



Dŵr Cymru  
Welsh Water

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# SITE MANAGERS GUIDE TO NEW WATER MAINS AND SERVICE CONNECTIONS ON NEW DEVELOPMENTS

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# Contact details for your development



The following Developer Services staff have been assigned to your development.

## PROJECT ENGINEER

Name:

Telephone Number:

Extension Number:

Email: [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)  
The Project Engineer is responsible for the design, costing and progression of your new water main on your new development.

## SITE CONTROLLER

Name:

Telephone Number:

Extension Number:

Email: [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)  
The Site Controller is responsible for Health & Safety checks during the construction of the main laying and ensuring works are completed in accordance with the design specifications.

## CONTRACTOR

Name:

Telephone Number:

Email: [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)  
The Contractor is responsible for organising, supervision of construction and commission of your new main.

## DEVELOPER SERVICES

If you have any queries regarding the service connections please contact our Developer Services contact centre on **0800 917 2652**.

Dŵr Cymru Welsh Water  
PO Box 3146  
Cardiff  
CF30 0EH

Email: [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)  
[www.dwrcymru.com](http://www.dwrcymru.com)

# Health and Safety

Dŵr Cymru Welsh Water believes that everyone who works on our behalf or is affected by what we do has a fundamental right to return home safely at the end of each day. That is why we have a core company value to be 'SAFE at all times'.

We want to ensure that everyone remains healthy and safe in the work environment. The health and the safety of our employees, our customers, our partners and contractors, our neighbours and members of the public must always be our first priority.

We are striving to achieve an injury-free environment and have a long term health and safety improvement strategy, our 'Journey to Zero'.



## SITE SAFETY

### No Hat, No Boots, No Job!

All visitors and delivery driver's must report to site office



#### DANGER

Construction hazardous area



Head protection must be worn



Foot protection must be worn



Hi-vis clothing must be worn



No unauthorised person  
beyond this point



Site speed limit

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# CDM Regulations 2015

Under the CDM Regulations 2015 all parties have defined roles. In order to identify these defined roles we have indicated below the responsibilities covering 'On Site' and 'Off Site' activities.

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## On Site Works

**Duties under the CDM Regulations for all on site works will be:**

- a.) Developer is Client.
- b.) Client will appoint the Principal Contractor (PC) and Principal Designer (PD).
- c.) Developer Services assign a Contractor to install our infrastructure.
- d.) Developer Services assigned Contractor will provide all required health and safety information and co-operate with the PC/PD to deliver the assigned work in accordance with the Construction Phase Plan.
- e.) Client ensures verification as to sufficiency of the Construction Phase Plan prior to commencement.
- f.) Client ensures verification that suitable welfare facilities are in place prior to commencement.

— 'On Site' works are defined as the construction activities that Welsh Water are appointed to undertake within the 'Construction Site' as defined within the CDM Regulations. In addition where any activities are required in any other areas under the control of the developer appointed Principal Contractor these are defined as 'On Site Works'.

— Where our construction activities lie within areas that are defined under the Section 278 highway improvements agreement these are defined as 'On Site Works'.

**Client's responsibility**

**Dŵr Cymru Welsh Water's responsibility**

## Off Site Works

**Duties under the CDM Regulations for all off site works will be:**

- a.) Developer Services is the Client.
- b.) Welsh Water will appoint the Principal Contractor (PC) and Principal Designer (PD).
- c.) Appointed Principal Designer will prepare all Pre-Construction information.
- d.) Appointed Principal Contractor will prepare the Construction Phase Plan.
- e.) Developer Services ensures verification as to sufficiency of the Construction Phase Plan prior to commencement.
- f.) Developer Services ensures verification that suitable welfare facilities are in place prior to commencement.

— 'Off Site' works are defined as the construction activities that Welsh Water are required to undertake in areas outside the control of the developer.

— Under CDM regulations Welsh Water will undertake 'Client' duties as defined in the CDM Regulations and appoint a 'Principal Contractor' and 'Principal Designer'.

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# Water Mains

## DESIGN AND CONTAMINANTS

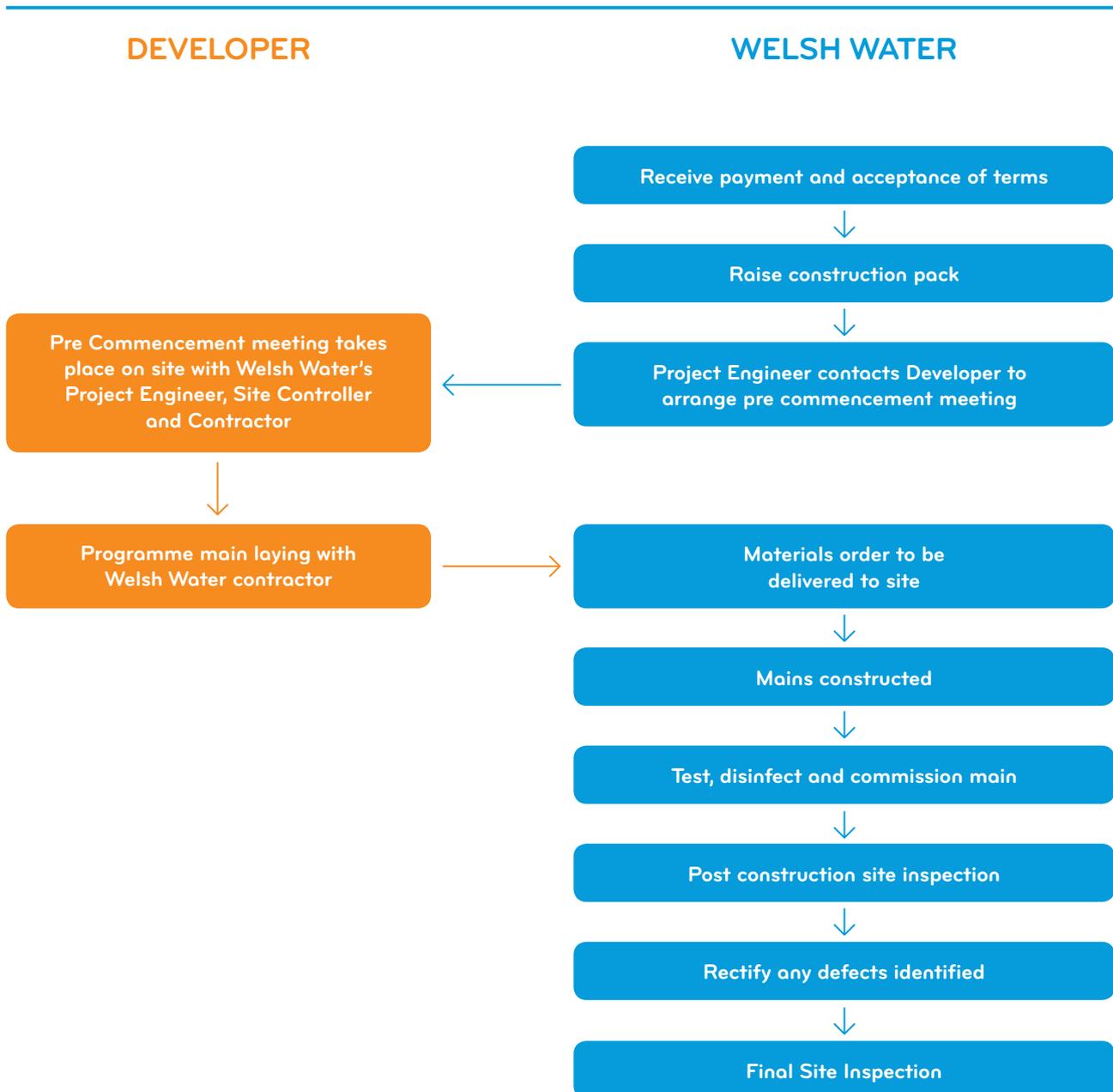
The design of the potable water mains and associated service connections is based on the geotechnical and or ground investigation report provided as part of the application. It is imperative that the site management team are aware of the design adopted for your site and this will be discussed at the pre-commencement meeting.

The site Managers attention is drawn to the effect of contaminants that can be detrimental to the Network installed. Contaminants can pass through standard Polyethylene (HPPE) pipes and subsequently enter the food chain creating a real hazard to the wellbeing of Human health.

It is critical that if contamination hotspots are identified on site the Welsh Water Project Engineer assigned to your development is made aware so that any design implications can be review and addressed if required. In addition any site spillage that requires utilisation of spill kits or other means of remediation is identified to the Project Engineer.

The use of diesel to clean off tools and equipment deployed for highway surfaces must be addressed as part of the site management control of substances hazardous to Health (COSHH) as this is one of the main risks at site level.

# Water Main Construction Process



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# Pre-Commencement Meeting

**Before the construction of the new water main commences the Project Engineer will arrange a pre-commencement site meeting. This meeting should be attended by Welsh Water, Welsh Water's Contractor and the Developer, and if appropriate a representative from the self-lay organisation.**

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## **At the meeting the following will be discussed and agreed:**

- Design of the Network provided and risk of contaminants
- A commencement date to start the mains construction.
- Confirmation that the kerb line will be in place and levels will be available by the construction start date.
- Health and Safety requirements including clarification of key roles in relation to the CDM 2015 regulations.
- Exchange of information requirements to meet CDM requirements.
- Programme including confirmation of phases / construction visits to complete construction of the main laying.
- Any changes that have been made to the site layout since the mains design drawing was agreed.
- If not previously provided the line and level of other utility services in the vicinity of the water mains or service pipes is to be provided. This will facilitate a design review to be undertaken by Welsh Water to ensure there is no conflict and the layout is in accordance with NJUG guidelines
- Safe Storage area for water pipes and fittings with consideration afforded to deliveries – see overleaf
- Any other site specific information



# Safe Storage of Materials on Development Sites

All Pipes and fittings used in the provision of the water infrastructure are intended for the transportation of drinking water.

Drinking water is a food product and is defined by the Department of Food and Rural Affairs (DEFRA) as 'CRITICAL TO HUMAN HEALTH'!



Welsh Water's appointed contractor will co-ordinate pipes and fittings deliveries to suit the agreed programme. Wherever possible these deliveries will avoid prolonged site storage. However the developer must take into account a requirement for the provision of a safe storage area for pipes and fittings where it is anticipated they will remain undisturbed until the time they are needed for construction. They must be kept clear of fuel oils and other contaminants.

Welsh Water have prepared some standard site set up requirements for discussion and agreement prior to the pre-commencement meeting. These standard site set ups are provided in Appendix A.



