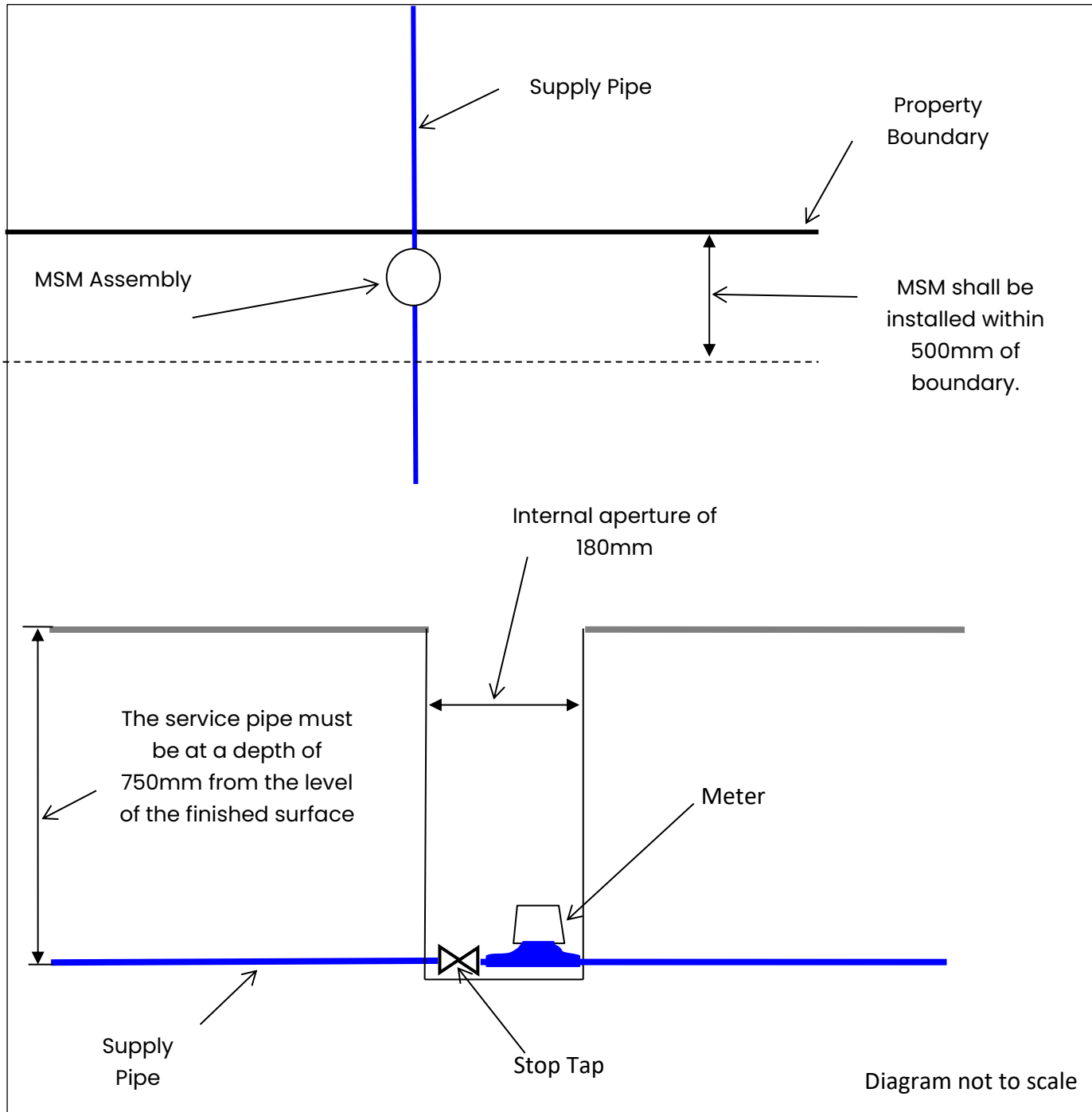
Issue Date: 10 June 2019

Itron Water Meter Selection Tool

Meter Make	Meter Model	Size	Flanged/ Threaded	Flow in Litres/ sec				Flow in Cubic Meters/ hr (m3)					MID Ratio	Size	Pulse Weight	Leakage Threshold Value (Litres/ hr)
				Min Flow (Q1)	Transitional Flow (Q2)	Nom Flow (Q3)	Max Flow (Q4)	Min Flow (Q1)	Transitional Flow (Q2)	Nom Flow (Q3)	Max Flow (Q4)	Headloss at Q3				
Itron	Aquadis+ Manifold Composite	15mm	Manifold	0.002	0.004	0.694	0.868	0.008	0.013	2.5	3.125	<0.63	315	15mm	1 ltr/p (0.001 m3)	8
Itron	Aquadis+ In-Line Composite	15mm	Threaded	0.002	0.004	0.694	0.868	0.008	0.013	2.5	3.125	<0.63	315	15mm	1 ltr/p (0.001 m3)	8
Itron	Aquadis+ 20mm Manifold	20mm	Manifold	0.007	0.011	1.111	1.389	0.025	0.040	4	5	<0.63	160	20mm	1 ltr/p (0.001 m3)	25
Itron	Aquadis In-line (PSM)	20mm	Threaded	0.007	0.011	1.111	1.389	0.025	0.040	4	5	<0.63	160	20mm	1 ltr/p (0.001 m3)	25
Itron	Aquadis In-line (PSM)	25mm	Threaded	0.011	0.018	1.750	2.188	0.039	0.063	6.3	7.9	<0.63	160	25mm	1 ltr/p (0.001 m3)	39
Itron	Aquadis In-line (PSM)	30mm	Threaded	0.011	0.018	1.750	2.188	0.039	0.063	6.3	7.9	<0.63	160	30mm	1 ltr/p (0.001 m3)	39
Itron	Aquadis In-line (PSM)	40mm	Threaded	0.028	0.044	4.444	5.556	0.100	0.160	16	20	<0.63	160	40mm	1 ltr/p (0.001 m3)	100
