

# **Anglian Water's Self-lay Policy**

Incorporating Code of Practice for Self-laying of  
Water Mains and Services in England and Wales

Edition 3.1 May 2017

**September 2018**

# Contents

<b>1.0</b>	<b>Introduction.....</b>	<b>3</b>
1.1	Self-lay and Anglian Water .....	3
1.2	Self-lay information .....	3
<b>2.0</b>	<b>Self-lay policy .....</b>	<b>4</b>
2.1	Scope .....	4
2.2	Standards and specifications.....	5
2.3	Supervision and inspection.....	5
2.4	Charging.....	6
2.5	Design .....	7
2.6	Process .....	8
2.7	Variations .....	9
<b>3.0</b>	<b>Addendums and additions to the ‘Code of Practice...’ .....</b>	<b>10</b>
<b>4.0</b>	<b>Addendums and additions to the National Addendum for safe control of routine mains connections .....</b>	<b>15</b>
<b>5.0</b>	<b>Material specifications.....</b>	<b>16</b>
<b>6.0</b>	<b>Appendices .....</b>	<b>18</b>
	Appendix 1 - Water quality audit form part 1.....	18
	Appendix 1 - Water quality audit form part 2.....	19
	Appendix 2 – Notification period .....	20

## 1.0 Introduction

### 1.1 Self-lay and Anglian Water

Anglian Water fully supports the right for a Developer to choose how to source new water infrastructure. This document is provided to help make that choice easier; giving information on how Anglian Water facilitates self-lay, as well setting out a clear self-lay policy for self-lay providers (SLPs) and/or Developers.

This self-lay policy applies to all new mains and services where new assets are designed and/or constructed by an SLP.

This policy should be read in conjunction with the WRC's 'Code of Practice for self-laying of water mains and services, edition 3.1' which was prepared by a National Forum set up by Water UK comprising of water companies to help SLPs operate in any water company licensed area within England and Wales using similar processes, procedures and materials.

For more information, please visit the [Water UK](#) website.

### 1.2 Self-lay information

All of our self-lay mains/connections, forms can be found on our website here:

<http://www.anglianwater.co.uk/developers/self-lay/>

This includes the notification forms which you can fill out at each stage of the self-lay process. This will ensure Anglian Water processes each stage of your application quickly and efficiently. You can fill these out electronically and send them straight to our teams via email to [connections@anglianwater.co.uk](mailto:connections@anglianwater.co.uk).

For point of connection enquiries (*Code of Practice reference 2.3 Initial Enquiry*) or to submit a self-lay water main design, you will need to speak to our pre-planning team.

You can find our contact details [here](#) together with all our details on the Anglian Water website should you have any further queries:

## 2.0 Self-lay policy

### 2.1 Scope

2.1.1 If an SLP would like to self-lay water mains and/or services within the Anglian Water region, they should be, at a minimum, partially accredited with the Water Industry Registration Scheme (WIRS). This is administered by Lloyds Register.

Details of the scheme and the relevant application forms can be found on the [Lloyds Register website](#)

2.1.2 Self-lay may also include the laying of services to commissioned mains on new developments. This includes both mains constructed by an SLP under a self-lay agreement or mains requisitioned and constructed by Anglian Water.

2.1.3 Both the New Road and Street Works Act 1991 and Traffic Management act will apply when SLPs choose to carry out service connections in the public highway. The provisions include all noticing and defects liability period.

2.1.4 Self-lay also includes the laying of services (including fittings, chambers, meter fittings) to existing water mains subject to Anglian Water's approval.

The following pose as high risk, therefore Anglian Water may complete the works themselves:

- Water main is a trunk or a strategic main.
- Main has high failure rate.
- Mains material, for example PVC, which needs depressurisation before connection.

2.1.5 Self-lay works can include both on-site mains and those off-site that extend to the point of connection on the existing network, as determined by Anglian Water. Anglian Water will carry out the connection to existing network unless it is an inline routine connection. Self-lay works may also include the new mains part of diversion works; however this will be carried out at cost and no asset payment will be made.