It is vitally important that the developer understands the following in relation to pipes and fittings:

- Only personnel trained and competent in hygienic practices are to handle pipes and fittings. They should hold a valid EUSR National Water Hygiene card. An element of this training is health screening to ensure that the card holder does not carry any diseases or illness that could contaminate a water supply
- Any site movement of pipes and fittings MUST be approved by Welsh Water's assigned site contact.
- The Site Manager is responsible for ensuring the above.
- The Welsh Water appointed contractor will ensure that all pipes and fittings are stored so as to prevent ingress or contamination. Pipes and fittings will not be stored in direct contact with the ground and therefore raised above ground level. All pipe and fitting open ends shall be capped or otherwise protected.
- Any pipes found to be spoiled will be replaced by Welsh Water and the cost re-charged to the Developer.

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# Site Preparation and commencement of main laying

**Before construction of the new main commences, it is important that the kerb lines are constructed and that our appointed contractors are advised on the final finish level. The line of the new water main should be clear of all building materials, scaffold, skips and plant.**

All Welsh Water and contractor's staff will be given a site induction by the developer immediately upon arrival on site. All Welsh Water and contractor's staff will sign in and out at the site office each day they are on site.

Welsh Water will assign a Site Controller to monitor the water main installation and liaise with the developers Site Management team during construction

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## Welsh Water's Appointed Contractor will be responsible for the provision of the following:

- a.) Installation of pipes and fittings in trench provided by the developer.
- b.) Provision of Marker Tape.
- c.) Provision and construction of all valve, hydrant, meter and PRV chambers and covers as per standard details provided in Appendix 'B'. Please note that our contractor will add additional chamber sections and provide lid at a height above finished kerb level. This facilitates final level setting by the developers appointed ground worker.
- d.) Co-ordinating extent of backfill prior to testing and commissioning.
- e.) Taking sufficient photographs to prove the quality of the install including all chamber pits.

### Client's responsibility

### Dŵr Cymru Welsh Water's responsibility

## The developer will be responsible for provision of the following:

- a.) Provision of trench dug to correct depth and width as identified below. Trench to meet NJUG guidance as identified overleaf. Trench support to be provided where necessary.
- b.) Control of ground water.
- c.) Provision of and placement of Granular bed just prior to water main install.
- d.) Provision of certified driver and appropriate excavator/lifting equipment to work in conjunction with our main laying contractor.
- e.) Transport materials to point of install. This is to be co-ordinated with our main laying contractor who will provide personnel trained and competent in hygienic practices.
- f.) Provision of Granular haunch and surround to installed water main and other apparatus. Note that this activity is to align to water main install and must be co-ordinated with Welsh Water's Contractor.
- g.) Installation of Marker Tape Provided.
- h.) Backfilling with suitable material to suit final surfacing requirements.
- i.) Final level setting of valve, hydrant, meter and PRV chamber pits and covers as per standard details provided in Appendix 'B'.

To assist with the above please refer to the sketch below that is also included in Appendix 'B'

### NOTES

1. BED, HAUNCH AND SURROUND TO BE A10 GRANULAR MATERIAL SUPPLIED AND INSTALLED BY DEVELOPER.
2. SELECTED EXCAVATED MATERIAL CAN BE OBTAINED FROM EXCAVATED MATERIAL PROVIDED THAT THAT THE MATERIAL COMPLIES WITH CLASS A,B,C OR D AS PER APPENDIX A1 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS. ANY IMPORTED MATERIAL TO MAKE UP ANY DEFICIENCY IS TO BE TYPE 1 GRANLAR SUB BASE MATERIAL.
3. BACKFILL IS TO BE FULLY COMPACTED AS PER APPENDIX A8 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS - DWRCYMRU WELSH WATER WILL NOT ACCEPT RESPONSIBILITY FOR ANY TRENCH SETTLEMENT.
4. DIMENSION 'X' IS TO BE
  - (i). IN ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, LARGE FLINT OR STONES OR OTHER IRREGULAR HARDSPOTS X SHALL BE 200mm
  - (ii). IN UNIFORM SOILS 100mm
5. TRENCH WIDTH 'W' SHALL BE:-
  - (i). FOR PIPE UPTO AND INCLUDING 300mm - DIAMETER OF PIPE PLUS 300mm
  - (ii) FOR PIPES GREATER THAN 300mm DIAMETER - DIAMETER OF PIPE PLUS 400mm.

### DEVELOPERS ACTIVITIES

1. DEVELOPER PROVIDES KERB RACE IN PLACE

9. DEVELOPER PROVIDES ALL PERMANENT SURFACINGS.

8. DEVELOPER PROVIDES BACKFILL TO TRENCH - SEE NOTES 1 AND 2 ABOVE.

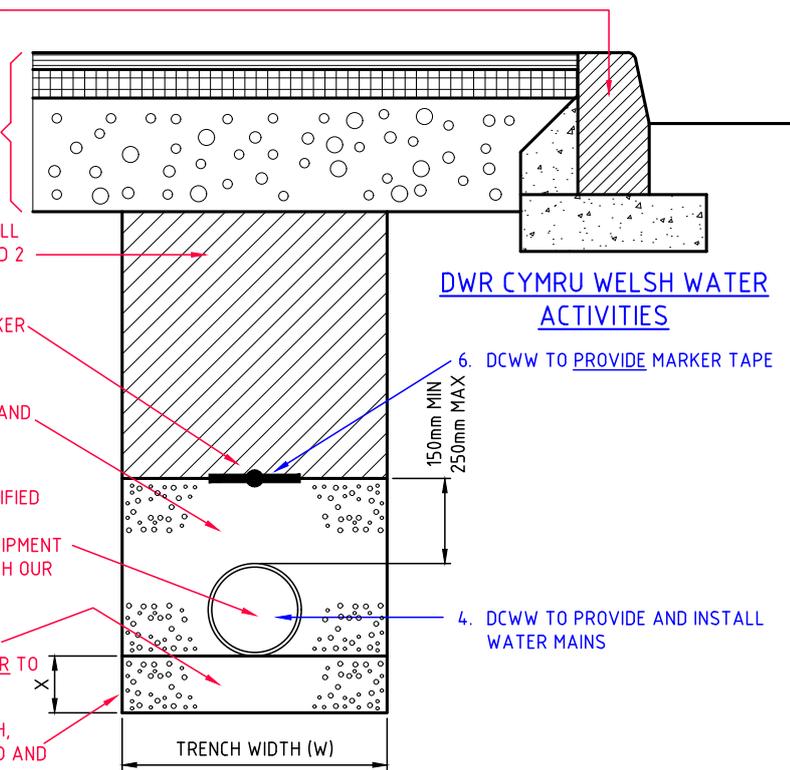
7. DEVELOPER TO INSTALL MARKER TAPE

5. DEVELOPER TO PROVIDE AND INSTALL GRANULAR HAUNCH AND SURROUND

4. DEVELOPER TO PROVIDE CERTIFIED DRIVER AND APPROPRIATE EXCAVATOR AND LIFTING EQUIPMENT TO WORK IN CONJUNCTION WITH OUR MAIN LAYING CONTRACTOR