Itron	Flostar M	40mm	Flanged/ Threaded	0.022	0.036	4.444	5.556	0.080	0.128	16	20	<0.6	200	40mm	10 ltr/p (0.010 m3)	80
Itron	Flostar M	50mm	Flanged/ Threaded	0.022	0.036	6.944	8.681	0.079	0.127	25	31	<0.6	315	50mm	10 ltr/p (0.010 m3)	79
Itron	Flostar M	80mm	Flanged	0.044	0.070	17.500	21.875	0.158	0.252	63	79	<0.6	400	80mm	10 ltr/p (0.010 m3)	158
Itron	Flostar M	100mm	Flanged	0.069	0.111	27.778	34.722	0.250	0.400	100	125	<0.6	400	100mm	10 ltr/p (0.010 m3)	250
Itron	Flostar M	150mm	Flanged	0.071	0.113	44.444	55.556	0.254	0.406	160	200	<0.6	630	150mm	100 ltr/p (0.1 m3)	254
Itron	Woltex M	50mm	Flanged	0.111	0.178	11.111	13.889	0.400	0.64	40	50	0.12	100	50mm	10 ltr/p (0.010 m3)	400
Itron	Woltex M	80mm	Flanged	0.175	0.280	17.500	21.875	0.6	1.0	63	79	0.15	100	80mm	10 ltr/p (0.010 m3)	630
Itron	Woltex M	100mm	Flanged	0.278	0.444	44.444	55.556	1.0	1.6	160	200	0.15	160	100mm	10 ltr/p (0.010 m3)	1000
Itron	Woltex M	150mm	Flanged	0.694	1.111	111.111	138.889	2.5	4.0	400	500	0.14	160	150mm	100 ltr/p (0.1 m3)	2500
Itron	Woltex G	200mm	Flanged	4.375	7	175	218.750	15.75	25.20	630	788	0.12	40	200mm	100 ltr/p (0.1 m3)	15750

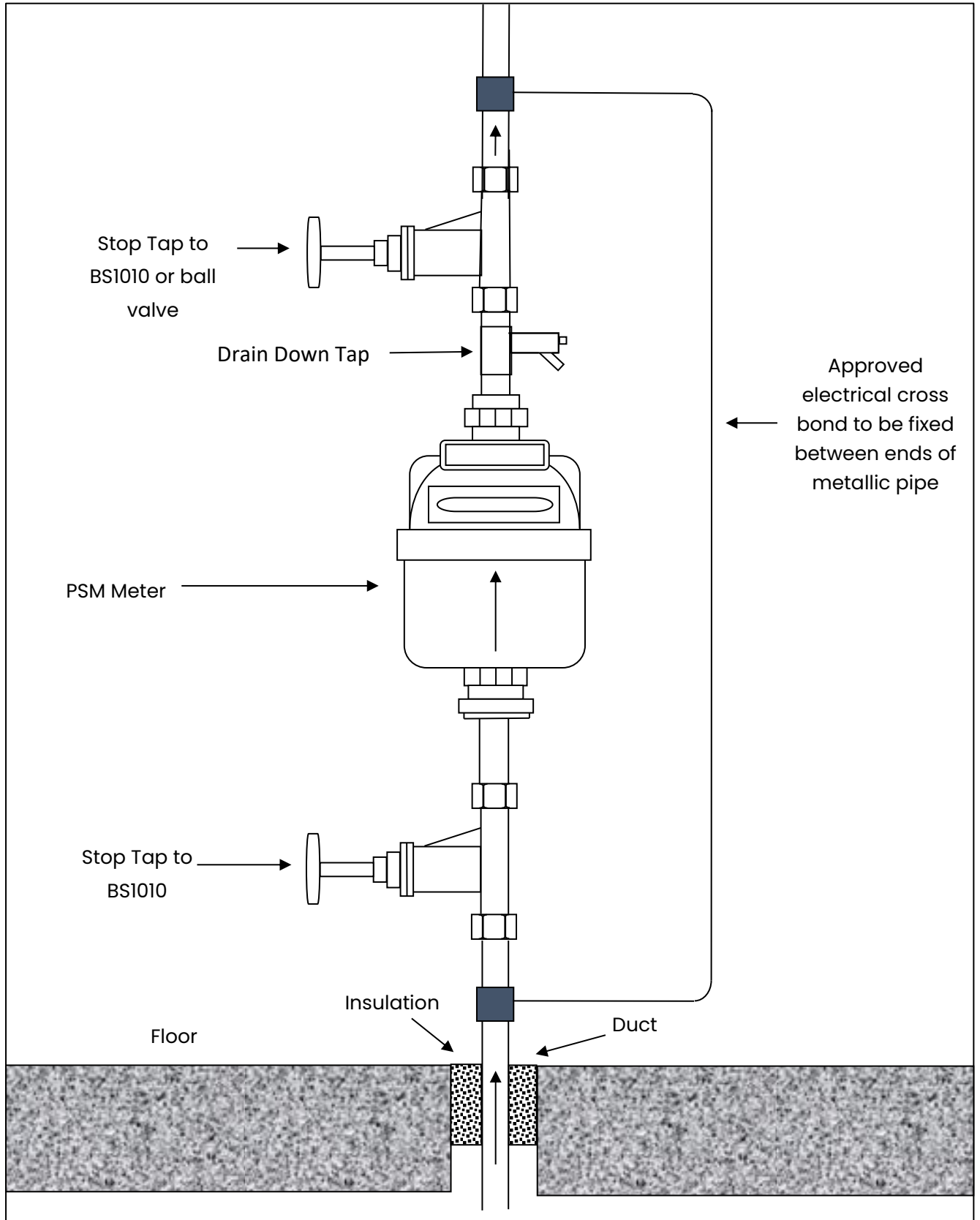
Note - A new register (index) cannot be fitted to a Flostar meter.
A new index can be fitted to a Woltex meter.