2.1.6 The Developer or SLP should provide all the necessary approved materials and resources to adequately construct the works as per the material specification in section 5.0. If requested, the SLP should also be able to provide a materials schedule to Anglian Water.

2.1.7 Final flushing, pressure testing and disinfection shall be carried out by the SLP in accordance with Anglian Water's specifications.

2.1.8 Anglian Water retains the right to undertake water quality sampling and laboratory testing as a non-contestable activity.

- 2.1.9 Anglian Water shall install the water meters to all wall box, boundary box or manifold connections. The SLP shall fit a trickle flow plug (yellow plug) at the time of the connection. SLPs shall only install meters to connections greater than 32mm at the time of connection (excluding connections to high risk domestic or commercial properties). All meters installed shall be issued by Anglian Water. SLPs will be responsible for providing accurate meter details and meter locations for each meter at the time of the meter fit.

## **2.2 Standards and specifications**

- 2.2.1 Across all activities, SLPs should work to current Anglian Water standards and specifications. Similarly, Anglian Water (and its contractors) will comply with current policy and procedures.
- 2.2.2 SLPs and/or Developers will need to enter into and comply with the national legal agreement for self-lay work, before any work commences on site. If self-lay mains are constructed prior to the agreement being in place, Anglian Water can refuse to adopt them.
- 2.2.3 For phased and staged projects, separate legal agreements will be required.
- 2.2.4 A framework legal agreement shall be adhered to for all self-lay service connections.
- 2.2.5 Any other applicable statutes, codes and regulations should be followed by the SLP and indemnify Anglian Water accordingly.
- 2.2.6 Under the New Roads and Streetworks Act 1991 and Traffic Management Act 2004, SLPs are responsible for the excavation and reinstatement of any street, until the expiration of the NRSWA Guarantee period.
- 2.2.7 All SLP operatives shall hold a National Hygiene card, which is issued by Energy and Utility Skills. These cards should be available at all times whilst on site. Operatives carrying out service connections shall have an Anglian Water, Water Quality passport showing that they have received the 'POSWSH working on services' training. They should also have a calibrated chlorine test kit and disposal cups for the taste and odour test.

## **2.3 Supervision and inspection**

- 2.3.1 SLPs should ensure that Anglian Water can access any part of the self-lay works for inspection, when necessary. This may include access for the pressure testing, final flushing and swabbing.
- 2.3.2 Samples can be taken of any materials used in relation to the self-lay work.
- 2.3.3 Anglian Water's Scientific Team will carry out a site audit for self-lay service connections. You can find a copy of the audit form in Appendix 1. If any remedial works are required as a result of site visits, corrective actions will be listed along with timescales.

- 2.3.4 If there are any non-conformities during an audit, inspection or supervision visit, Anglian Water may notify Lloyd's Register.
- 2.3.5 SLPs should notify Anglian Water in advance of connection on any high risk domestic or commercial premises.

## **2.4 Charging**

2.4.1 Anglian Water requires the Developer to provide surety by way of the signed legal agreement. An asset payment will be made to the Developer/SLP when Anglian Water adopts the main, following an invoice from the Developer/SLP. The non-contestable elements of self-lay work will be deducted from the asset payment.

2.4.2 Anglian Water's charges for non-contestable elements of self-lay work, reflects reasonable costs.

These charges will be reviewed and published for the 1<sup>st</sup> April each year, and are available on our [website](#).

2.4.3 Zonal charges are applicable and payable on all new service connections whether carried out by Anglian Water or the SLP. However, if a live connection has existed on the site to be developed and has been billed by Anglian Water within five years immediately preceding redevelopment, a zonal charge credit(s) will be applied and deducted from the quotation.

2.4.4 Anglian Water will charge for any checking and approval of SLP self-lay designs. This charge will be deducted from the scheme costs once the work has been completed.

2.4.5 The design deposit shall be refunded as part of the asset payment.

2.4.6 Anglian Water shall be reimbursed for the actual costs by the Developer/SLP for any additional site visits, sampling, mains connections, changes to the site layout or abortive costs it incurs in the process. These will be deducted from the Asset Payment.