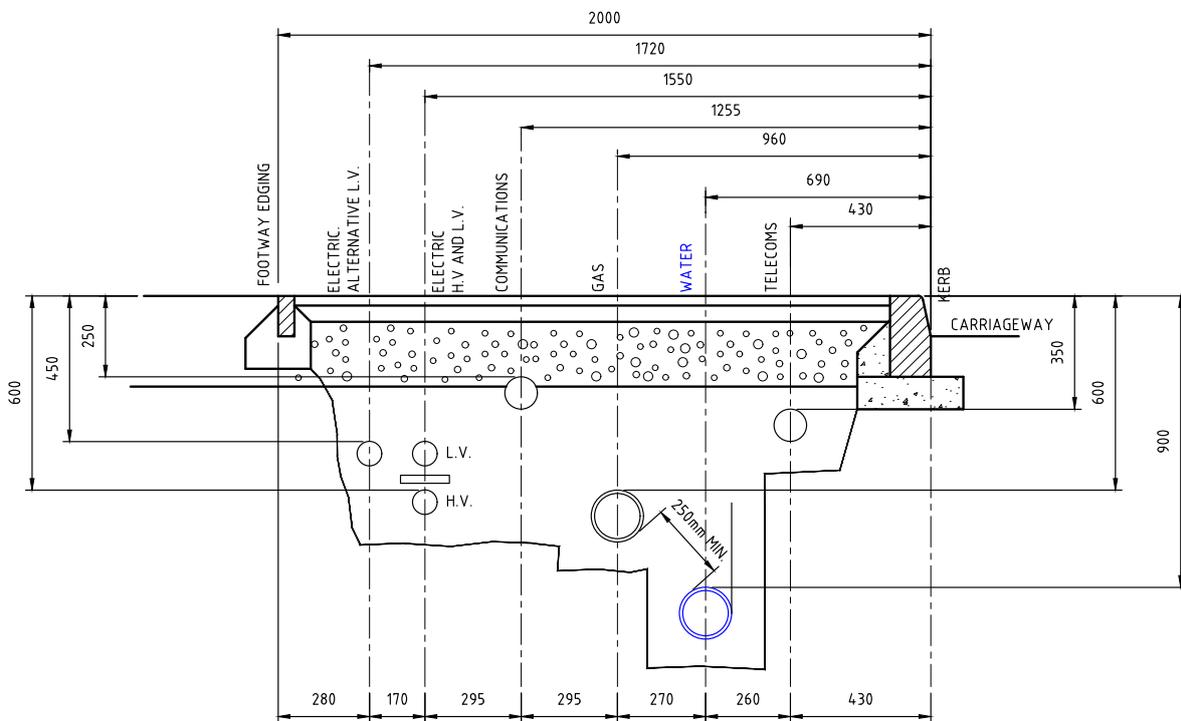
3. DEVELOPER TO PROVIDE AND INSTALL GRANULAR BED PRIOR TO WATER MAIN INSTALL

2. DEVELOPER PROVIDES TRENCH, TRENCH SUPPORT IF REQUIRED AND CONTROLS GROUND WATER



## TYPICAL TRENCH PROFILE AND RESPONSIBILITIES SPLIT

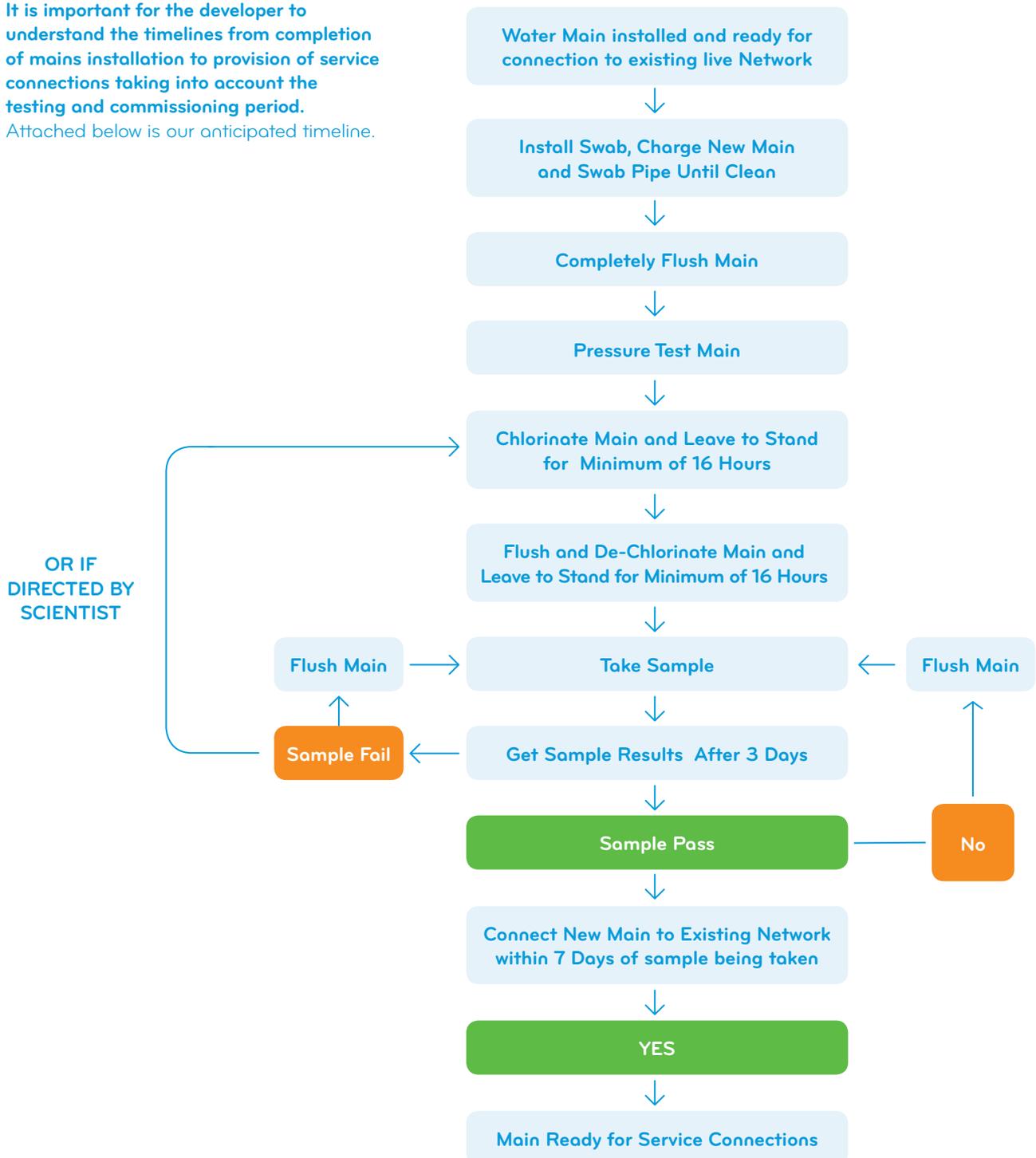
Water mains will be constructed with a minimum cover of 900mm and a maximum depth of 1200mm from the top of the main to finished ground / surface level, in accordance with NJUG guidance. See diagram below.



NJUG GUIDANCE

# Testing and Chlorination Process

It is important for the developer to understand the timelines from completion of mains installation to provision of service connections taking into account the testing and commissioning period. Attached below is our anticipated timeline.



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## Post construction sign off (handover)

**Once the new water main is commissioned Welsh Water, our appointed contractor and the developer will walk the line of the new main to ensure that:**

- Fittings have been installed as per the design drawing
- Fittings are in chambers set to finished levels
- All chamber pits are free of debris.
- Correct covers are fitted.
- Correct marker posts are installed.

A defect correction list with associated photographs shall be prepared. At this point any defects identified will need to be undertaken by the developer within a short agreed timeframe. Should the developer fail to undertake the corrective measures within the agreed timeframe Welsh Water will assign a contractor to undertake the remedial works and charge the developer at full cost.

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## Flushing of mains

When the developer's build program results in the number of new services connected not producing sufficient demand and turn-over of water within the main, Welsh Water will undertake routine flushing to maintain a satisfactory level of water quality. The developer will be recharged for additional routine flushing for this reason.

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# Temporary building supplies

All temporary standpipes and welfare facilities must comply with the Water Supply (Water Fittings) Regulations 1999.

**When the temporary building supply is no longer required, Welsh Water must be contacted to arrange for the supply to be disconnected. Contact details for disconnections are:**

Water Customer Services  
Dŵr Cymru Welsh Water  
PO BOX 3118  
CF30 0BY

**[Water.operations.enquiries@dwrwymru.com](mailto:Water.operations.enquiries@dwrwymru.com)  
0800 052 0130**

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# Standpipes

**All standpipes and / or taps, that a hose may be connected to, must be fitted with a double check valve. In some cases a permanent house connection may be used initially for building purposes. Temporary supplies are not expected to be in place for more than 12 months.**

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## **From 1st October 2016 the process to hire standpipes for use within the Welsh Water network has changed.**

The hire of a standpipes will be from our appointed agent Aquam Water Services.

The Contact Telephone No. for Aquam is **0844 488 9127** and the link to websites are provided below.

- <http://www.dwrcymru.com/en/My-Water/Standpipe-hire.aspx>
- <http://www.aquamcorp.co.uk/water-services/partners/dwr-cymru/welsh-water>

Standpipes will no longer be available to hire at our local depots.

### **Important information to note:**

The use of anything other than a standpipe that you have hired from us is illegal, contravenes the Water Industry Act and is considered a theft of water which if caught will lead to prosecution.

The use of a standpipe without a non return – check valve also poses a risk of contamination of the water supply.

You may come across areas of our network that are locked off. This could be to protect our customers from the impact of higher flows created by third party use and a possibility of discolored water. If you come across one of these please contact our third party provider Aquam Water Services for further advice.

If you require a standpipe for the purposes of providing water to a construction site (Building Supply) we may require you to obtain connection onto our network. Please contact Developer Services in this instance.

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# Fire hydrants

When designing new water mains Welsh Water will liaise with the Fire Authorities regarding the provision of fire hydrants, and will install fire hydrants to protect the new development as part of the overall infrastructure design. These installations will be provisionally adopted by the relevant Fire Authority once laid. Full adoption will be subject to satisfactory inspection on completion of the development.

**Please remember that fire hydrants are life saving devices; it is therefore imperative that once the new water main is commissioned and contains water under pressure, you must ensure that:**

- Site access is made available to Fire Service personnel so that the new fire hydrants can be inspected by the Fire Authority or Welsh Water.
- The new fire hydrants are kept free and unobstructed by building materials, vehicles etc. so that they are accessible in the event of a fire during the construction of your development.
- When constructing footpaths and other final surfaces, you must ensure that the fire hydrant cover remains free from damage and is acceptably aligned with the fire hydrant valve.
- The fire hydrant marker post (where utilised) is in position.
- The fire hydrant cover is to finished surface level and not buried.

As previously indicated our appointed contractor will complete construction of your scheme with all fire hydrants and chambers constructed to Fire Service standard specification.

Any subsequent interference with access or construction will be deemed by the Fire Service to be an offence under the Fire & Rescue Services Act 2004, Section 42 (7).

## Fire hydrants (cont.)



**The following is an extract from information received from West Wales Fire Service**

**A South Wales building company has been fined £100,000 for failing to manage fire risk during construction of timber-framed houses.**

The Health & Safety Executive launched an investigation after making an unannounced visit to inspect a building site in the Pontypool area.

Cwmbran Magistrates' Court heard that timber-frame houses were under construction, but with inadequate management of fire risk.

The HSE found that measures to prevent a fire starting and getting out of control had not been properly taken. All the houses were under construction at broadly the same stage with little fire protection, a lack of site management control, insufficient means to detect a fire and raise the alarm, poor control of ignition sources and a general lack of emergency planning.

As a separate issue, workers were also at risk of being struck or crushed by construction vehicles on site, inspectors found.

Improvement notices were served regarding fire and vehicle safety issues and these were complied with after two further inspection visits.

The developer, pleaded guilty to breaching Regulations 27 and 29 of the Construction (Design and Management) Regulations 2015, and was fined £40,000 and £60,000 respectively. They were also ordered to pay full prosecution costs of £4,633.76 and a statutory surcharge of £120.

After the hearing, the HSE inspector said: "The developer had been given plenty of warnings about fire-safety and traffic risks in the recent past, including from HSE. Timber-frame houses are perfectly safe once they're finished and protected, but when under construction they can be very dangerous. Stringent fire-safety standards need to be in place well before the build starts, and then maintained and monitored."