12. Appendix B – Acceptable Meter Location and Depth

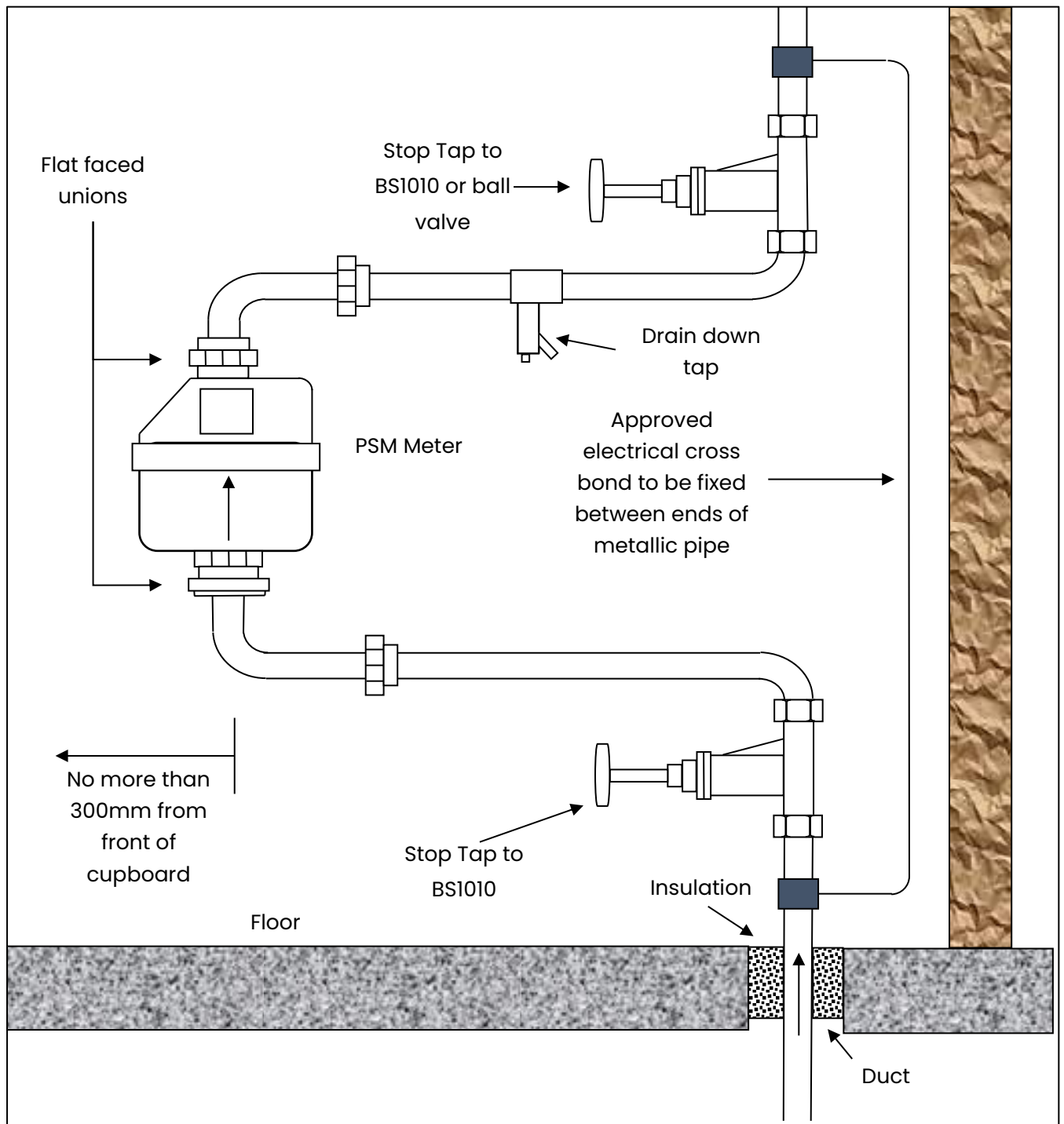


12. Appendix C – Acceptable Meter Layouts

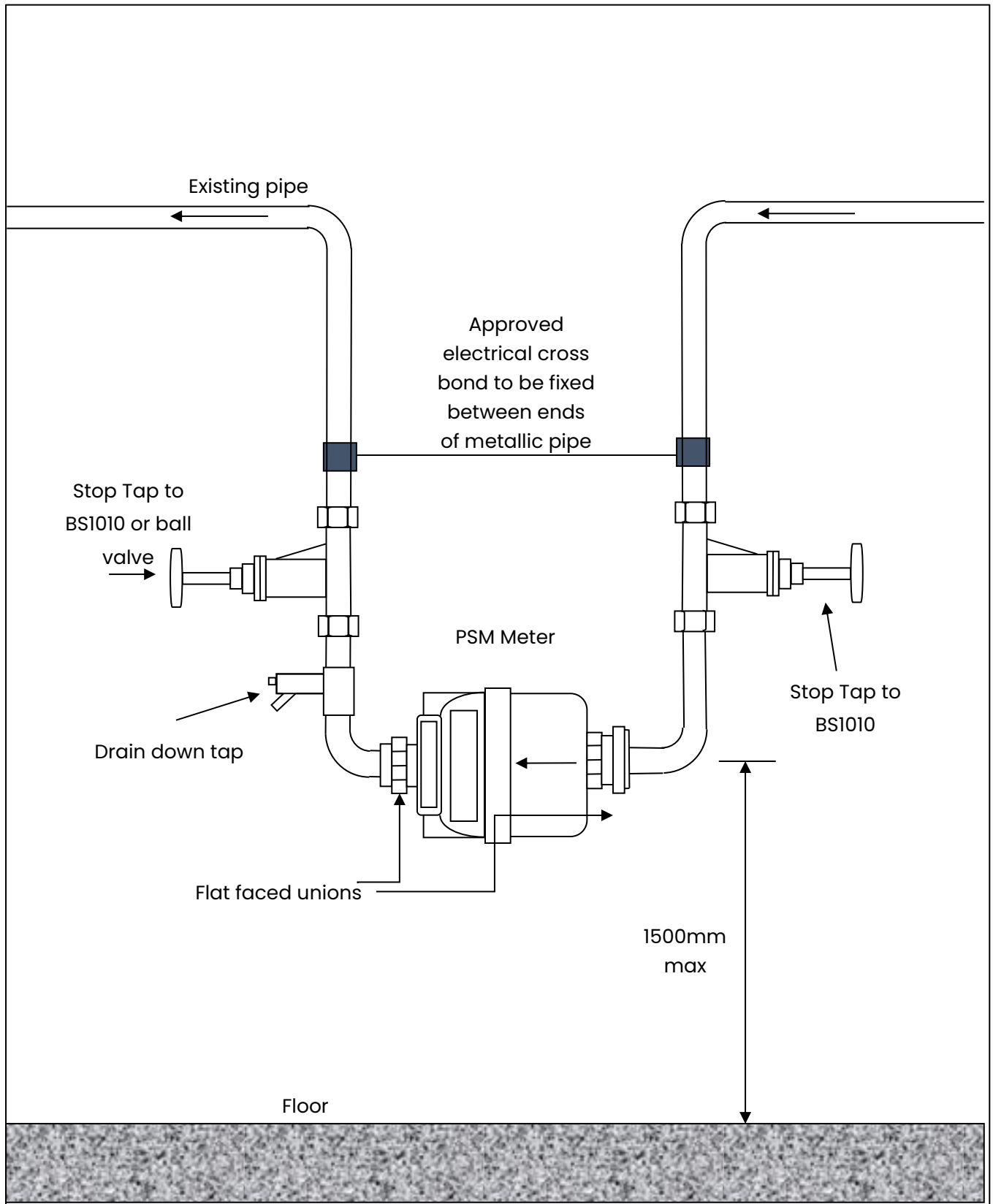