2.4.7 To serve more than one development, Anglian Water shall fund the additional costs over and above those required for the development under consideration and recover the additional costs from future self-lay schemes or requisitions.

2.4.8 The Developer/SLP will be charged as appropriate, by way of reduction in asset payment, for any additional costs Anglian Water has incurred previously in sizing works to cover subsequent development.

2.4.9 Any diversionary works, which Anglian Water agrees to, can be included in the self-lay arrangement and shall be fully funded by the Developer, including connections relating to the diversion. There are no asset payments made for diversionary works.

- 2.4.10 Where the SLP makes service pipe connections, the SLP/Developer shall pay Anglian Water the relevant charge per plot, which covers administration, water regulation inspections and meter installations (inclusive of meter cost).
- 2.4.11 Where Anglian Water makes service pipe connections, the Developer or SLP should pay Anglian Water the cost of each service pipe connection as specified within Anglian Water's Charges Scheme.
- 2.4.12 Anglian Water will make asset payments for self-laid assets for domestic purposes. Payments are based on statutory requirements set out in the Water Industry Act 1991, Section 51C. This takes account of income received from new customers and is consistent with the calculation of requisitioning charges. The asset payments shall be made upon receipt of an invoice, subject to satisfactory commissioning and vesting of the self-laid infrastructure and any remedial works that have been identified, have been rectified.

## **2.5 Design**

- 2.5.1 The SLP has the option to submit designs for approval by Anglian Water, or if the SLP wishes, Anglian Water can design the works, subject to the below.
- 2.5.1 The SLP may design both on-site and off-site works, although Anglian Water retains the right to design off-site systems if it wishes to do so. Anglian Water shall design all reinforcement works. Anglian Water will check and approve any design carried out by the SLP. All designs, whether by Anglian Water or the SLP, shall be in AutoCAD format.
- 2.5.2 The SLP may design on-site systems, adhering to Anglian Water current standards and specifications. Under a self-lay arrangement the SLP shall provide full details of designs and, all risk assessments, method statements and action plans, prior to construction on site.
- 2.5.3 Prior to carrying out the design the SLP should request a point of connection from Anglian Water. This should be done using the point of connection form available on our online portal, **InFlow**
- 2.5.4 Anglian Water can provide information on its water network, to facilitate Developers and SLPs in carrying out self-lay work.
- 2.5.5 The differentiation between mains to be constructed by the SLP and mains to be constructed by Anglian Water will be illustrated by showing back to back wash outs, with a clear break in the main.
- 2.5.6 All mains should be referenced with the mains material and size.
- 2.5.7 Any service pipe greater than 32mm shall be referenced with its size.
- 2.5.8 All new fire hydrant positions should be as defined by the relevant Fire Authority.

## 2.6 Process

- 2.6.1 To see how the self-lay process works, see our website here for a simple [process map](#)
- 2.6.2 Anglian Water will comply with the levels of service defined in Part 1; 1.18 of the Code of Practice.
- 2.6.3 Our level of service does not commence until all the required information and payment if applicable is received from the SLP.
- 2.6.4 Anglian Water shall liaise with the Fire Authority regarding the numbers and positioning of fire hydrants, unless the SLP has chosen to design the water main. In these cases, the SLP should consult with the Fire Authority and provide evidence of this to Anglian Water on application. Designs shall progress subject to modifications required by the Fire Authority.
- 2.6.5 Notifications of each stage of the self-lay work should be sent to Anglian Water via the forms on our [website](#).
- 2.6.6 If the SLP does not commence works within the timescales quoted on the notification form, a new notification form shall be submitted.
- 2.6.7 Between the serving of this notice and starting on site, a pre-construction site meeting shall take place between Developer, SLP, and Anglian Water to agree scope and timescales of work.
- 2.6.8 The following items should be submitted to Anglian Water for approval at least 10 working days before the SLP intends to commence the self-lay works:
- Programme and method statement for self-lay works.
  - Subcontractor details (all sub contractors shall comply with WIRS requirements).
  - Materials details.
  - Any other information reasonably required.
- 2.6.9 The SLP should give Anglian Water a minimum of 5 working days notice of any pressure testing, flushing and chlorination works, which require inspection and/or approval. This should be done using Self-lay Notification Form 1.
- 2.6.10 Before making mains connections, the water main and any other plant or apparatus shall have been pressure tested, swabbed, cleansed and disinfected. Satisfactory water samples will then need to be taken.
- 2.6.11 When ready, prior to the connection being made, the SLP should provide Anglian Water with as-laid plans of the self-lay works and all evidence of work on-site, including pressure test certificates.
- 2.6.12 Upon receipt of the above, Anglian Water will make the mains connection(s) within 14 days of a satisfactory sample.
- 2.6.13 Following a joint site inspection between SLP and Anglian Water, once Anglian Water is satisfied that the self-lay works have been properly commissioned and connected in