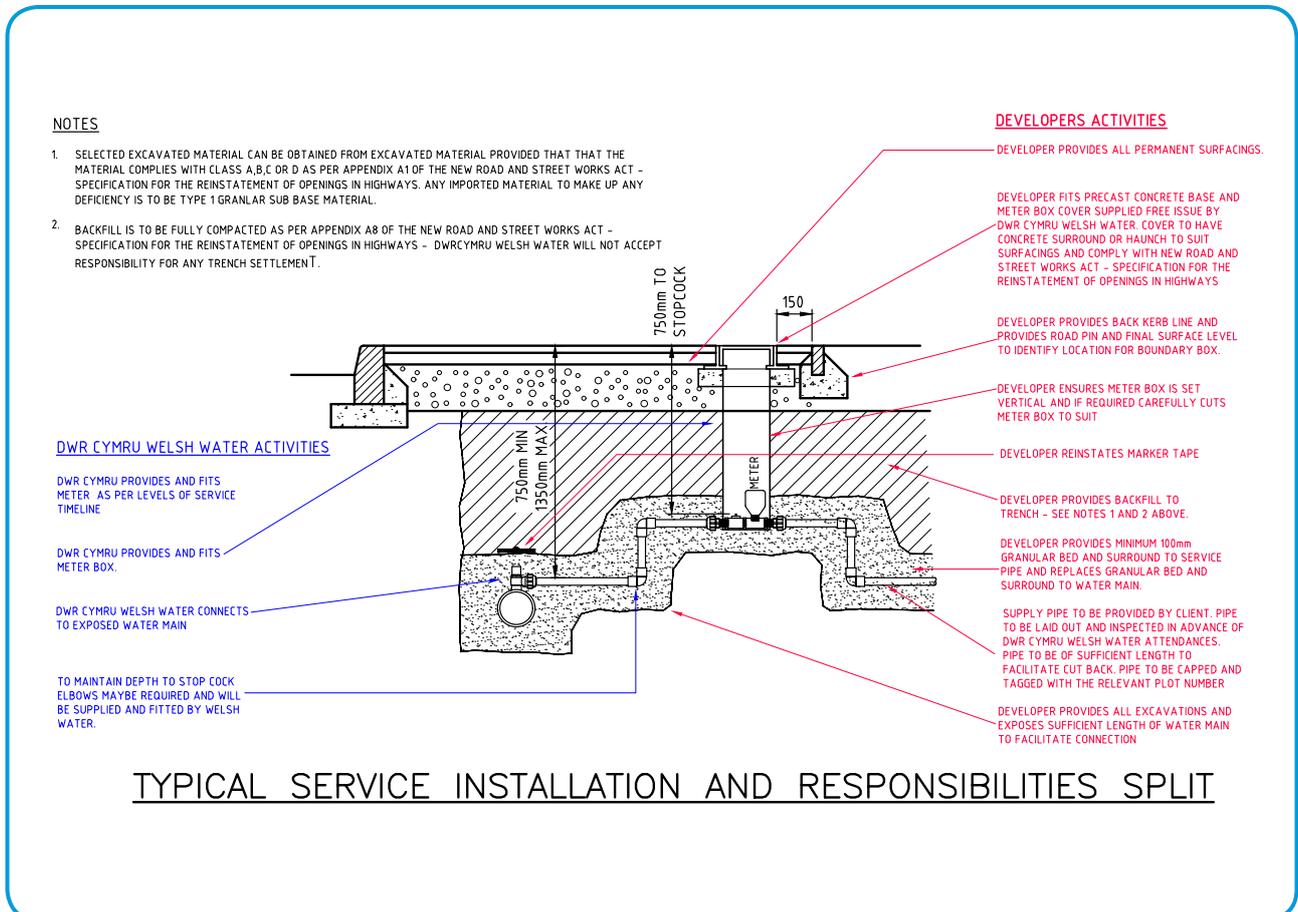
# Service Connections – Construction

A copy of our developers guide in relation to application for a connection to a water main can be found on our website at the link provided below. In addition a hard copy will be provided at the pre-commencement stage.

<http://www.dwrcymru.com/en/Developer-Services/Water-Services/Connection-to-a-Water-Main.aspx>

In addition we attach a 'ground workers' quick reference guide in Appendix 'C' that can be wall mounted for ease of reference.

The sketch below indicates specific responsibilities. This sketch is also included in Appendix 'B'.



Service Connections — Construction (cont.)

## Work You Need to Complete – Installing Your Service Pipe

After receiving our approval you may proceed with the excavation and installation of your underground supply pipe in accordance with the Water (Fittings) Regulations.

**Guidance on the construction is provided in the diagrams provided in Appendix D and the minimum requirements for the laying of your supply are:**

— Undertake trench excavations. The whole length of the excavated trench is to be left open until we have inspected it and backfilled only after inspection.

If this is not practical due to site conditions, then after agreement with us, trial holes can be left open for inspection. Please note that should we agree you must ensure that the granular bed and surround installation can be viewed.

Once your service pipework is in place please contact us on 0800 9172652 to arrange for an inspection. Alternatively you can email us on [developer.services@dwrwymru.com](mailto:developer.services@dwrwymru.com)

- The pipe must be laid at a minimum depth of 750mm but not more than 1350mm from finished ground level.
- The pipe must be ducted if it passes through or under wall footings, foundations or any solid floors; the ducts must be large enough for the service pipe to pass through and be withdrawn if necessary. The ducts are to be blue in colour and adequately marked or recorded.
- At the point where the supply pipe enters the property it must be fitted with an approved internal stop tap.
- No other utility service is to be laid within 350mm of the water service.

**For Lay Only Connections the following conditions will apply:**

- A responsible representative for the development site is present at the connection and meter installation stage
- Correct plot numbers are identified at connection and meter installation stage.
- The position of stop tap/meter chamber is identified.

- Pipes should be as direct as possible and not encroach other property boundaries and must be at right angles to the water main.
- Any backfilling and alignment of the stop tap/meter chamber is made in accordance with sketch above.
- Responsible representative signs off each inspection stage, agreeing that minimum standards have been met.

### Additional Requirements:

a The property must be secure

b. If the permanent supply is to be on a temporary basis for building purposes, a supply pipe, complete with draw off tap must be laid from the Street boundary or agreed point of connection to a supply point in accordance with the Water Supply (Water Fittings) Regulations.

All standpipes and or taps that a hose may be connected to, must be fitted with a double check valve.

All pipework must also be suitably protected against frost damage.

c. No water connection shall be provided until the Notice required under Regulation 5 of the Water Supply (Water Fittings) Regulations has been completed, submitted and we have approved it. We must receive the Notice 10 days prior to commencement of works.

### Abortive Visits

Please note that charges will apply (as detailed in our scheme of charges) for abortive visits and any corrective works required to be undertaken by Dwr Cymru Welsh Water.

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# Service connections levels of service

Our Levels of Service can be found in the guidelines on our website at the link provided below. In addition a hard copy will be provided at the pre-commencement meeting.

[↪ http://www.dwrcymru.com/en/Developer-Services/Water-Services/Connection-to-a-Water-Main.aspx](http://www.dwrcymru.com/en/Developer-Services/Water-Services/Connection-to-a-Water-Main.aspx)

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# Specification for underground services

It is the developer's responsibility to lay the service pipes from the property to the Indicated point of connection. The installed service pipe and fittings must comply with Water Supply (Water Fittings) Regulations 1999. All materials used in meeting this responsibility are to be suitably approved, for example WRAS approved for use on potable water supplies.

It is important that all service pipes are clearly marked or labelled as to which plot they serve before the connections are requested. Failure to label the service pipes may lead to delays or service connections being aborted.

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# Position and installation of boundary boxes

Boundary boxes must be installed as agreed. Where we have installed the boundary boxes as instructed by the developer, any repositioning will be carried out at the developer's cost.

**It is important that the developer agrees the boundary box positions at the pre-commencement meeting (if different to what the approved design drawings show).**

**This should ensure the following:**

- Service/Boundary Box/chamber supplies the correct property
  - Service/Boundary Box/chamber is within the acceptable depth
  - The Boundary Box/chamber is at the correct position (within 150mm of property boundary line)
  - Boundary Box/chamber is vertically aligned & free of debris
  - Boundary Box/chamber is in good condition with no visible signs of damage
  - Boundary Box/chamber frame & cover is supported by a concrete plinth
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# Water Regulations and approved contractors

All external service pipes and internal plumbing must comply with the Water Supply (Water Fittings) Regulations 1999. Welsh Water has the right to carry out water regulations inspections to ensure compliance. The water regulations are designed to prevent inefficient use of water, waste, misuse, undue consumption, or erroneous measurement of it, and most importantly to prevent contamination of drinking water.

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# Domestic Fire Sprinklers – Domestic Fire Safety (Wales) Measure

Our Domestic Sprinklers Policy in relation to service provision can be found on our website at the link provided below. In addition a hard copy will be provided at the pre-commencement meeting.

 <http://www.dwrcymru.com/en/Developer-Services/Water-Services/Connection-to-a-Water-Main.aspx>

The developer's attention is drawn to requirements in relation to single buildings or dwellings and Multiple Occupancy Premises.

Please note that Manifold connections cannot be provided where your site is subject to the 'Domestic Fire Safety (Wales) Measure' that became Law in January 2016.

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# Location of water service stop valves and meters within blocks of flats or apartments

Welsh Water requires separate metered water services to flats and apartments. When installing individual water services into a block of flats or apartments, each supply must have a stop valve located in the communal area of the building. This is so that in the event of the flat occupier not being present, the supply to that flat can still be isolated by others without entering the flat, in the event of a water leak coming from that area. The mains water service pipework in blocks of flats or apartments must be located either in communal areas of the building or in purpose made service ducts. The services must not pass through flats, and all mains water services must be accessible at all times.

If external water meters are not possible for each flat, Welsh Water will allow internal meters to be fitted within a communal area of the building. If internal meters are installed, the developer will install a WRAS approved manifold to house the meters. Welsh Water will supply and fit the meters into the manifold.

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## Water services in contaminated ground

If the site has been deemed as contaminated, the service pipes installed by the developer must be in either WRAS approved barrier pipe (preferred option) or plastic coated underground copper.

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## Manifold connections

If any of the service connections on site are to be made using 4 or 6 way manifolds, the service connections for all of the properties served by each manifold must be requested at the same time and they must all be ready to be connected in one visit.

Please note that Manifold connections cannot be provided where your site is subject to the 'Domestic Fire Safety (Wales) Measure' that became Law in January 2016.

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## Chlorination of service pipes

Where a supply pipe is 63mm outside diameter or greater, the Developer is required to submit a 'Bacteriological Certificate' prior to the connection with the water main. This should include all internal and external pipework and firefighting supplies.

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## Post connection damage

Any damage caused to boundary meter boxes after they have been connected will be repaired or replaced by Welsh Water and the full cost of the work will be recovered from the developer. Please ensure when final surfacing is carried out, the boundary meter boxes are adjusted to the correct level, free of debris, not buried, and that lids can be removed with ease.

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# Occupancy of new properties

The developer will be charged for any standing charges and water consumption until Dŵr Cymru Welsh Water is informed of the new occupant's details.