A. Internal In-Line 20mm – 39mm Meter Installation.



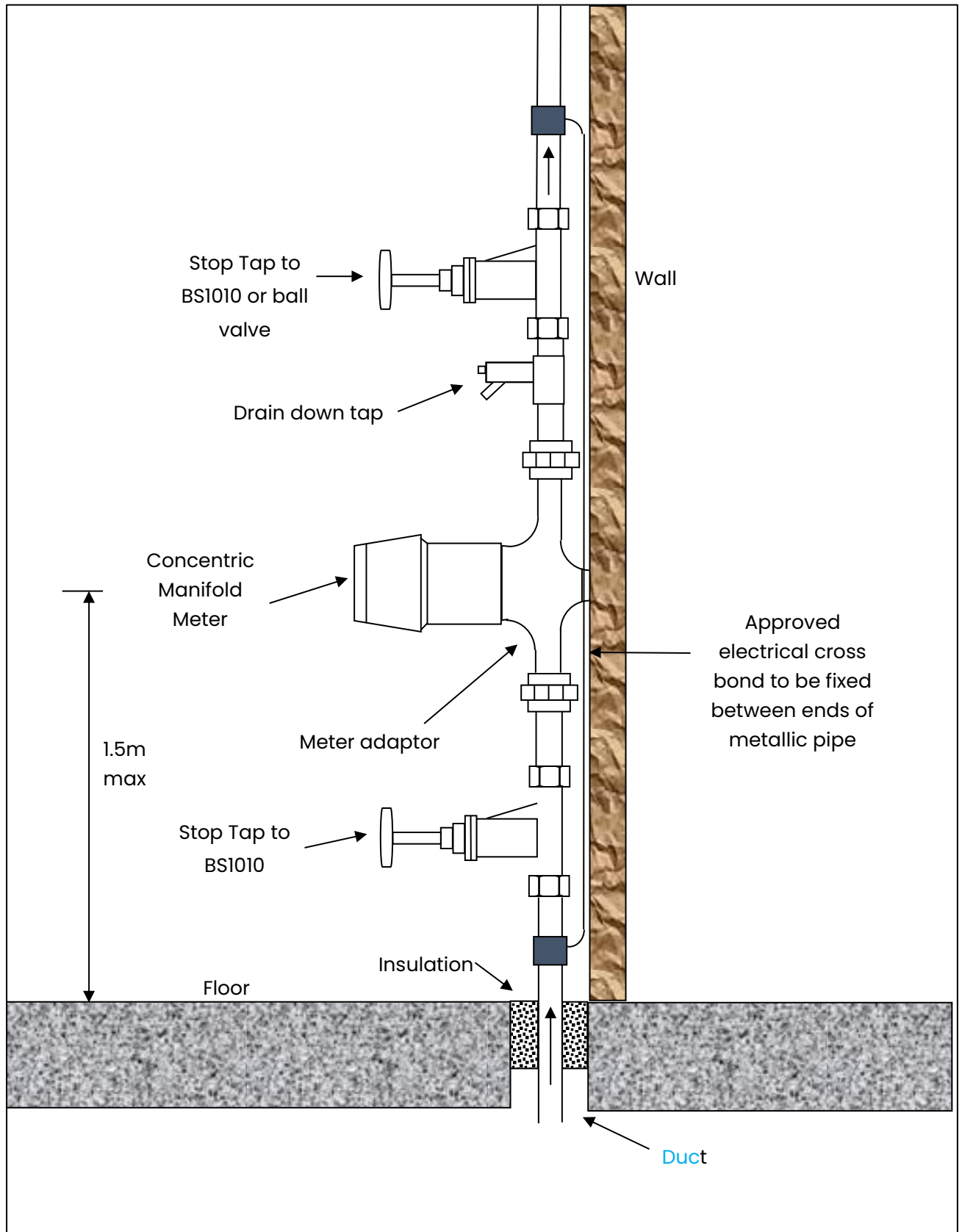
B. Internal In-Line 20mm – 39mm Meter Installation in kiosk /meter box.