all respects, Anglian Water shall issue a Vesting Certificate to the Developer/SLP. At this point, the self-lay works become vested by Anglian Water.

- 2.6.14 Upon issue of a Vesting Certificate at completion, all outstanding charges are payable. Anglian water will pay the asset value on receipt of an invoice, less any sums due under the terms of the Agreement.
- 2.6.15 The Developer or SLP shall give at least 10 working days notice of the date when it intends to make service pipe connections or requires Anglian Water to make service pipe connections. This is done using standard form SL3 'Notification of commencement of water connections for water self -lay scheme'.
- 2.6.16 Before any service connection is made, Anglian Water has the right to inspect the external pipework to be connected to ensure compliance with the Water Supply (Water Fittings) Regulations 1999.
- 2.6.17 The Developer or SLP should notify Anglian Water within 2 working days of the service connection being completed using either notification form 5 or 6, as appropriate.
- 2.6.18 Each meter box or manifold port shall be tagged, showing the plot it serves.
- 2.6.19 A Defects Liability Period, for service pipes, will commence from the date of connection, which is also when the service pipes are adopted. The Defects Liability Period will last for one year and ensure that the Developer or SLP guarantees the works against any defect including damage.
- 2.6.20 A Defects Liability Period for mains will commence from the date of vesting. The Defects Liability Period will last for one year and ensure that the Developer or SLP guarantees the works against any defect including damage.
- 2.6.21 All boundary boxes on service connections shall, wherever possible, be installed in unmade ground, away from driveways or vehicle crossovers.

## **2.7 Variations**

- 2.7.1 Should the Developer change the site layout or number of plots after the design has been completed or approved, Anglian Water shall be informed of the changes immediately, so that the design and the estimated asset payment is reassessed.
- 2.7.2 Any variations to the designed main should be sent, for approval, to the Anglian Water Project Engineer responsible for the scheme.
- 2.7.3 If any contaminants are found on site which had not been highlighted by the soil report, mains construction shall cease immediately and the SLP should consult with their Anglian Water Project Engineer.

### **3.0 Addendums and additions to the 'Code of Practice for Self-laying of Water Mains and Services for England and Wales', Edition 3.1.**

#### **Part 1 - General**

#### **1.6 Protection of Water Quality**

*Insert 1.6.12:* Service connections to high risk properties i.e. properties with Rainwater Harvesting Systems, Greywater Recycling etc. shall only be made once Anglian Water has confirmed that the installations comply with the Water Supply (Water Fittings) Regulations 1999 and the relevant British Standards.

*Insert 1.6.13:* All SLP operatives shall have received the relevant briefings on POSWSH (Policies and Standards for Water Supply Hygiene), prior to carrying out any service connections, and have this recorded in, and be issued with an Anglian Water, Water Quality passport.

#### **1.7 The Agreement**

*Insert 1.7.3:* The water mains construction and the service connections will be arranged under two separate agreements. Water mains agreements are entered into for each site

*Insert 1.7.4:* The Water Services agreement will be a framework agreement between Anglian Water and the SLP and may cover more than one site.

