Sewerage supply connections guidance notes

Sections 106 to 109 Water Industry Act 1991

Please read these guidance notes carefully before completing the application form.

Introduction

This guide has been produced to offer practical assistance and whilst every attempt has been made to take on board the full range of legal and technical issues involved there may always be particular circumstances which are not accommodated in these guidelines. We would also advise that you refer to the Design and Construction Guidance which can be found on the Water UK website https://www.water.org.uk/sewerage-sector-guidance-approved-documents/

Section 1: General

Sewer connections are completed on a self lay basis whereby you employ your own contractor to complete the work once we've issued approval to do so.
Sewer connections to be made;

1. Directly to a public sewer (the public sewer could be located in private land or highway) or
2. Indirectly to a private drain, with the owner's permission, that in turn discharges to a public sewer.

Direct connections

If you want to connect domestic flows directly to a public sewer you will need to self construct. This means that you carry out the connection, install the pipe and a chamber, which is required at the boundary of the property for maintenance purposes, using a competent contractor appointed by you. On completion and a satisfactory inspection, we will take ownership of the pipe between the existing public sewer and the boundary of the property being connected. This will only apply where a single length of pipework (no greater than 15m) has been installed in public highway. The rest of the pipe located in the premises will remain the owner's responsibility. As indicated, we shall need to inspect these works and you must give a minimum of five working days notice of the inspection.

If you are installing length over 15m or multiple lengths of pipework that you propose STW adopt, you'll need to make a S104 Adoption submission and enter into a S104 Adoption Agreement before works start.

Self construction of the works within the highway demarcation and private land must be to a standard that is acceptable to Severn Trent Water Ltd (STW). The materials used for the connection and the standards required are laid down in our "Lateral Drain and Sewer Connections to Sewers standards" document. For further details please refer to section 9 (Specification) of this document. You will also need to liaise with the owner of the highway to understand their requirements.

STW is required by health and safety legislation to assess the competence of your contractor. Consequently, sufficient evidence must accompany the application to enable us to make the assessment. A list of acceptable evidence is laid out in the application form.

Note: Should the public sewer you wish to connect to be located in private land you will need to gain permission to excavate the pipe and make the connection. If all reasonable methods of gaining permission have been exhausted you can complete an *Application for a sewer requisition or a lateral drain connection under Section 98 of the Water Industry Act 1991* form available from New Connections. Please telephone 0800 707 6600 to request or download from **https://www.stwater.co.uk/building-and-developing/regulations-and-forms/application-forms-and-guidance/**

Guidance notes

Connections to rising mains

Severn Trent do not allow connections onto existing public sewer rising mains. Rising main to rising main connections fall outside Severn Trent allowed design standards and the interaction between two rising mains is prejudicial to the functioning of the existing.

Indirect connections

If you are not connecting directly to the public sewer (i.e. you are connecting to private drainage, with the owner's permission, that in turn discharges to a public sewer). You will need to undertake necessary investigations to confirm where the private drainage outfalls to check if it does outfall to our public sewerage system and to prevent possible pollution. You will need to demonstrate what investigations you've undertaken.

All pipework installed will remain the owner's responsibility and does not require an inspection from STW.

Private Drains and Sewers Transfer Regulations 2011

On 1st October 2011, qualifying private lateral drains and sewers transferred to STW. If you propose to make a connection to a transferred asset, this will be classed as a direct connection. You'll need to help us to determine whether the lateral drain or sewer is a transferred asset; as many of these pipes were previously private we don't hold records of them.

A copy of the Regulations can be found here: https://www.gov.uk/government/publications/the-private-sewers-transfer-regulations

In certain circumstances STW may insist on carrying out the connection of your pipework to our sewer. However, it will only do so where there is valid operational or strategic reasoning (e.g. high flows or deep manholes with internal landing stages or longer than average lengths of pipework). In these circumstances, all our proper and reasonable costs will be charged to you.

You will also need to comply with all the relevant legal requirements and permissions including:

a) Local authority approval i.e. compliance with any relevant planning permission conditions, building regulations etc.
   This may include point of connection and maximum permitted flows
b) STW written approval for the connection
c) Highway Authority approval – if you need to break up the road
d) Third party landowner's permission, usually by grant of an easement if you have to work in private land.