**When notifying Welsh Water of a new occupant the following information will be required:**

- Plot number
- Occupier's name
- Full postal address of property
- Date of occupancy
- Occupier's previous address
- Meter serial number and reading

**This information can be relayed to the following contact point:**

Billing Customer Services  
Dŵr Cymru Welsh Water  
PO Box 690

**[water.operations.enquiries@dwrcymru.com](mailto:water.operations.enquiries@dwrcymru.com)**  
**0800 052 0145**

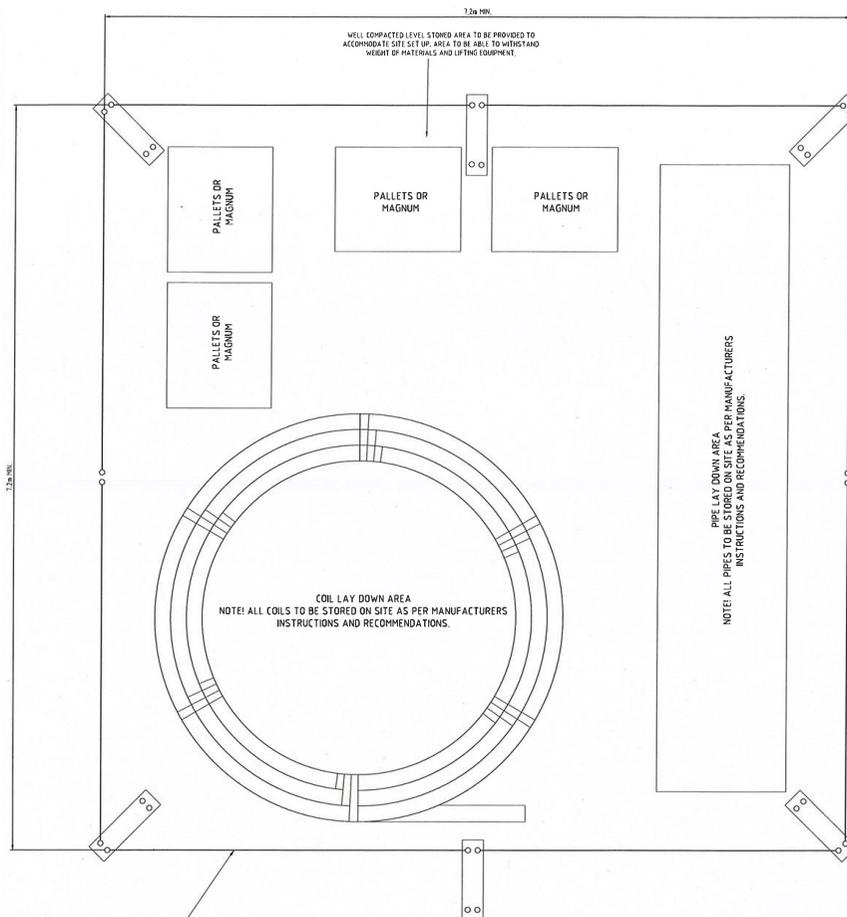
Please give us sufficient time to read the meter prior to any occupation. Please telephone our Meter Billing Department on **08000520140** at least two days before any occupation.

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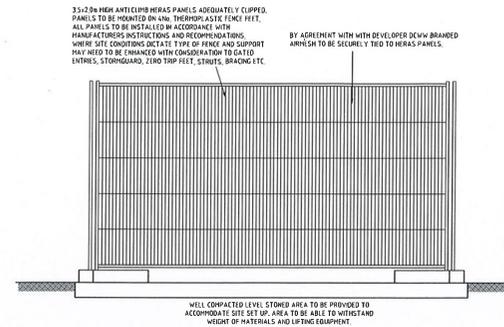
# APPENDIX A TYPICAL TYPE 3 MATERIAL STORAGE ARRANGEMENT



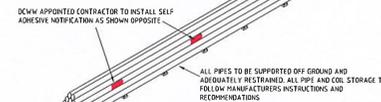
35x2.0m HIGH ANTI CLIMB HERAS PANELS ADEQUATELY CLIPPED. PANELS TO BE MOUNTED ON 4m HIGH THERMOPLASTIC FENCE FEET. ALL PANELS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. WHERE SITE CONDITIONS DICTATE TYPE OF FENCE AND SUPPORT MAY NEED TO BE ENHANCED WITH CONSIDERATION TO GATED ENTRIES, STORMGUARD, ZERO TRIP FEET, STRUTS, BRACING ETC.

### TYPE 3 SITE SET UP TO ACCOMMODATE MAGNUMS, SMALL PIPE AND COIL SET DOWN AREAS

NOTE! ALL MATERIALS TO BE STORED OFF GROUND. PIPES AND FITTINGS TO BE CAP ENDED AND SEALED AT ALL TIMES

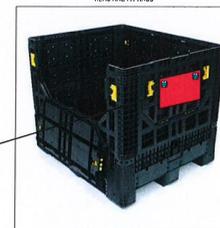


### TYPICAL HERAS INSTALLATION



### PIPE STORE LOOSE DELIVERY STACK SHOWN. PIPES MAY COME BUNDLED. ALL STORAGE TO FOLLOW MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.

MAGNUMS TO BE CLOSED UP AND SECURED WITH LID AT ALL TIMES EXCEPT WHEN REMOVING FITTINGS



MAGNUMS TO BE UTILISED FOR DELIVERY OF SMALL DIA. FITTINGS. NOTE! LARGE DIAMETER FITTINGS, CONCRETE SECTIONS AND CHAMBER COVERS ARE LIKELY TO BE DELIVERED ON STANDARD SHRINK WRAPPED PALLETS



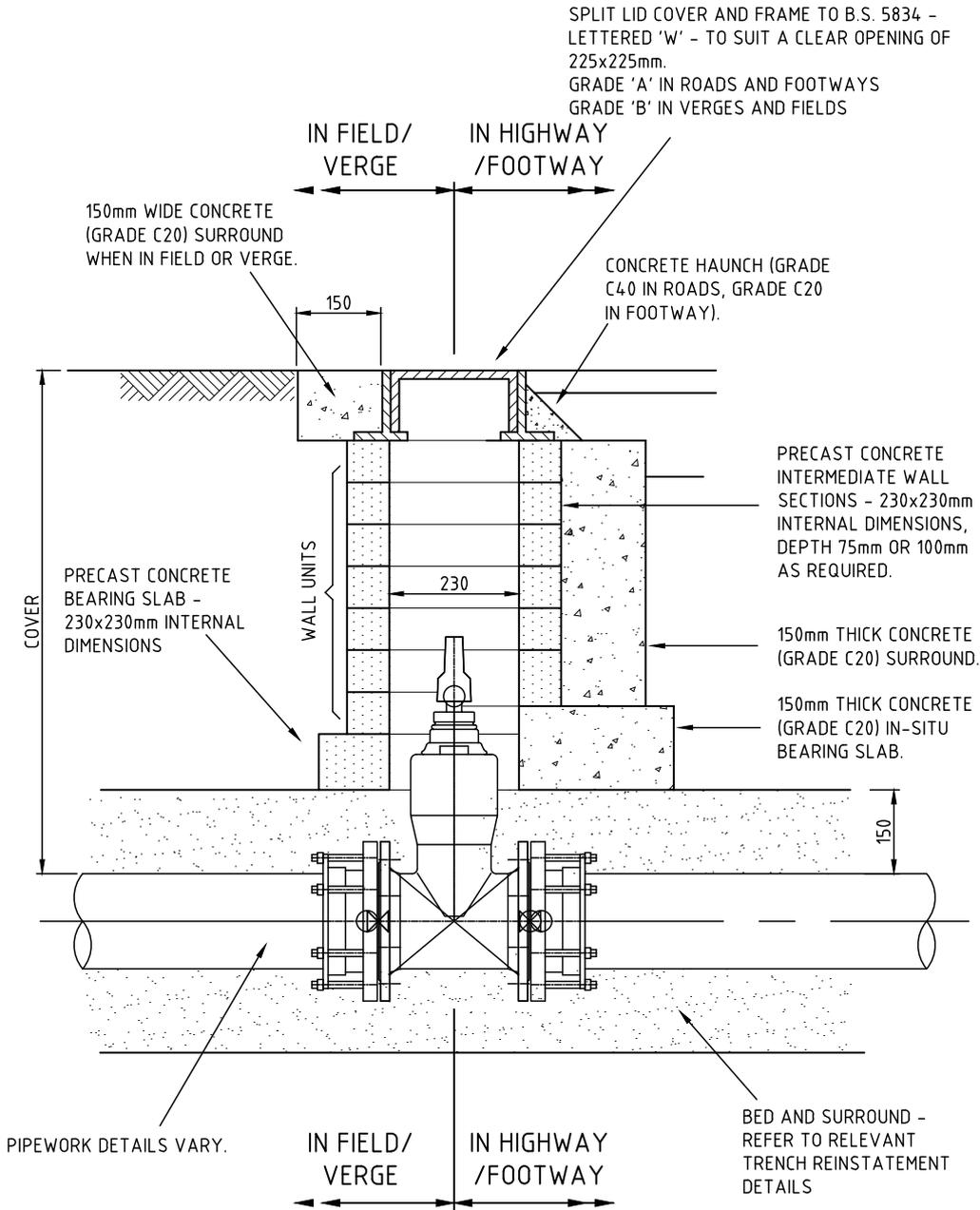
Item	Description	Auth.	Qty	Issue	Date
Client	DWR CYMRU WELSH WATER				
Project	SITE SET UP REQUIREMENTS				
Title	TYPE 3 SET UP				
Scale	A1	Datum			
	1/20	DATUM			
DEVELOPER SERVICES, PO BOX 3146, CARDIFF, CF30 0EH.					
Project Code	Site Set Up	Drawing No.	003	Issue	A