#### **1.8 Contestable and non-contestable work**

##### **Table 1 – Design**

###### ***Table 1 - Installation***

*Delete:* Fitting of water meters to water company specification and subject to water company approval.

*Insert:* Fitting of trickle flow plugs on service connections where boundary box, manifold or wall box are installed. Fitting of meters on services greater than 32mm where a meter chamber with frame and cover are installed.

###### ***Table 2 - Installation***

*Insert:* Installation of water meters on service connections where boundary box, manifold or wall box are installed.

*Insert:* Water main and service connections to existing water mains deemed high risk by Anglian Water.

## 1.11 Finances

### *Replace 1.11.1:*

Anglian Water will estimate the capital cost of the work to be undertaken on the scheme in its entirety. The estimated capital cost is then evaluated against the revenue projected for the scheme over a period of 12 years, under sections 51C (6) and (9). This model produces the relevant Asset Payment and Developer Contribution applicable for the site. In respect to the mains element of the work there is no upfront payment by the Developer under this option as the Developer Contribution element of the costs is deducted from the Asset Payment at the conclusion of the scheme with the balance of the asset payment being paid to the Developer. The associated payments are covered by a self-lay agreement which will be entered into between the relevant parties.

The Developer Contribution is equal to the difference between the total capital cost of the scheme (less abortive and other costs for which the Developer is solely responsible) and the Asset Payment due on completion of the scheme.

*Insert 1.11.2:* The asset payment, less the Developer Contribution shall become due when the main is vested in Anglian Water, and shall be paid on receipt of an invoice for the Asset Payment amount.

## Part 2 – Self-lay Procedures

### 2.3.1 Design by Developer/SLP

*Table 4 addition:*

Information Required	To Include
Water Regulations Information	<ul style="list-style-type: none"><li>• Plan clearly showing the proposed cold, and hot water plumbing and water fittings to be installed.</li><li>• Details of any Rainwater Harvesting or Greywater reuse systems.</li><li>• Schedule of water fittings showing the make of all pipes, fittings and sanitary ware to be installed.</li></ul>

### 2.3.2 Design by Water Company

*Table 5 addition:*

Information Required	To Include
Water Regulations Information.	<ul style="list-style-type: none"><li>• Plan clearly showing the proposed cold, and hot water plumbing and water fittings to be installed.</li><li>• Details of any Rainwater Harvesting or Greywater reuse systems.</li><li>• Schedule of water fittings showing the make of all pipes, fittings and sanitary ware to be installed.</li></ul>

### 2.4.1 Notification of Start

*Insert: 2.4.1.4:*

The SLP shall provide full details of design, all risk assessments, a method statement and action plans prior to construction on site.

### 2.4.4 Service Pipe Installation

*Replace 2.4.4.3 with:*

Service connections should not commence until the main to which they are to be connected is commissioned and vested in the Water Company. No service connection should be made until a property to be supplied is confirmed as complying with the Water Supply (Water Fittings) Regulations. High risk domestic and commercial connections require inspection before connection can be made.

## Part 3 - Design and Construction Guidance

### 3.3 Design Drawings

*Insert 3.3.1:* All designs submitted for vetting or site layouts for Anglian Water to design should be submitted electronically in AutoCAD format.

3.3.4 *Delete bullet point:* Location of service pipe, showing size of service pipe if above 25mm

3.3.4 *Insert bullet point:* Location of service pipe, showing size of service pipe if above 32mm

3.3.4 *Additional bullet point:*

- Location and size of any ducts installed by the Developer.

### 3.7 Construction

*Insert 3.7.1.1* Before construction work commences, a completed self-lay agreement shall be in place and a pre-commencement site meeting to have taken place between Anglian Water, Developer and SLP.

*Insert 3.7.3.1* The Developer is responsible for maintaining the correct alignment of all street furniture until the site is adopted by the person responsible for future maintenance.

*Insert 3.7.4.7* Supply and communication pipes greater than 32mm shall be disinfected and pressure tested as per Anglian Water's policy and specifications (POSWSH).