Section 2: Notes

2.1 : Legislation

Legislation covering connections to public sewers is contained in Section 106 to Section 109 of the Water Industry Act 1991 (the "Act"). Section 106 of the Act provides that an owner or occupier of any premises may have his/her drains or private sewer communicate with the public sewers of a sewerage undertaker.

2.2 : Application charges

Please see our current new connections charges booklet available on line at https://www.stwater.co.uk/building-and-developing or via contacting us on 0800 707 6600. These charges are in addition to any construction costs incurred by you in completing connection

Guidance notes

construction work.

Section 3: Infrastructure charges

All sewer connections that connect a property to the public sewer for the first time are subject to a sewerage infrastructure charge. This charge is in addition to any connection fees, and will be invoiced at a later date.

Please see our current new connections charges booklet and current scheme of charges available on line at **https://www.stwater.co.uk/building-and-developing/regulations-and-forms/application-forms-and-guidance/** or via contacting us on **0800 707 6600**. These charges are in addition to any construction costs incurred by you in completing connection construction work.

Section 4: Public sewer records

Our sewer record plans are now available 24/7 via www.digdat.co.uk. You will need to register on the website and then you'll be able to search for your chosen location and get an instant quote online.
Alternatively, you can book an appointment online to view our maps at our offices; https://www.stwater.co.uk/building-and-developing/estimators-and-maps/request-a-water-sewer-map/

It is essential that you satisfy yourself that there is a public sewer available to take your connection, before making an application.

Section 5: Applicant information requirements

All application forms must include the following:

a) Completed application form. You can apply for more than one connection on the same application form but an application fee is required per connection.

b) A location plan showing the point at which you want to connect to the public sewer. If the public sewer is located within the highway it should also indicate the point at which your connection leaves your site. It is recommended that in order to avoid confusion you use a copy of the STW sewer record map (see Section 4 above)

c) A site plan showing the location of the demarcation chamber in relation to your property boundary and the pipework constructional details showing pipe diameter and gradient.

d) If you are making a direct connection to public sewer you will need to supply:

- A copy of your Contractor's health and safety policy but only if your contractor has not supplied a copy to STW in the last year and
- A copy of your Contractor's site specific risk assessments and method statement for the proposed connection(s).

A checklist is included with the application form for your convenience.

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It is illegal to make a connection to a public sewer without our approval. You may not make a connection unless you have received approval from STW in writing. We have, by law, the right to close any illegal connections, enforce that you to carry out remedial work to correct the situation and recover our costs in doing so.

A separate application must be made for a new water connection. Applications forms are available from the website https://www.stwater.co.uk/building-and-developing/regulations-and-forms/application-forms-and-guidance/ or via STW's Developer Services department on 0800 707 6600.

Section 6: Types of connection

In accordance with the Act, the following types of connection may (subject to approval) be made to the public sewerage system. The type of connection you make will depend on the sewerage system in the area of the required connection.

a) Foul water into a foul sewer (e.g. from toilets, sinks, showers and baths)
b) Surface water into a surface water sewer (e.g. roof and paved area drainage)
c) Foul and surface water into a combined water sewer (both a. and b. above)
d) Other types of connections may be permitted in exceptional circumstances, but they would be considered at the time of application

You'll need to investigate a suitable sewer to connect to before an application is made.

Please note that surface water should only be connected to a sewer if ground conditions do not permit the use of a soakaway or there is no local watercourse available to drain to. If this is the case you must send us documentary evidence. Please note that connections are not permitted for the removal of ground water or land drainage connections.