APPENDIX B

TYPICAL SLUICE VALVE CHAMBER CONSTRUCTION



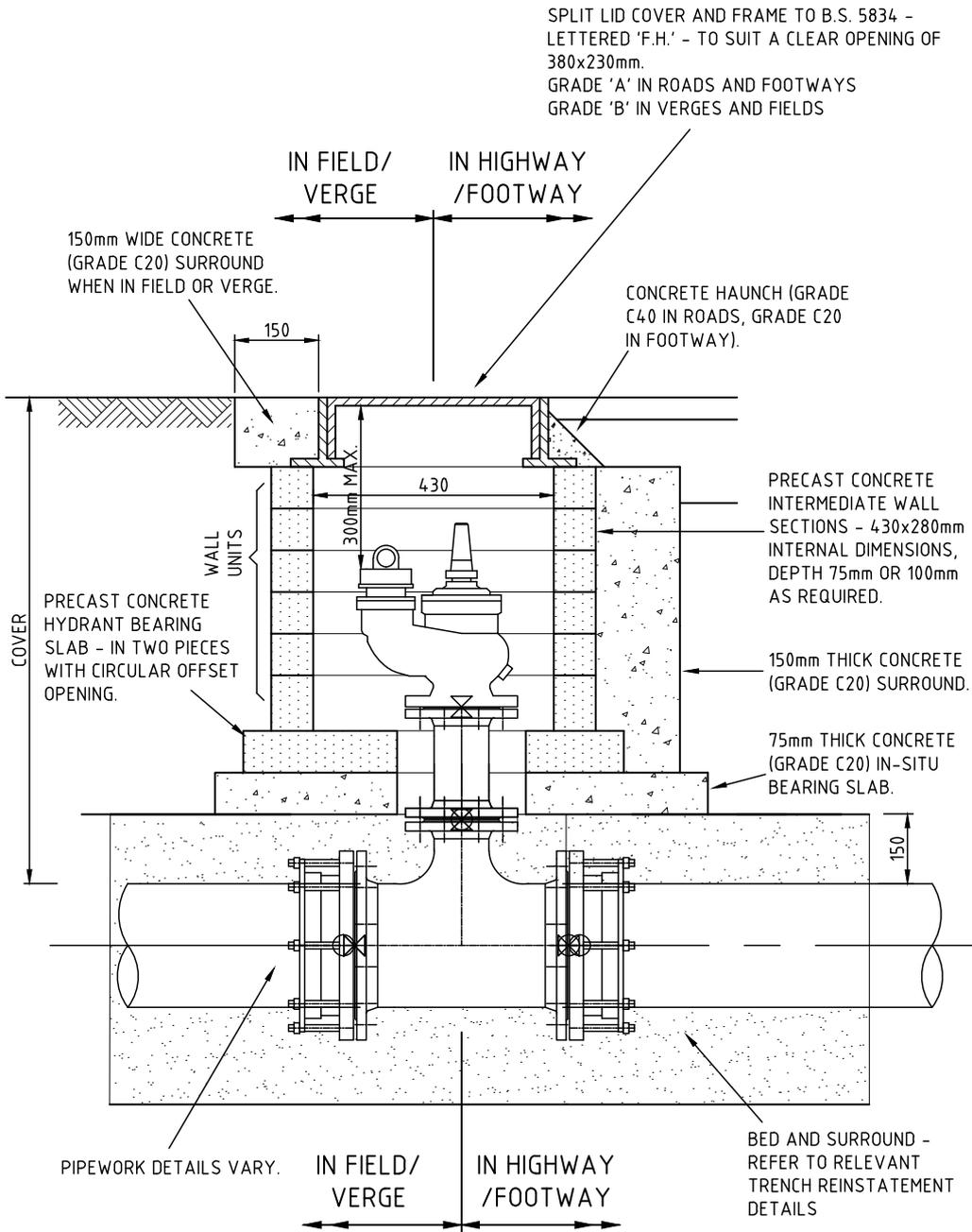
NOTE

1. CHAMBER DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE GEARING WHERE REQUIRED.

					Project	STANDARD DETAILS			 <p>Operational Services Players Ind. Est. Clydach Swansea SA6 5BQ Tel: +44 (0)1792 841000 Fax: +44 (0)1792 841001</p>	
C1	CONSTRUCTION ISSUE	DRJ	CA	HL	16/07/10	Title	TYPICAL SLUICE VALVE CHAMBER CONSTRUCTION UPTO 150mm Ø PIPE			
A1	APPROVAL ISSUE	DRJ	CA	HL	18/06/10					
A	FIRST ISSUE	DRJ	CA	HL	24.05.10					
Issue	Description	Auth.	Ckd.	Appd.	Date			Project Code	Drawing No.	Issue
Scale A4	Datum								SV_001	C1
NOT TO SCALE										

APPENDIX B

TYPICAL CHAMBER DETAIL TO INLINE HYDRANT



						Project	STANDARD DETAIL		 Operational Services Players Ind. Est. Clydach Swansea SA6 5BQ Tel: +44 (0)1792 841000 Fax: +44 (0)1792 841001
C1	CONSTRUCTION ISSUE	DRJ	CA	HL	16/07/10	Title		Project Code Drawing No. <b>FH_001</b>	
A1	APPROVAL ISSUE	DRJ	CA	HL	18/06/10	TYPICAL CHAMBER TO "IN-LINE" HYDRANT			Issue <b>C1</b>
01	FIRST ISSUE	DRJ	CA	HL	05/01/09				
Issue	Description	Auth.	Ckd.	Appd.	Date				
Scale A4		Datum							

# APPENDIX B METER CHAMBER

### NOTES

1. SELECTED EXCAVATED MATERIAL CAN BE OBTAINED FROM EXCAVATED MATERIAL PROVIDED THAT THAT THE MATERIAL COMPLIES WITH CLASS A,B,C OR D AS PER APPENDIX A1 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS. ANY IMPORTED MATERIAL TO MAKE UP ANY DEFICIENCY IS TO BE TYPE 1 GRANULAR SUB BASE MATERIAL.
2. BACKFILL IS TO BE FULLY COMPACTED AS PER APPENDIX A8 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS - DWRCYMRU WELSH WATER WILL NOT ACCEPT RESPONSIBILITY FOR ANY TRENCH SETTLEMENT.

### DEVELOPERS ACTIVITIES

DEVELOPER PROVIDES ALL PERMANENT SURFACINGS.

DEVELOPER FITS PRECAST CONCRETE BASE AND METER BOX COVER SUPPLIED FREE ISSUE BY DWR CYMRU WELSH WATER. COVER TO HAVE CONCRETE SURROUND OR HAUNCH TO SUIT SURFACINGS AND COMPLY WITH NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS

DEVELOPER PROVIDES BACK KERB LINE AND PROVIDES ROAD PIN AND FINAL SURFACE LEVEL TO IDENTIFY LOCATION FOR BOUNDARY BOX.

DEVELOPER ENSURES METER BOX IS SET VERTICAL AND IF REQUIRED CAREFULLY CUTS METER BOX TO SUIT

DEVELOPER REINSTATES MARKER TAPE

DEVELOPER PROVIDES BACKFILL TO TRENCH - SEE NOTES 1 AND 2 ABOVE.

DEVELOPER PROVIDES MINIMUM 100mm GRANULAR BED AND SURROUND TO SERVICE PIPE AND REPLACES GRANULAR BED AND SURROUND TO WATER MAIN.

SUPPLY PIPE TO BE PROVIDED BY CLIENT. PIPE TO BE LAID OUT AND INSPECTED IN ADVANCE OF DWR CYMRU WELSH WATER ATTENDANCES. PIPE TO BE OF SUFFICIENT LENGTH TO FACILITATE CUT BACK. PIPE TO BE CAPPED AND TAGGED WITH THE RELEVANT PLOT NUMBER

DEVELOPER PROVIDES ALL EXCAVATIONS AND EXPOSES SUFFICIENT LENGTH OF WATER MAIN TO FACILITATE CONNECTION

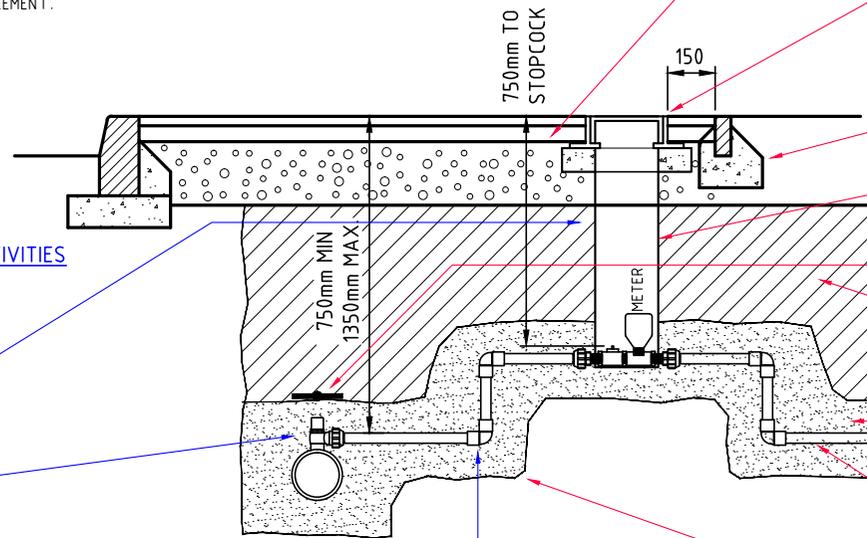
### DWR CYMRU WELSH WATER ACTIVITIES

DWR CYMRU PROVIDES AND FITS METER AS PER LEVELS OF SERVICE TIMELINE

DWR CYMRU PROVIDES AND FITS METER BOX.

DWR CYMRU WELSH WATER CONNECTS TO EXPOSED WATER MAIN

TO MAINTAIN DEPTH TO STOP COCK ELBOWS MAYBE REQUIRED AND WILL BE SUPPLIED AND FITTED BY WELSH WATER.



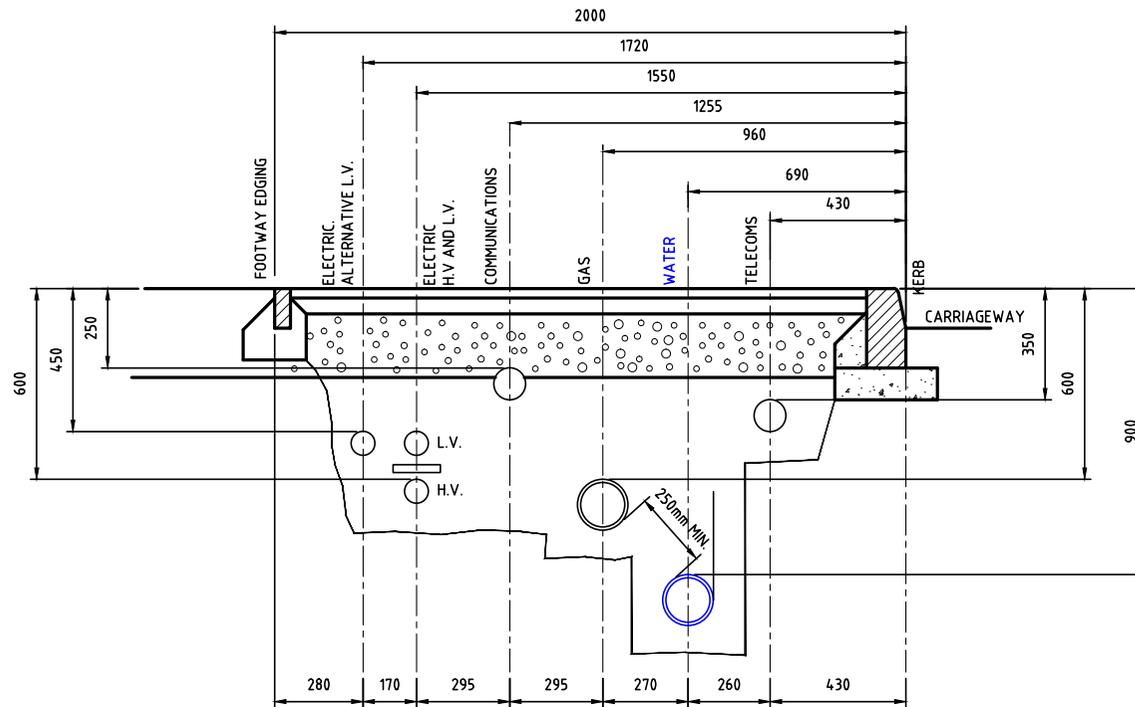
## TYPICAL SERVICE INSTALLATION AND RESPONSIBILITIES SPLIT

A	GENERAL ISSUE	JHD	JHD	JHD	JUNE 16
Issue	Description	Auth.	Ckd.	Appd.	Date
Scale A4		Datum			