*Add 3.7.4.8* Anglian Water shall issue the SLP with a commissioning plan prior to the testing and commissioning of the self-lay main. This shall include:

- The commissioning strategy the scheme.
- The sequence of commissioning (which will be a major factor in setting the sequence of construction).
- Swabbing, pressure test, sampling & chlorination lengths.
- Direction of swabbing relevant to topography (swabbing shall ideally be carried out 'uphill' to drive air out of the pipe).
- The availability of water for commissioning:
  - Restrictions on volume available.
  - Restrictions on timing of availability (i.e. seasonal and/or time of day/week).
  - Restrictions on flow rate taking account of PWSZ Ranking for Water Quality combined with the size, material and condition of existing mains (modelling may be necessary).
- Proposed velocity of water in the main during swabbing.
- Locations of fill points.
- Disposal of water used for commissioning.
- Location and details of connections and disconnections.
- Details of de-commissioning any redundant water mains.

- Add 3.7.4.9* The filling of new water mains shall be by means of a 25mm standpipe only.
- Add 3.7.4.10* The maximum length for pressure testing a new PE main is 1500m.
- Add 3.7.4.11* The swabbing of new mains shall be to Anglian Water specification as follows:
- The maximum length for swabbing and sampling a new main is approximately 1000m, as is the maximum distance between valves on mains.
  - The main shall be filled prior to swabbing (24 hours is recommended) to allow any debris to be soaked prior to the passing of the first swab.
  - Soft swabs shall be utilised with a density of between 20 and 30 kg/m<sup>3</sup>. For pipe nominal bore up to 300mm, the swab shall have a diameter of 1.25 to 1.5x the nominal bore. For pipe nominal bore greater than 300mm, the swab shall have a diameter of the nominal bore +75 - 100mm.
  - All swabs shall be soaked in a chlorine solution containing a minimum of 20mg/l of chlorine prior to use.
  - Swabs shall be marked using approved products or methods to enable the swabs to be clearly identified on discharge. Swabs shall be used once only before disposal, and all swabs shall be recovered.
  - The velocity of water in the pipe during swabbing shall be the maximum that can be achieved by best available means taking account of restrictions on the availability and disposal of water (modeling of the network and temporary works may be required) and the effect of draw off on the existing network (with an upper limit of 1.5 m/s). Ideally the swab velocity should be between 0.8 and 1.5 m/s (the swab velocity will be typically 90% to 95% of the water velocity).
  - A minimum of two swabs is required for each section of main and more than one pass may be necessary, unless the requirements for permitting tandem swabbing are met. Tandem swabbing can only be used on mains ≤150 mm nominal bore where the new main is a single feed to an end fire hydrant. The main shall also be ≤100 metres in length. *In accordance with the commissioning plan if may be appropriate to run the two swabs in tandem or each swab as separate passes.*
  - The swabbing shall be repeated as many times as necessary until the water in front of the swab is clear with no particulate material present (a turbidity tube/meter will aid inspection). The final swab shall not have any ingrained material present or be discoloured. This process shall be carried out in one sequence of operations on any length of main.
  - The smell of the swab should also be noted - if any unusual odour is present the swabbing shall be repeated until no unusual odour is apparent. This is particularly important for ductile mains. Any unusual odour shall be reported to the Network Scientist.
  - Results of swabbing shall be recorded on the Swabbing Record form.
  - Disposal of water shall be in accordance with the Commissioning plan.
  - Any debris that is expelled shall be reported for feedback to the pipe layers and operational staff.

*Add 3.7.4.12*

Chlorination shall be carried out by injection, and the main and all associated fittings shall be disinfected along its entire length for a minimum period of 16 hours with water containing a minimum free chlorine residual of 20mg/litre. In some circumstances it may be appropriate to increase the chlorine residual to 50mg/l and shorten the length of contact, the minimum period is 30 minutes. It is not appropriate to use concentrations giving a free chlorine residual >50mg/l. There is no maximum length for the chlorination of a new main but consideration shall be given to the amount of water required and its possible re-use.