To allow Severn Trent to consider this connection the following information will be required:

- **BRE 365 report proves that soakaways are not suitable.**
- **Proof that there are no canals, ditch course or watercourses within reasonable proximity of the site.**
- **Proof from watercourse owners that a connection will not be considered.**
- **CCTV report and utilities plan showing the existing surface water connection to the public sewer.**
- **A plan showing the area of hardstanding on site, including roof and driveways.**
- **Diameter of the existing sewer and the gradient it has been laid at.**

Trade effluent (e.g. industrial/commercial or agricultural non-domestic waste) into a foul sewer is NOT permitted unless and until STW has issued a valid trade effluent consent. Applicants should contact their Severn Trent area Business Services Advisor on 01332 683332 in order to discuss trade effluent consent and conditions of discharge, prior to seeking a connection approval. It is an offence to discharge trade effluent into a public sewer without consent.

Please note the following: When detailing the private drainage, applicants are advised that the public sewer may surcharge up to ground level in certain circumstances. Particular care should be taken where proposals include basements, or where development is proposed in low-lying areas such as adjacent to rivers.

Section 7: Issuing of approval

We will inform you of an approval decision within 21 days of receipt of a complete application. However, in cases where we consider that we should make the connection ourselves, we will let you know within 14 days of receipt of your application. Incomplete applications will be deemed rejected and returned to the applicant.

STW will refuse a connection where the mode of construction or condition of the drain or private sewer to be connected to the public sewer is such that it does not satisfy the standards reasonably required by STW or if undertaking the works will be prejudicial to the public sewer system.

If the proposed connection is acceptable, consent will be issued. In some cases, this consent may be subject to adjustments of your proposals, for example, whether the connection is near a junction or manhole. If the connection is not completed within twelve months of the approval notice date the approval will cease and the existing approvals will need to be resubmitted in writing and a fee will be charged (please refer to our charging document for a full list of charges) with the relevant supporting information to be submitted.

Section 8: Return of form

Application forms, once completed and with the accompanying application fee, should be returned to:

Developer Services
Severn Trent Water Ltd
PO Box 5311
Coventry
CV3 9FL
Telephone: 0800 707 6600
Email: new.connections@severntrent.co.uk

Section 9: Specification

9.1 : Lateral drain and sewer connections to sewer standards

Under the provisions of the Water Act 2003, STW has the power to take ownership of new drains and sewers. **Our policy is to take ownership of all new drains and sewers (provided this is a single length of pipework upto 15m in length) located within the public highway.** If we did not do this, pipes would remain in private ownership and the joint responsibility of all properties draining through them.

If you are installing multiple lengths of pipework that you propose STW adopt, you'll need to make a S104 Adoption submission and enter into a S104 Adoption Agreement before works start.

Please note that a drain is a pipe which serves only one property. A sewer is a pipe which serves more than one property.

A public sewer or transferred asset is a sewer owned by Severn Trent Water.

It is necessary for new pipes which are normally located in the highway and which are to be vested in STW to be constructed to a minimum standard specification. This standard is the Sewer Sector Guidance Design and Construction Guidance, available via Water UK.
https://www.water.org.uk/sewerage-sector-guidance-approved-documents/

Note: Please be aware that the applicant may be required to provide us with a closed circuit television (CCTV) survey of the lateral drain or sewer if the length is more than 15 metres prior to vesting.

These notes identify the basic requirements common to both a drain and a sewer unless noted otherwise.

Guidance notes

9.2 : Minimum pipe size

Foul water

- Minimum size 100mm diameter if less than ten houses (or equivalent) connected
- Minimum size 150mm diameter if more than ten houses (or equivalent) connected.

Surface water

- Min Gradient = 1/pipe diameter (e.g. for a 150mm pipe = 1/150).

Note: If the length of the connection is greater than 15 metres, it will be necessary for the applicant to provide a long section.

9.3 : Depth of pipes

Minimum cover between top of pipes and ground level

- Gardens/open spaces and agricultural = 0.9m
- Highways (including footways) = 1.2m

Permitted pipe materials

- Clayware pipes as per SSG Design and Construction Guidance
- Concrete pipes as per SSG Design and Construction Guidance
- Solid wall plastic pipes should comply with the relevant Provisions of BS4660 and BS EN 1401-1
- Structured wall plastic pipes as per SSG Design and Construction Guidance and subject to the following:

Structured wall plastic pipes approved for use in STW are as the table below. For limitations on their use please contact us. However prior to adoption, the Developer shall be required to demonstrate by an acceptable physical test that the pipework satisfies the long term deformation criteria e.g. CCTV survey.