C. Internal 20mm – 39mm Meter Installation Requiring Diversion.

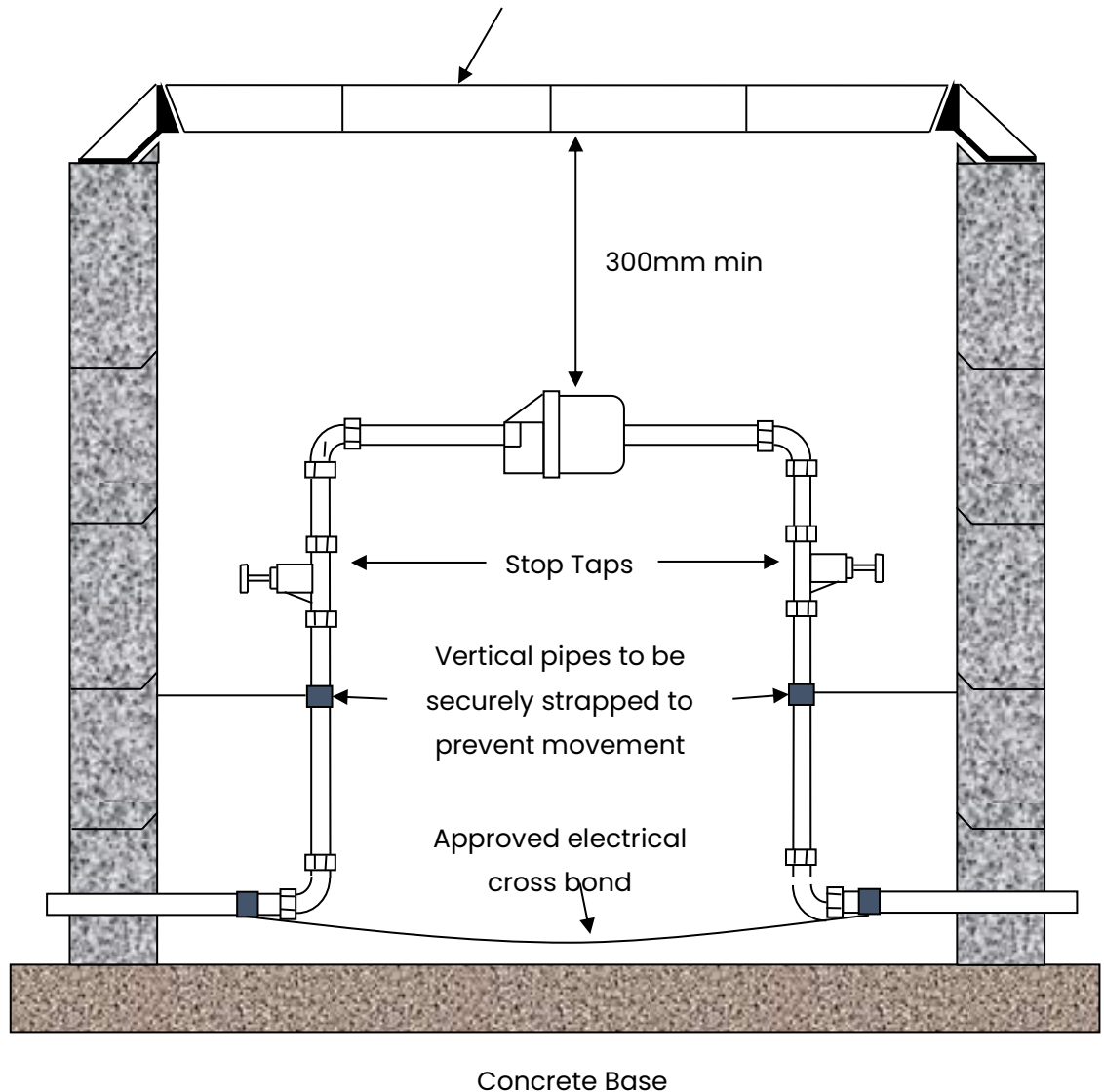


D. Internal in-line 20mm – 39mm Meter Installation.



E. External Meter Installed In Precast Concrete Chambers for meters 15mm, 20mm, 25mm, 30mm and 40mm PSM meters

Frame & Cover type appropriate to traffic loading. Grade B125 for pavement & verges.
Grade D400 for all trafficked surfaces.