Mains should not be left standing for long periods with highly chlorinated water where 20 mg/l of free chlorine are used the maximum period should be 48 hours and where concentration are increased to 50mg/l of free chlorine the maximum period should be reduced to 24 hours.

The chlorine residual should be checked at the end of the standing time and if there is any significant change then operational or scientific advice should be sought regarding any remedial action to be taken.

These requirements are part of POSWSH.

**4.0 Addendums and additions to the National Addendum for safe control of routine mains connections**

- 3.2.6 The application to make in line routine connections shall be made using standard form SL7 - Request for approval to make an inline mains connection.
- 3.2.10 Anglian Water will carry out post connection water sampling after all connections.

## 5.0 Material specifications

All material used on self-lay schemes shall meet the Anglian Water specifications as detailed below:

**All** pipes shall be delivered and stored with end caps.

**All** MDPE fittings shall be delivered and stored in plastic heat sealed bags.

Mains on non-contaminated sites	Mains 20mm to 355mm to be HPPE PE 80 or PE100.
Mains on contaminated sites	<p>Mains up to 180mm shall be in 'Protectaline' barrier pipe.</p> <p>Mains above 180mm shall either be 'Protectaline' barrier pipe or Ductile Iron compliant with BS EN 545 1995 and WIS 4-41-01, the minimum external corrosion protection shall be zinc coated with epoxy to BS EN 545, and all ductile pipes and fittings shall be internally lined.</p> <p><b>Please note that butt fusion and electro fusion jointing may be only carried out when the jointer has received the appropriate training and approved by Anglian Water.</b></p>
Services on non-contaminated sites	Services up to and including 63mm to be MDPE (PE80).
Services on contaminated sites	Either 'Protectaline' barrier pipe (preferred) or plastic coated underground copper (BS EN 1057/1996)
Electro fusion couplings for mains	To be HPPE (PE100) and can be blue or black in colour, all electro fusion fittings to incorporate fusion indicators.
Electro fusion tapping saddles for MDPE/HPPE mains	<p>To be self-tapping and of under-clamp bottom loading design, all electro fusion fittings to incorporate fusion indicators.</p> <p><b>Gun metal tapping saddles will not be permitted on MDPE/HPPE mains.</b></p>
Tapping saddles for ductile iron, cast iron, UPVC, and asbestos mains	All tapping saddles to be made to BS2789 grade 500/7, and capable of withstanding pressures of 16 bar.
Valves	<p>Body to be Ductile Iron to BS EN 1563.</p> <p>Internal and external protection to be blue fusion bonded epoxy powder coating in accordance with WIS 4-52-01.</p> <p>Internal to class A and external to Class B.</p> <p><b>All valves to be right hand (clockwise) close only.</b></p>



Fire hydrants	<p>Compliant with BS750:1984.  All hydrants to have stainless steel outlet.  The hydrant shall have an automatic frost valve, no water shall escape during operation and the body shall fully drain afterwards.</p> <p><b>All hydrants to be of a fixed jumper design.</b></p>
Chamber sections	<p>Material Contents - Recycled blend of Rigid and Flexible PVC Polymers and may contain a small percentage of Low density Polythene and Mineral Filler.</p> <p>Colour – Grey/black. Comply with BS 5834 2007 part 4.</p>
Chamber covers	<p>The cover and frame and the replacement cover shall comply with the requirements of the BS EN 124 and the BS5834 Part 2: 2011 grade A product. The covers shall have slip-resistant properties of a raised pattern cast into the upper surface of the covers and shall be self draining.</p>
Boundary boxes Non-contaminated sites	<p>Single, double and multi port manifolds can be used. The boundary box shall be able to incorporate a manifold meter with 1½ inch thread, stop tap and non return valve. All boundary boxes shall have height adjustment capabilities.</p>
Boundary boxes Contaminated sites	<p>Where boundary boxes are used on contaminated sites they shall comply with WIS-4-37-01, be watertight and shall have gunmetal connection fittings that are able to accept either Protectaline or plastic coated copper pipes.</p>
Wall mounted boxes	<p>The unit shall be designed to be installed either in or on the outside wall of the property, and be positioned such that the meter can easily be read without entering the property. The unit shall incorporate a 1 ½" BSP meter connection, stop tap and non return valve.</p>
Meters for above 32mm connection	<p><b>Only meters issued by Anglian Water to be fitted.</b></p>