Project	STANDARD DETAIL	Project Code	
Title	TYPICAL SERVICE INSTALLATION WITH RESPONSIBILITY SPLIT	Drawing No.	SI1
		Issue	A

APPENDIX B  
NJUG



NJUG GUIDANCE

A	GENERAL ISSUE	JHD	JHD	JHD	JUNE 16
Issue	Description	Auth.	Ckd.	Appd.	Date
Scale A4	Datum				



Project	STANDARD DETAIL
Title	NJUG GUIDANCE - 2M FOOTWAY

Project Code	
Drawing No.	NJ1
Issue	A

# APPENDIX B

## TRENCH TREATMENT

### NOTES

1. BED, HAUNCH AND SURROUND TO BE A10 GRANULAR MATERIAL OR DUST SUPPLIED AND INSTALLED BY DEVELOPER.
2. SELECTED EXCAVATED MATERIAL CAN BE OBTAINED FROM EXCAVATED MATERIAL PROVIDED THAT THAT THE MATERIAL COMPLIES WITH CLASS A,B,C OR D AS PER APPENDIX A1 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS. ANY IMPORTED MATERIAL TO MAKE UP ANY DEFICIENCY IS TO BE TYPE 1 GRANLAR SUB BASE MATERIAL.
3. BACKFILL IS TO BE FULLY COMPACTED AS PER APPENDIX A8 OF THE NEW ROAD AND STREET WORKS ACT - SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS - DWRCYMRU WELSH WATER WILL NOT ACCEPT RESPONSIBILITY FOR ANY TRENCH SETTLEMENT.
4. DIMENSION 'X' IS TO BE
  - (i). IN ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, LARGE FLINT OR STONES OR OTHER IRREGULAR HARDSPOTS X SHALL BE 200mm
  - (ii). IN UNIFORM SOILS 100mm
5. TRENCH WIDTH 'W' SHALL BE:-
  - (i). FOR PIPE UP TO AND INCLUDING 300mm - DIAMETER OF PIPE PLUS 300mm
  - (ii) FOR PIPES GREATER THAN 300mm DIAMETER - DIAMETER OF PIPE PLUS 400mm.

### DEVELOPERS ACTIVITIES

1. DEVELOPER PROVIDES KERB RACE IN PLACE

9. DEVELOPER PROVIDES ALL PERMANENT SURFACINGS.

8. DEVELOPER PROVIDES BACKFILL TO TRENCH - SEE NOTES 1 AND 2 ABOVE.

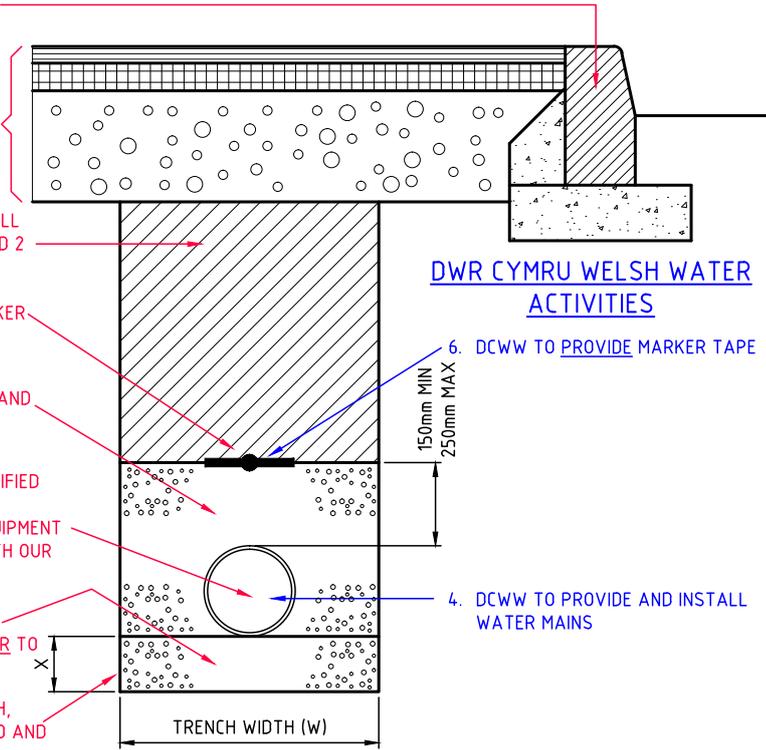
7. DEVELOPER TO INSTALL MARKER TAPE

5. DEVELOPER TO PROVIDE AND INSTALL GRANULAR HAUNCH AND SURROUND

4. DEVELOPER TO PROVIDE CERTIFIED DRIVER AND APPROPRIATE EXCAVATOR AND LIFTING EQUIPMENT TO WORK IN CONJUNCTION WITH OUR MAIN LAYING CONTRACTOR

3. DEVELOPER TO PROVIDE AND INSTALL GRANULAR BED PRIOR TO WATER MAIN INSTALL

2. DEVELOPER PROVIDES TRENCH, TRENCH SUPPORT IF REQUIRED AND CONTROLS GROUND WATER



### DWR CYMRU WELSH WATER ACTIVITIES

6. DCWW TO PROVIDE MARKER TAPE

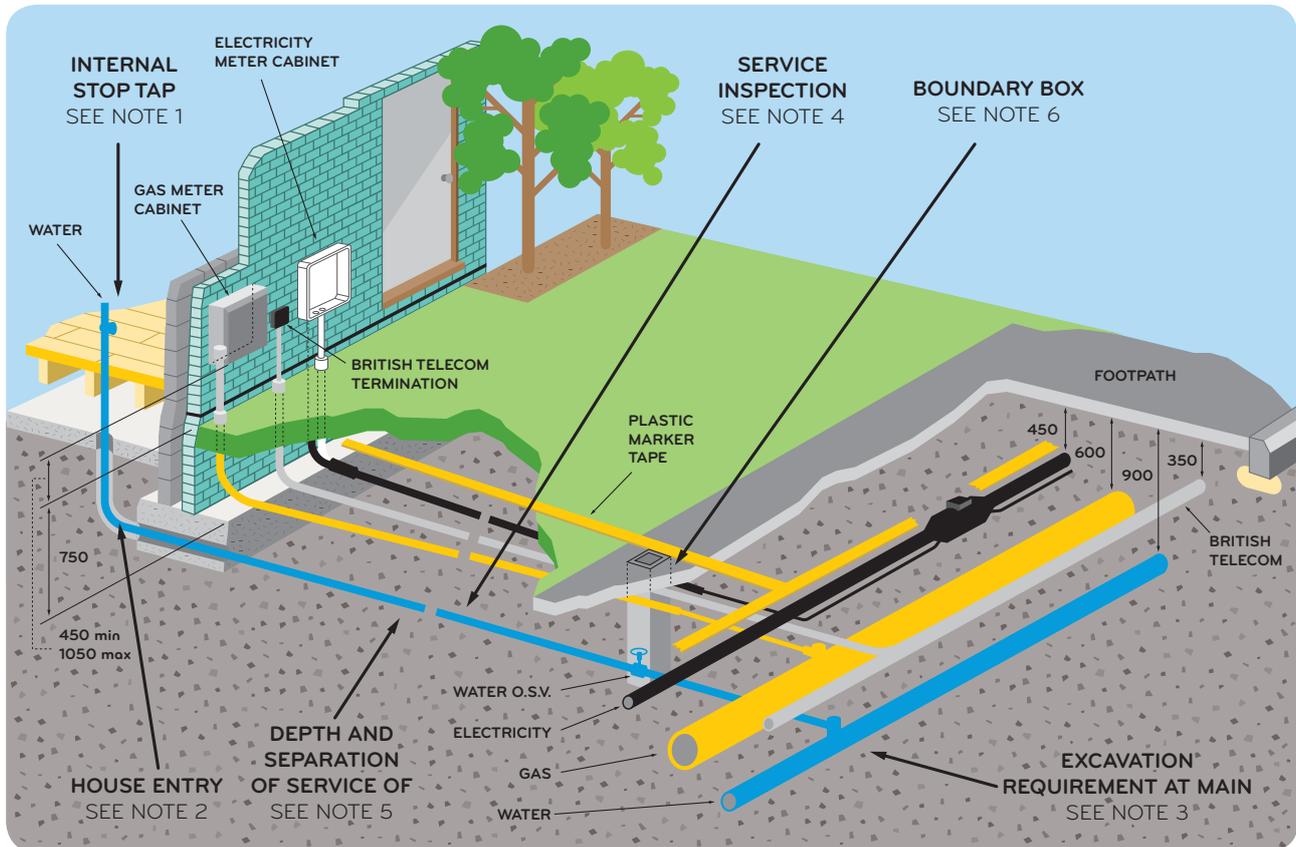
4. DCWW TO PROVIDE AND INSTALL WATER MAINS

## TYPICAL TRENCH PROFILE AND RESPONSIBILITIES SPLIT

Project						 DWR CYMRU WELSH WATER		
STANDARD DETAIL								
B	MINOR AMENDMENTS	JHD	JHD	JHD	DEC 16	Title		
A	GENERAL ISSUE	JHD	JHD	JHD	JUNE 16	Drawing No.		
Issue	Description	Auth.	Ckd.	Appd.	Date	Issue		
Scale A4		Datum				RS1		
RESPONSIBILITY SPLIT						B		