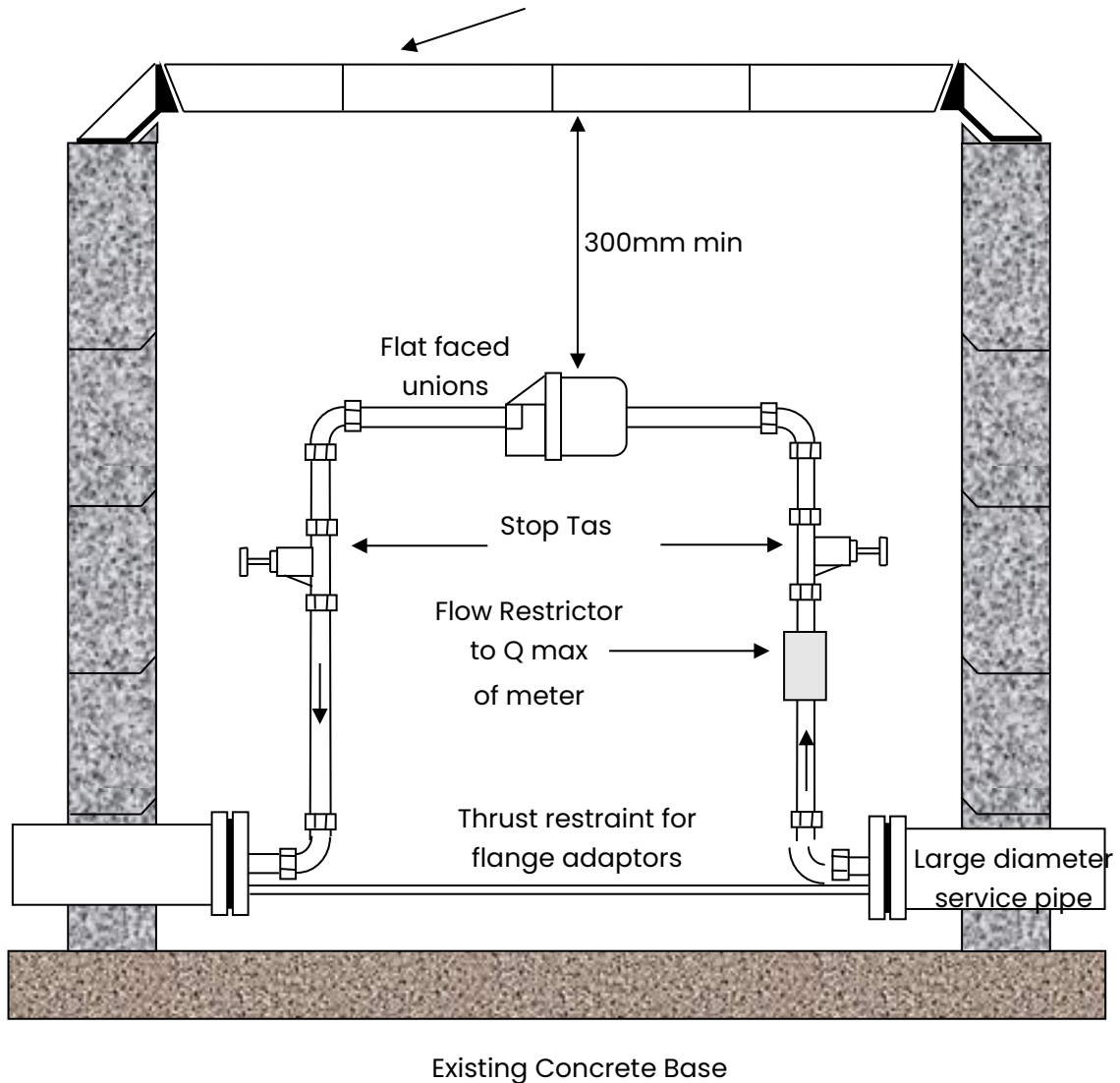


Notes:

- For chamber size 601 x 455 mm where the chamber is subject to traffic loading a mass concrete base laid to a thickness of 100 mm. Where chamber is not subject to traffic loading a precast concrete base unit shall be used.
- For chamber size 430 x 280 mm a precast concrete base unit shall be used in all loading conditions.
- Chamber size of 601 x 455 mm shall be used for 30 and 40 mm PSM's. Chamber size 430 x 280 mm for 25 mm PSM meters.

F. Installation of a 20mm – 39mm Meter in Place of a Flanged Meter in an External Precast Concrete Chamber.

Frame & Cover type appropriate to traffic loading Grade B125 for pavement & verges.
Grade D400 for all trafficked surfaces.