## 6.0 Appendices

### Appendix 1 - Water quality audit form part 1

<b>Anglian Water Services Limited</b>  <b>AUDIT REPORT</b>  <b>Network Activities - Summary</b>		<b>Audit number:</b>	
		<b>Audit date:</b>	
Version 4 Rev K Todd 27/02/2009			
<b>Description of work activity</b> <b>Address/location of activity</b> <b>Employee names</b> <b>Line manager</b> <b>Assessor's name</b> <b>Name of NRSWA (holder) on site</b>			
<b>General observations</b>		<b>Yes/No</b>	<b>Comments</b>
1	Personnel in possession of current EU Skills/Restricted Operations Card (WAQ-STD-1.1.1.1) - is it in date?		
2	Personnel in possession of a Safety/Water Quality Passport (WAQ-STD-1.1.2.1) - Check for POSWSH training. - is there any training overdue for refreshment?		
3	Is the correct protective clothing worn? (WAQ-STD-1.3.1.1)		
4	Are there any washing facilities? - check water available.		
5	Chlorine kit calibrated (WAQ-MTD-6.1)		
6	Is the van kept tidy? (WQ-STD-1.3.8.2)		
7	Are fittings stored neatly & free from contamination (WAQ-STD-1.3.8.2) - is the fuel stored well away from any fittings or tools?		
8	Chloros solution available and labelled appropriately (WAQ-STD-1.3.8.1) (Chloros 1%, Hazard)		
9	Tools/equipment cleaned and disinfected. 1% solution of chlorine used to disinfect equipment (WAQ-STD-1.3.8.1)		
10	AW approved materials and fittings used (WAQ-STD-6.3.5.1)		

## Appendix 1 - Water quality audit form part 2

Questions	Yes/No	Comments
<p><b>Why do you need an EU Skills/Restricted Operations Card?</b> (WAQ-STD-1.1.1.1) <i>To check that personnel are safe to work with potable water.</i></p>		
<p><b>What documents should you carry with you at all times when at work?</b> <i>Health and safety training passport, EU skills card, Anglian Water ID card, NRSWA card (if applicable).</i></p>		
<p><b>What illness might result in you being unable to work on restricted operations?</b> (WAQ-STD-1.2.2.1) <i>Prolonged or unexplained fever, persistent diarrhoea, jaundice, gastro-enteritis.</i></p>		
<p><b>Who supplies you with chloros? How do you make up a 1% solution?</b> (WAQ-STD-1.3.8.1) <i>One part commercial chlorine solution to nine parts water or one Instachlor 1000 tablet to 100ml of water.</i></p>		
<p><b>How often should a 1% chloros solution be replaced?</b> (WAQ-STD-1.3.8.1) <i>At least every seven days.</i></p>		
<p><b>What markings should your chlorine container have on it?</b> (WAQ-STD-1.3.8.1) <i>The strength of the solution: - 1% chloros. That the contents are corrosive / hazardous</i></p>		
<b>Details of non-conformance</b>		<b>Corrective Action</b>
<b>1</b>		
<b>2</b>		
<b>3</b>		
<p><b>Assessors signature</b> _____</p> <p><b>Gang signature</b>_____</p> <p><b>Corrective Action to be resolved by (Manager/Supervisor name)</b>_____</p> <p><b>Date for agreed action(s)</b>_____</p>		

## **Appendix 2 - Notification period**

A minimum of **10 working days** before commencement date

### **Information required:**

SLP intended start date; the SLP to ensure the following:

- Self-lay agreement in place
- Method statement
- Subcontractor details
- Material details

### **Notification Period:**

- A maximum of 2 working days after the date the service connection was completed.