Polysewer – Polypipe Building Products	Size 150mm, 225mm and 300mm
Quantum – Marley	Size 150mm, 225mm and 300mm
Ultrarib – Uponor	Size 150mm, 225mm and 300mm
Ultrarib – Wavin	Size 150mm, 225mm and 300mm
Ridgisewer – Polypipe Civils Ltd	Size 400mm, 450mm, 500mm, 600mm, 750mm and 900mm
Weholite – Asset International	Size 450mm to 3000mm

9.4 : Demarcation chamber

A demarcation chamber must be provided at the point where the private drain or sewer become vested in STW. It is to be located:

- Inside the property boundary
- Preferably in the driveway
- Not more than 1 metre from boundary
- Located outside of probable vehicle wheel tracks.

9.5 : Lateral drain demarcation chamber (serves one property)

Construction details

Size and material

- Chamber diameter to be a minimum of 450mm for 100/150mm pipes
- Chamber access to be restricted to 350mm opening if chamber is more than 1.0m deep
- Chambers may be of plastic construction to BS 7158 with integral seals

Guidance notes

- Backdrops are generally not permitted and all incoming pipes are to be ramped.

9.6: Sewer demarcation chamber (serves more than one property)

Construction details

Size and material

- For depths less than 1m from top of pipe to ground, the chambers internal dimensions shall be 900mm long and 675mm wide. The chamber can be constructed using regular concrete sections or in class B engineering brick
- For depths between 1.0 – 1.5m from top of pipe to ground, the chambers internal dimensions shall be 1040mm long and 675mm wide. The chamber can be constructed using regular concrete sections or in class B engineering brick
- For depths greater than 1.5m from top of pipe to ground, the chambers internal dimension shall be a minimum of 1200mm diameter. The chamber shall be constructed using precast concrete rings.

9.7: Covers and frames – lateral drain

Cover loadings

Surface	Class (loading in KN)	Loading
Road	D400	Vehicle impact
Footway + Driveway	B125	Occasional vehicle loading
Gardens	A15	Pedestrian + cyclist (no vehicle traffic)

Cover type

- Not readily dislodged
- B125 and A15 type covers must be lockable or screwed down for security
- In fill type covers, such as used for block paving should not be used.

9.8: Covers and frames – sewers

Cover loadings

- Class D400 non ventilated and closed keyway covers should be used in all locations.

Section 10: Connection methods

Connection to the public sewer will be permitted only by one of the following methods. Any approval notice you receive will confirm the method to be used. You should not commence work before receiving the approval notice from STW and providing us with a minimum of two working days notice for the inspection of the works.

- **Pre formed junction** (Only permitted for up to two domestic properties)
  To a 300mm diameter sewer or less, by neatly removing an appropriate length of the sewer using a suitable pipe cutter or disc saw. A pre formed junction shall then be inserted and secured using couplings to form flexible joints. The couplings shall be fully compatible with the pipes and fittings involved and they shall comply with any appropriate Water Industry Standard.

You may also use this method for larger pipes.

- **Saddle connection**
  To pipes having a diameter in excess of 300mm diameter and all brick sewers, by cutting a hole into the pipe or brickwork with a suitable trepanning device. A short piece of pipe with a socket attached shall then be inserted into the hole and sealed with epoxy mortar. The length of the pipe shall be flush with the inside face of the sewer when the socket is resting against the outside face. The inside face of the sewer shall then be made good. If, for any reason when connecting to a brick sewer, this method is impractical, a minimum number of bricks shall be removed, the short pipe built in using cut bricks and mortar and the inside of the face made good. Materials supporting the sides of the sewer shall only be removed to the extent necessary to make the connection and shall be carefully re compacted on completion. All connections shall, where practical, be made just above springing level and obliquely to the sewer at an angle of

Guidance notes

about 45 degrees.

The two methods above are restricted to two domestic properties or connections to a brick sewer for more than two domestic properties. Connections to commercial properties or to more than two domestic properties and a non-brick sewer should be carried out using one of the methods below.