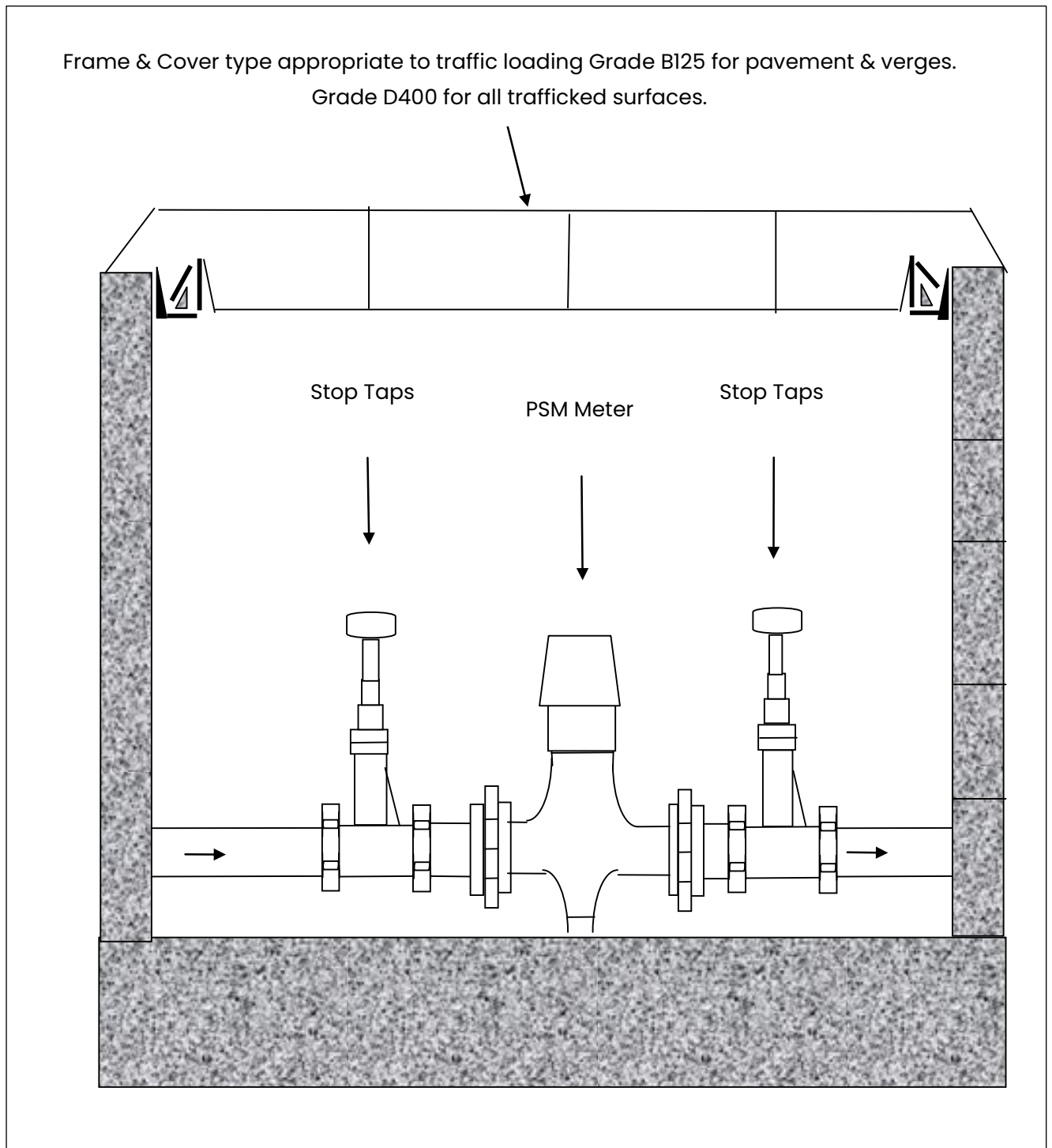


Notes:

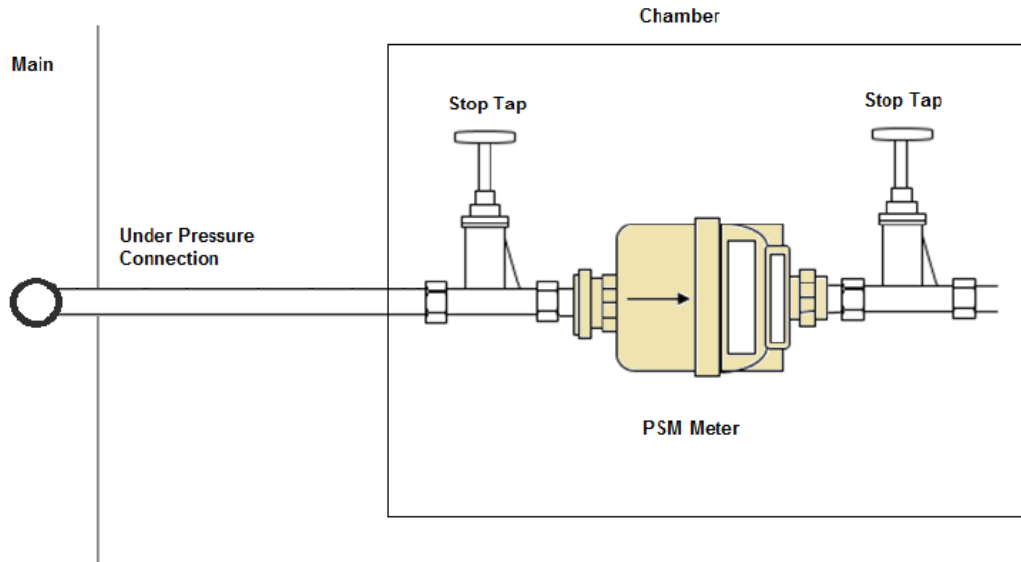
1. For chamber size 610 x 455 mm where the chamber is subject to traffic loading a mass concrete base is laid to a thickness of 100 mm. Where chamber is not subject to traffic loading a precast concrete base unit shall be used.
2. For chamber size 430 x 280 mm a precast concrete base shall be used in all loading conditions.
3. Chamber size of 160 x 455 mm shall be used for 30 and 40 mm PSM's. Chamber size 430 x 280 mm for 25 mm PSM meters.

G. External Inline 20mm – 39mm Meter Installation in a Precast Concrete Chamber.

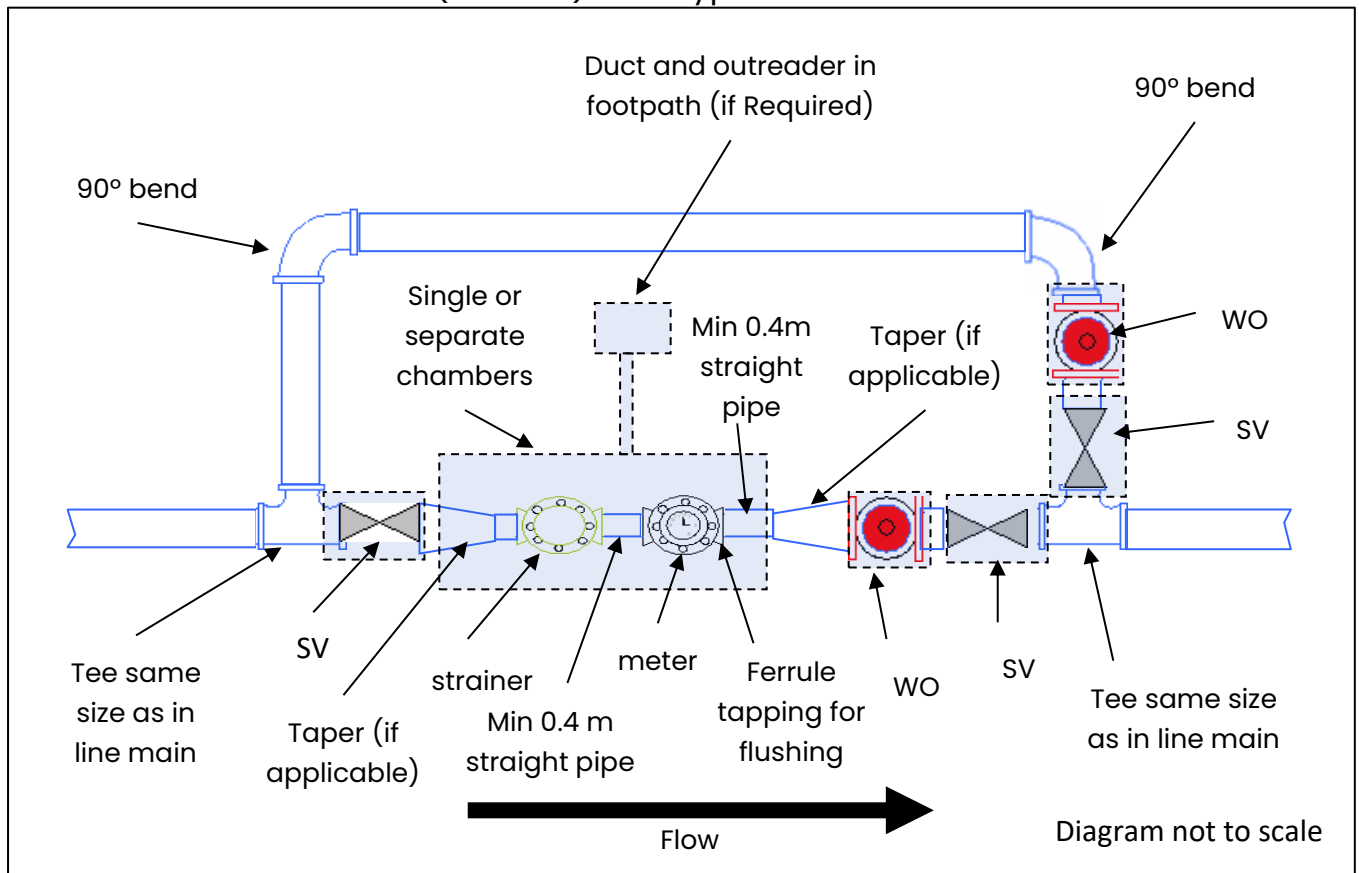
Frame & Cover type appropriate to traffic loading Grade B125 for pavement & verges.
Grade D400 for all trafficked surfaces.