## APPENDIX C

## GROUNDWORKERS INSTRUCTIONS FOR STANDARD HOUSE WATER SERVICE INSTALLATION



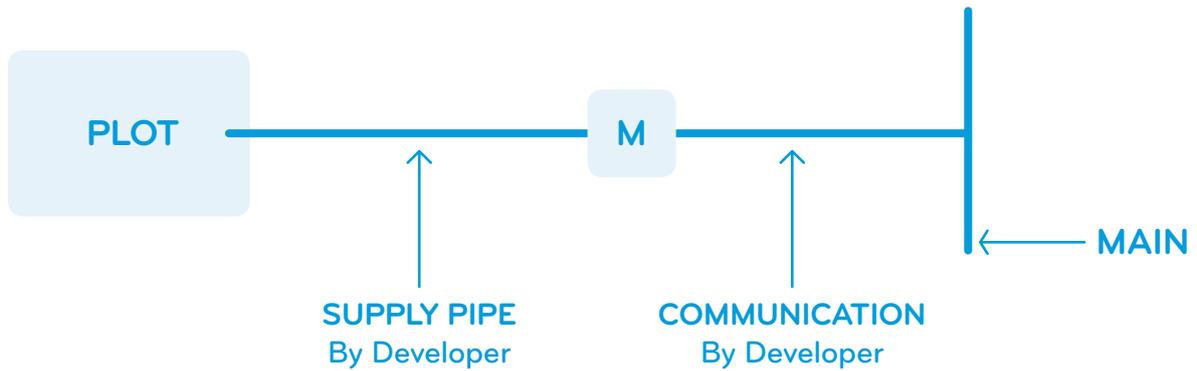
## NOTES

1. Stop Cock **MUST BE** fitted prior to connection. **NO STOP COCK NO SERVICE**
2. All entries to plots to comply with current Water Supply Regulations requirements.
3. Minimum of 1.5m of Trench left exposed at Connection point to the main. 300mm min clearance to be provided all around existing main at connection point.
4. Welsh Water to inspect service trench prior to backfilling.
5. Water Service to be laid at a minimum of 750mm cover and preferably no deeper than 900mm. Maximum Depth must under no circumstances exceed 1350mm. Minimum distance to any other service to be 350mm.
6. Meter Boxes to be located as close as possible to back edge of highway adoptable footpath. Groundworker to ensure that excavation from the main to back of kerb edge is in place prior to our attendance.
7. Minimum 100mm dust/sand bed and surround to be provided to service pipe along its full length.
8. Where Services cross Highways they are to be installed within a blue twin walled duct such as polypipe. Each Service is to be installed within its own duct and the duct shall be a minimum of 100mm diameter and located below road construction with a minimum of 900mm Cover. Ducts to extend 150mm beyond kerb line and be suitably sealed to prevent ingress of debris.
9. Water Marker Tape to be provided along full length of service.
10. Supply pipes must only be laid in the private land that they serve. i.e not on third party land. The only exception to this is where service pipes lie in shared driveways.
11. The Service must be perpendicular to the Main and run in straight line to the meter box taking the shortest possible route (See page 30).

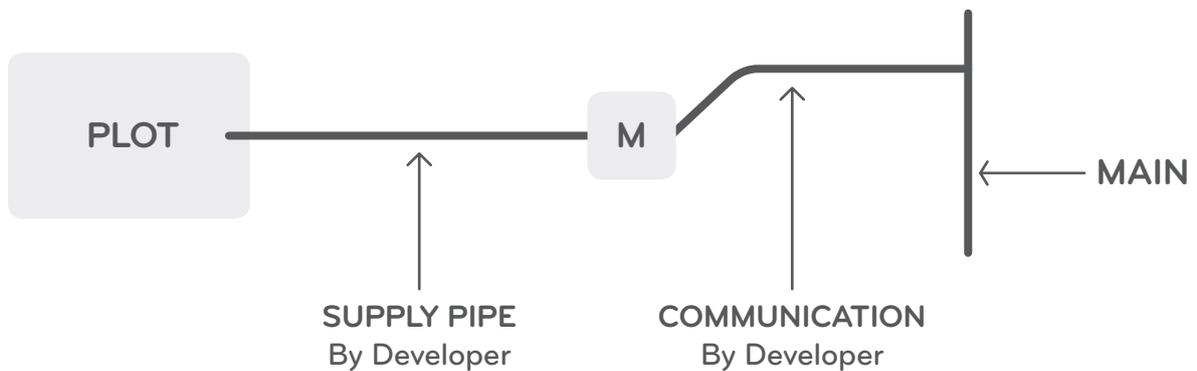
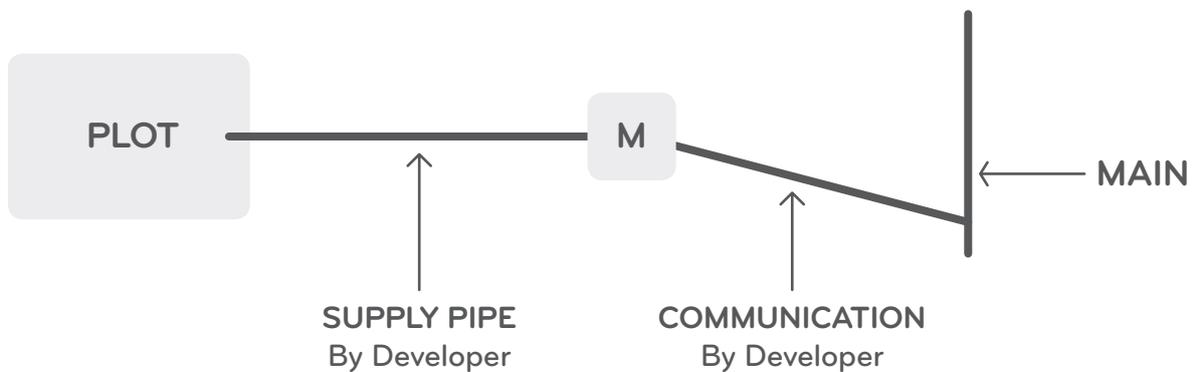
## APPENDIX C

## GROUNDWORKERS INSTRUCTIONS FOR STANDARD HOUSE WATER SERVICE INSTALLATION.

## ACCEPTABLE SERVICE

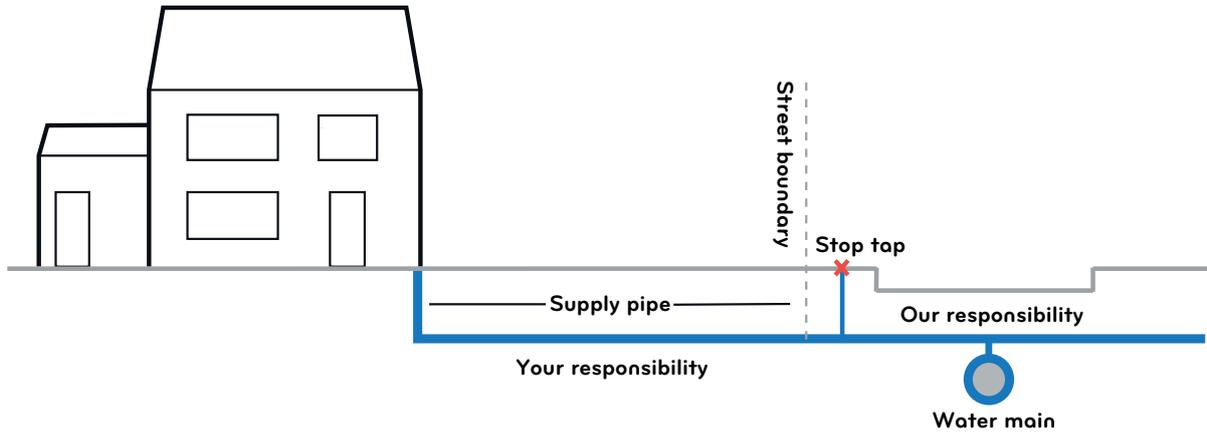


## UNACCEPTABLE SERVICE

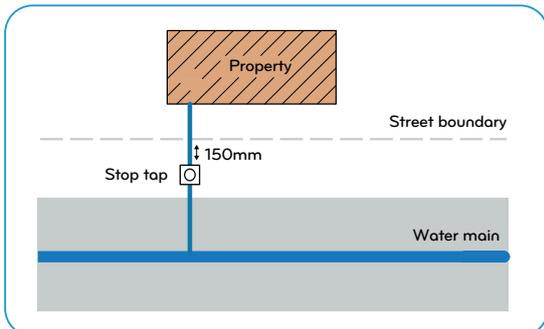


APPENDIX D

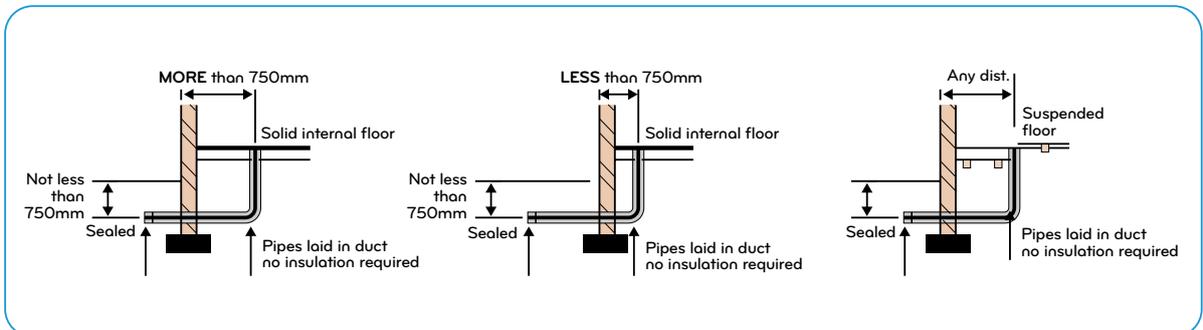
CONSTRUCTION DETAILS FOR WATER CONNECTION



Distance of stop tap from street boundary 150mm



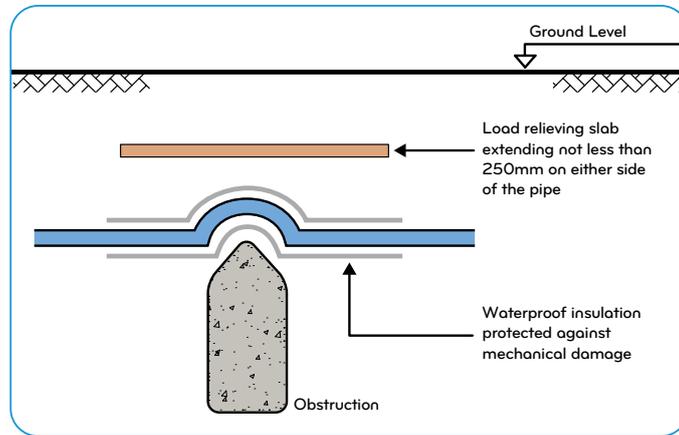
Methods of service pipe entering a building



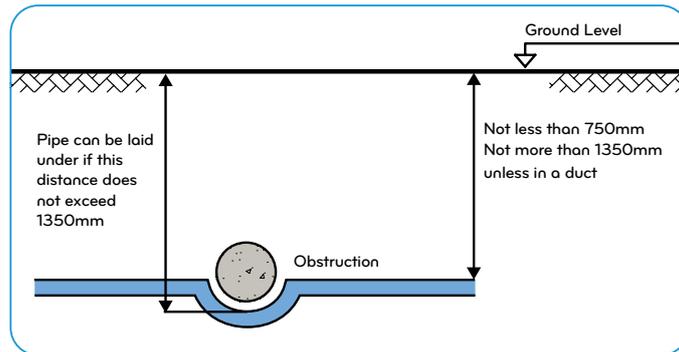
APPENDIX D (continued)

CONSTRUCTION DETAILS FOR WATER CONNECTION

Pipe laid over an underground obstruction



Pipe laid under an underground obstruction



Relative positions of utility services