- **Existing manhole**

  To pipes of any diameter where there is a convenient existing manhole, directly to the brick or concrete manhole at soffits level, by cutting the brickwork, or concrete with a trepanning device or other approved method, inserting the stub pipe and reinstating accordingly. Manhole benching is to be reformed to suit new flow patterns using high strength concrete, channels as appropriate with a 25mm granolithic screed.

Important reminder

You must never enter a public sewerage manhole without prior notification to the Inspector whose name and direct telephone number appears on the connection approval.

- **New manhole**

  If the connection is to serve three or more domestic properties or a large commercial premise and there is no existing manhole available, you will be required to provide a new manhole. This is to ensure satisfactory access for future maintenance. This must be constructed to the standards laid out in the correct SSG Design and Construction Guidance (see Section 3 of the Guidance notes for Developers on the adoption of sewers).

Backdrop connections are not permitted unless expressly requested by STW for operational reasons. You should establish, by means of trial pits, that the proposed connection point to the existing public sewer can be constructed alongside other utility services that are present or proposed. If required, copies of the trial pit log(s) should be provided to us.

- **Pumped connection**

  If the connection is via a pumped system then a surge chamber must be provided on the private system before a connection to the public sewer is made. The permitted maximum discharge rate will be specified in the approval notice.

  If it is necessary to pump flows in order to connect to the public sewer, the pumping main should discharge into the boundary demarcation chamber. The lateral drain/sewer between demarcation chamber and the public sewer should be a gravity pipe. Where this is not possible then a hatch box is to be provided as a demarcation chamber. Please make us aware of such connections at the earliest opportunity since we have additional requirements to ensure we can maintain the pumping main.

  It should be highlighted that when completing the application form you will be required to provide the make and model details from the pump manufacturer, as well as details of the flow rate. In addition to this you are required to provide evidence of why a pumped connection is needed. This evidence can be a plan showing the levels of the site and sewer to which the sewer will be connected.

Important note: the final section of the connection needs to be gravity fed

Section 11: Risks involved and the method statement

Sewers including manholes and trenches need special safety precautions. You must be able to demonstrate your awareness of the Confined Space Regulations 1997.

Guidance notes

The Method Statement must be site/connection specific and show the step by step process of connection from start to completion, reconfirming the Method of Connection.

Agreement to the works by STW should not be taken as confirmation that your proposed method of working complies with these documents or represents a safe system of work. No person should enter a manhole on the public sewerage system without having had the appropriate confined space training. They must have all the necessary safety equipment and ensure that they comply with all the relevant health and safety requirements.

- Working in deep excavations (please provide evidence of authorisation)
- Working in the public highway New Roads and Streetworks Act (NRSWA)
- Working in confined spaces (please provide evidence of authorisation)
- Contents of the sewage, such as aggressive trade effluent, petrol, chemicals etc.
- Accidental spillage may enter the public sewer and cause a harmful atmosphere
- In times of storm the water level may rise rapidly
- Sewage can contain rat's urine. Infection from such contaminated sewage can cause Leptospirosis (Weil's Disease) and therefore appropriate hygiene measures should be taken.

The Risk Assessment must identify the risks involved with the connection and must display measures that will be put in place to avoid those risks such as:

- Contact with sewage & personal hygiene facilities
- Danger from live sewer flows
- Traffic Management
- Contact with existing services
- Confined Spaces training
- PPE
- Barriers & signing
- Trench Support
- Manual Handling & machinery
- Any other site specific risks

Section 12. Self construct evidence

If you select Self Construct, evidence must be provided for the following:

- Authorisation for working in confined spaces
- Suitable NRSWA accreditation to work within the public highway.

Note: These must be current and made available for the inspector upon request.

Your Contractor should be aware of the latest restrictions and timescales imposed by the Traffic Management Act of 2004 and should be able to comply fully with the relevant legislation. STW will not be held responsible for non-compliance with this legislation by private contractors. For further information on the Traffic Management Act please visit www.dft.gov.uk.

Guidance notes