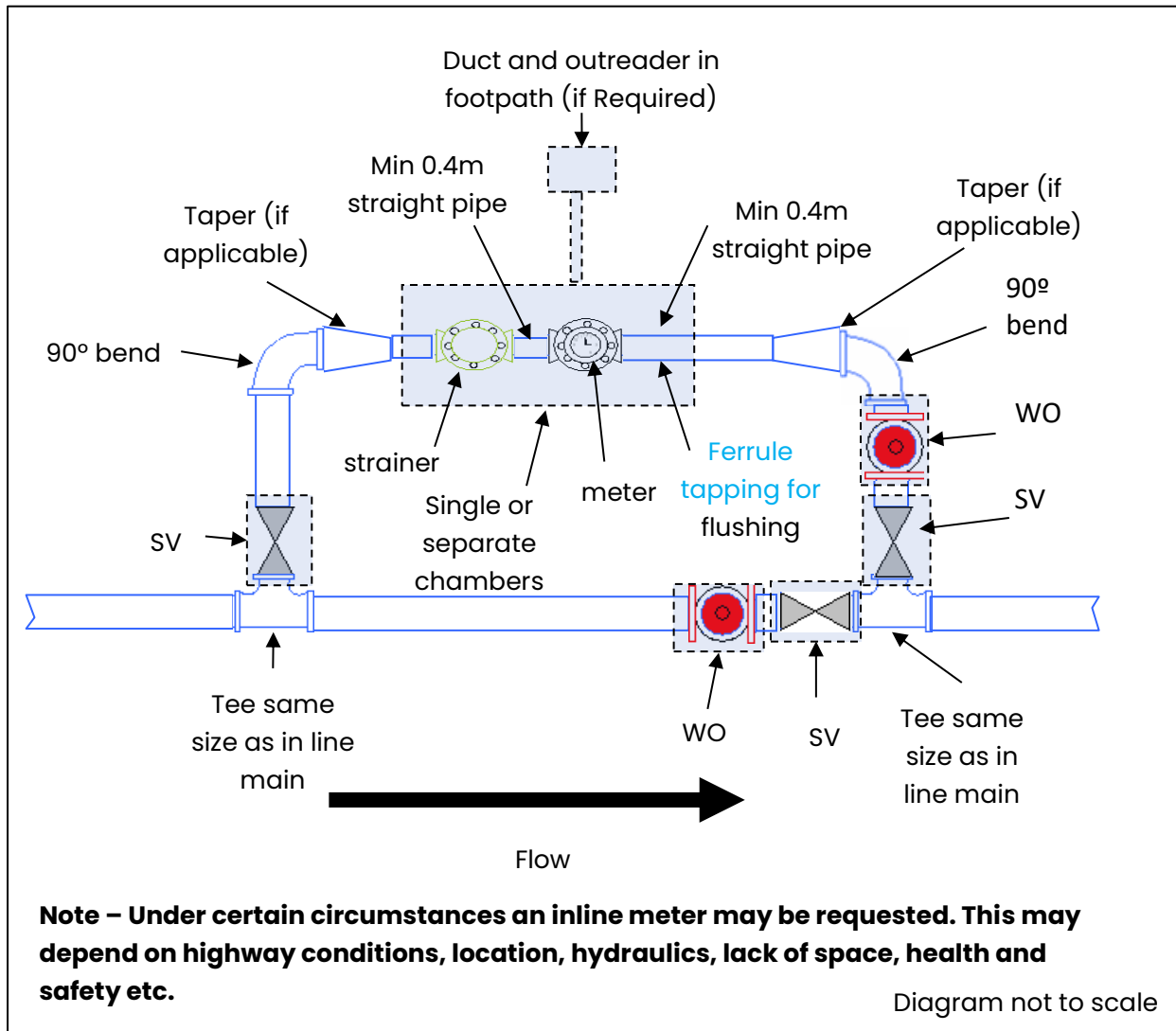
H. Standard Installation Drawing for External 20mm to 39mm Meter Installation.



I. Standard Inline meter (>40mm) with bypass installation.



J. Standard Meter (> 40mm) on Bypass installation



Thank you

For more information contact:

Wholesale Contracts Team

wholesalecontracts@yorkshirewater.com

[@yorkshirewater](#)

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[yorkshirewater.com](https://www.yorkshirewater.com)